

CHAPTER ONE

Introduction to the study

1.1 Purpose of the current study

The purpose of the current investigation was to identify factors within the environment of a child care centre that contribute to the immediate manifestation of unwanted child behaviours. Specifically, answers were sought to the following questions:

- a) How, and to what extent, do physical, social, structural, and cultural components of the environment contribute to manifestations of unwanted child behaviours?
- b) Can any aspect of the physical, social, structural or cultural components of the environment, which have been identified as contributing to manifestations of unwanted child behaviours, be modified to reduce its influence?

The basic approach adopted for the investigation was to observe different children in the natural, or cultural (Fuhrer, 1990) setting of a single child care centre. Akin to a strategy advocated by Stokols (1987), the aim of the observations was to identify unwanted child behaviours then define the set of situational or contextual variables in which they occurred. Comprehensively observing a relatively small number of contrasting cases, similar to the procedure recommended for theory development by Wicker (1987), was to provide sufficient data to establish shared patterns of outcomes from child:environment relationships, or what Stake (1995) referred to as “correspondences” (p. 78).

1.2 Research and children in child care centres

Child care centres provide attending children with a range of physical, social, structural and cultural experiences that are unique among different forms of out-of-home care and educational facilities. For example, few of the physical or structural situations encountered in centres are likely to be found in the smaller and more intimate family day care settings. Although sharing some physical and social similarities with preschools, the longer hours of operation make centre-based care structurally and culturally different, and often experienced by children from a younger age.

Age of enrolment has the potential to be an important variable in research on children in early childhood settings. Attending a child care centre may provide the young child with his or her first extended out-of-home experiences. Attendance may also signal the child's first exposure to unaccustomed social factors, such as interacting with a range of same-age peers, in both individual and groups encounters. The child has to cope with an unfamiliar culture comprising the authority of adults who are not family members. At the same time, he or she has to abide by rules that have often been designed for the group care and educational management of 40 or more children in one setting at one time (Egeland, Kalkoske, Gottesman, & Erickson, 1990; Proshansky & Fabian, 1987). Furthermore, these social and cultural factors are contained within a structure that imposes daily schedules and routines, and dictates both the size and composition of the child's group. In addition, these factors are experienced by the child at a time when his or her cognitive, social and emotional development is undergoing transformation from egocentrism to a state that is only just beginning to recognise the roles and rights of others. Adapting to the combination of these newly experienced social, cultural, and structural factors within the physical confines of a child care centre, for up to 10 hours each day, five days per week, undoubtedly has the potential to impact on child behaviours (e.g., Del'Homme, Sinclair, & Kasari, 1994; Fox & Field, 1989; Manne, 1996).

On the other hand, because children may be enrolled from just a few months of age, many experience extended hours of attendance each week continuously over four years or more. The National Childcare Accreditation Council (1993) noted that "a child *can* spend up to 12,500 hours in childcare before starting school: that's only 500 hours less than the child will spend in lessons during the whole 13 years of schooling" (Foreword). For some of these children, early separation from at-home care, early development of group social skills, and boredom or understimulation engendered by familiarity with the centre's routines and activities have been claimed to have consequences for displays of problem behaviours (e.g., Clarke & Gray, 1997; Gruss, Jackson, Grimson, & Hedgcock, 1998; Loane, 1996; Schuster, Murrell, & Cook, 1980).

At the same time, the identification of a particular type of behaviour as being a consequence of the influence of any time or place also appears to have presented some difficulties for researchers. For example, Harris and Drummond (1977) described early childhood as comprising "...tumultuous periods of personality development" (p. 51) and conceded the difficulty of differentiating between typical and atypical child behaviours. Other investigators have emphasised the transient nature of many behaviours, resulting from normal processes of development in very young children (Campbell, 1995; Chazan,

Laing, Jones, Harper, & Bolton, 1983; Hagekull & Bohlin, 1992). The problems of tumult and transience in relation to research has been acknowledged by Egeland et al. (1990):

Problem behaviors in preschool pose a particularly difficult research task. This is a period of major and swift developmental changes. Many of the problems evident in preschoolers, such as tantrums, defiance, inattentiveness, and aggression, are to some extent normative and simply reflect developmental changes and pressures. (p. 892)

In acknowledging these difficulties, the current work did not attempt to differentiate between problems that may have been symptomatic of atypical child development and those that may have reflected behaviours of relatively typical children between the ages of 3-5 years. The main objective of the data collection strategy was to record, with sufficient detail of settings and situations, all instances where child behaviours were judged to be problematic. The main objective of the analysis and interpretation of the data was to identify sufficient links between environmental factors and children's problem behaviours to establish correspondences and provide answers to the research questions. Reductions in the number of problem behaviours in child care centres would have immediate benefits for staff and long term benefits for children.

1.2.1 Consequences of child behaviour problems in child care centres

The occurrence of child behaviour problems in a group setting has already been identified as a major source of concern and stress for early childhood staff (Dinwiddie, 1994; Merrett & Taylor, 1994), absorbing their time and energy, and disrupting programs (Corrie, 1994; Miller, 1996). In addition, failure to control the development of problem behaviours has also been seen to have consequences detrimental to other children attending the child care centre as well as the child exhibiting the behaviour problems. These consequences have been identified in relation to the creation of negative tone, undesirable behaviour models, the creation of behavioural expectations for some children, and the possibility of establishing antecedents for long-term problems. Implications for children and staff of child care centres are illustrated in the following four points.

1.2.1.1 Negative tone

The manifestation of child behaviour problems in the classroom has been seen as capable of introducing a negative tone or mood into the group (Gruss et al., 1998). Tone has been used to describe the emotional component of interactions between adults and children (Campbell, Breaux, Ewing, Szumowski, & Pierce, 1986; Magnusson, 1981a; Watkins & Durant, 1992), and impacts on staff attitudes towards children (Hedin, Ekholm, & Andersson, 1997).

1.2.1.2 Undesirable behaviour models

Problem behaviours exhibited by one child may provide an undesirable behaviour model for other children or elicit retaliation that may contribute to a further increase in disruptions. For example, it has been contended that aggressive children are quickly recognised by peers and often treated in a way that is likely to promote continuing aggressive interchanges (Turner, 1991). Such treatment may lead to long-term disruptions as it has been observed that peers may not respond immediately but increasingly victimise the aggressor over a period of time (Olson, 1992).

1.2.1.3 Creating behavioural expectation

Stephen (1993) contended that it is very easy for staff to assume that children who are frequently involved in conflicts are always at fault, although observations have shown that "...other children quickly learn that it is worth taunting the 'naughty child' because that child tends to 'get the blame' from adults" (p. 13). Nevertheless, expectations for child misbehaviour can lead teachers to develop a "disorderly conduct set" aimed at arresting the offending behaviour as quickly and quietly as possible, even though this may foster injustices at times (Stebbins, 1971). In the long-term, expectations and injustices may add to the problems of the targeted child, possibility contributing to the perpetuation of his or her problems beyond early childhood.

1.2.1.4 Long-term consequences

On a broader front, concern has long been expressed about a perceived high level of anti-social acts, and other types of unwanted behaviours, in Western society (Bay-Hinitz, Peterson, & Quilitch, 1994; Fergusson, Horwood, & Lynskey, 1994a; Willems, 1977), and observations over more than 20 years that these levels were rising (Bandura, 1973; Coie & Jacobs, 1993). For more than a decade, a growing amount of research has indicated that adolescent and adult conduct disorders can be traced back to early childhood behaviour problems as a common antecedent, (e.g., Campbell, 1994; Egeland et al., 1990; Fischer, Rolf, Hasazi, & Cummings, 1984; Halperin et al., 1995; Koot & Verhulst, 1992; Schmitz, Fulker, & Mrazek, 1995; Waldman, 1996; Weatherburn & Lind, 1998). Therefore, children at risk of developing conduct disorders in later life could only benefit from a reduction of any factors contributing to antecedent early childhood behaviour problems.

1.2.2 Reducing occurrences of behaviour problems by managing the child

One approach to reducing problems has been to implement child behaviour management strategies, frequently based on the adult reinforcing positive behaviours and ignoring those

considered negative, providing they do not create dangerous situations (e.g., Jordan, 1997; Pavuluri & Smith, 1996). Although the approach acknowledges that the child may be responding actively and voluntarily to achieve specific goals, such as seeking adult attention, it ignores the child's relationship to environmental factors, or how he or she might be stimulated to exhibit problem behaviours. Rather, child management concentrates on conditioning the child to respond appropriately to the general situation. Investigators have observed, however, that staff often reinforce unwanted behaviours by giving the offending child the attention he or she desires (Coie & Jacobs, 1993; Edwards & Cuff, 1996; Gruss et al., 1998; McGuire & Richman, 1986). In these cases, the child effectively conditions the adults.

It has also been noted that attention given to children who exhibit problem behaviours frequently diminishes the amount of attention given to other children and therefore undervalues those who usually behave appropriately (Watkins & Durant, 1992). The effect may be amplified by the use of reward tokens that, in turn, act as incentives for misbehaviour by children who are not usually problematic. As Wittmer and Honig (1994) related, "a kindergarten child went home from his school one day and told his grandmother, I've got it figured out now. First you have to be bad, and then good, and then you get a sticker" (p. 6).

1.2.3 Reducing behaviour problems by modifying the environment

A long held alternative approach has been to identify environmental influences that may contribute to the manifestation of specific behaviours (e.g., Gump, Schoggen, & Redl, 1963; Hartup, 1983; Isaacs, 1933). For example, 45 years ago, Body (1955) investigated aggression in nursery schools and concluded as follows:

This study points to the need for more careful analysis of the situational factors in behavior. Group composition, intragroup constellations, child-child contacts, direction methods, and school program must be studied and described in conjunction with responses in order to further understanding of child behavior in the nursery school. (p. 10)

Over the past 20 years, such study has been advocated as preliminary to modifying environmental factors with the aim of reducing their influence and thereby curtailing occurrences of problem behaviours in early childhood settings (e.g., Rodd, 1996; Walling, 1977).

Support for approaches to minimise negative influences of the environment is evidenced by requirements for appropriate space, equipment, programming, and adult:child interactions inherent in government regulations for child care centres (e.g.,

NSW Government, 1996), national accreditation procedures (National Childcare Accreditation Council, 1993), and the Australian code of ethics for early childhood staff (Ashby, 1991; Rodd & Clyde, 1991; Stonehouse & Creaser, 1991).

1.3 Need for the current study

Despite the wide recognition of the importance of environmental influence on behaviour by early childhood professionals and governments, research into the immediate effects of total child care centre environments on children's problem behaviour is comparatively meagre. Beyond often confounded and sometimes contradictory findings concerned with group composition, amounts of equipment and specific types of play, the total environment of a child care centre has not been investigated in any systematic way. The majority of studies have observed only selected child behaviours, in a limited number of settings that take place within a small part of a normal child care centre's day. Examples of these studies, and investigations using a variety of other approaches, are reviewed in Chapter Two. In summary, however, the results have generally provided findings that are limited in their utility because of the behavioural, temporal and spatial boundaries imposed by their methodologies.

Given the evidence of potentially damaging consequences of child behaviour problems for all participants, and the possible relationship between child behaviour and environmental factors, it is important to methodically study the relationship between occurrences of problematic child behaviours and the totality of the environment within a child care centre. Identification of environmental factors that contribute to manifestations of unwanted child behaviours would add to theoretical knowledge in this area as well as having practical implications for children, staff and other professionals associated with the provision of early childhood services.

1.4 A conceptual framework for the current study

Another consequence of the lack of any systematic approach to date is the absence of a guide to the most appropriate method of investigating phenomena emanating from child:environment relationships in a child care centre. As a prelude to the current investigation, therefore, two salient methodological issues were addressed. First, was the three-part task of conceptualising (a) the totality of environmental factors in a child care centre; (b) problematic early childhood behaviours; and (c) the relationship between the two as experienced by enrolled children aged between 3-5 years. Second, within the conceptual framework of behaviour, environment, and relationships, was the formulation of a data collection strategy and process of data analysis. The main aim of

the strategy and process was to ensure that environmental influences on child behaviour could be identified, interpreted, and correspondences validated by establishing the existence of patterns of child:environment relationships across multiple settings and situations involving different children.

The details of these concepts follow, preceded by Bandura's (1973) warning that "attempts to define a concept essentially represent an invitation for a stroll through a semantic jungle..." (p. 2).

1.5 Conceptualising the environment of child care centres

Consistent with the lack of studies that have investigated the relationships between child behaviours and child care centre environments, is a lack of conceptualisation of the environments of child care centres. Reviewing the literature on general environments reveals considerable variations in both the uses of concepts and descriptions of basic terms. Therefore, the conceptualisation of the environment for the current study started with definitions of salient features. To achieve some relativity to existing uses and descriptions of concepts and terms, a survey of the literature was undertaken. The findings were as follows.

1.5.1 The use of terms and concepts

Problems occasioned by the failure of researchers to provide specific environmental information, or to define the meaning of terms used to describe conditions, have been raised by a number of investigators. In their journal article reviewing evidence for the effect of out-of-home care on child development, for example, Richters and Zahn-Waxler (1988) expressed concern for the interpretation of research findings and specific variables without sufficient contextual data. Four years later, Hennessy, Martin, Moss, and Melhuish (1992), in their book detailing a wider ranging review of the impact of child care on children, acknowledged the earlier implications of the deficiencies for findings in noting that "...every piece of research, and every day care service researched, is situated in a specific context" (p. 2). Ladd, Price, and Hart (1990), also cautioned about problems associated with the omission of contextual data in their book chapter on preschool children's peer relations; and the Del'Homme et al. (1994), article on preschool children's behaviour problems, warned that failure to provide contextual information could compromise the generalisability of results because the "...context in which behaviors are observed may affect the utility of the data" (p. 221).

The views of the authors referred to above indicate that to validate the findings of any

investigation of child behaviour problems there is a need to clearly specify the context of those behaviours. A survey of the literature demonstrates, however, that the term “context” is often used interchangeably with the terms “environment”, “milieu”, “setting”, and “situation”, which creates difficulties both for interpreting findings and for comparing different studies. As a starting point to establish definitions for the current investigation, the differences and similarities in definitions used in the literature are considered in order to identify any points of consensus.

1.5.1.1 Context and environment

Over some period, the term “context” appears to have been accorded shared attributes, with the term “environment”. As examples, Barker (1968) considered that the “...outside context constitutes the *molar ecological environment*” (p. 6), while Endler (1981) claimed that “the environment is the general and persistent background or context within which behavior occurs” (p. 364). On the other hand, Overton and Reese (1977) depicted context as a product of environment, while Clitheroe Jr, Stokols, and Zmuidzinas (1998) used context “...to refer to a specific set of personal, physical and social aspects of environments, behavior settings and/or situations selected for consideration by the researcher or designer, and the relationships between them” (p. 105).

In addition to the context being defined as “the same as”, “a background to”, “a product of”, and “selected bits from” the environment, it has also been described as “the particular circumstances which, at any given time surround a person...” (English & English, 1958, p. 118). On the other hand, in a statement not dissimilar, but in reverse to Barker’s (1968) interpretation cited above, Stratton and Hayes (1988), defined environment as “the total external context...” (p. 61).

1.5.1.2 Environment and milieu

English and English (1958), stated that “milieu is properly the organism and its immediate environment, but is often used for the latter alone” (p. 182). It has also been referred to as “...an intricate complex of times, places, and things” (Barker, 1968, p. 19), while Willems (1977) equated milieu with environment and with place. Within a “contextual perspective”, Stokols (1987) also specified a “...spatial, temporal, and sociocultural milieu” (p. 42). Moos and Insel (1974) delineated a “psychosocial milieu”, while Milgrom (1994), talked about a “psychosocial context”. Others have used terms to describe milieu in the same way as environment, such as “the physical milieu” (Moore, 1987; Stokols, 1981) and “physical environment” (Choice, 1994; Ekholm, Hedin, & Andersson, 1995; Endler, 1981; Greenough, Black, & Wallace, 1987) or “social milieu” (Bandura, 1992; Wright, Barker,

Nall, & Schoggen, 1951) and “social environment” (Dawson, Hessel, & Frey, 1994; Goldsmith et al., 1987; Ramsey, 1995; Sherman & Oppenheimer, 1989). More recently, the term “environment” has been used to refer to “...the larger milieu which envelopes human behavior” (Clitheroe Jr et al., 1998, p. 105).

1.5.1.3 Environment and settings

Behaviour and milieu have also been cited as major components of “behavior settings” or just “settings” (Barker, 1968; Wright, 1967). However, the “general setting” has also been nominated as the meaning of context, and equivalent to environment (Stratton & Hayes, 1988). On the other hand, the environment has been defined as more than a physical setting, as it includes “the sum of the external conditions and factors potentially capable of influencing an organism” (English & English, 1958, p. 182).

In providing a very specific characteristic, Stokols (1987) defined settings as “...geographic locations in which various personal or interpersonal situations recur on a regular basis” (p. 51). This interpretation raises two immediate issues: first, how the boundaries of the location are to be determined; and, second, ascertaining what degree of frequency and rhythmicity qualify for the label “regular”. It also raises the question of temporal limits.

1.5.1.4 Situations

Following on from the definition of setting, Stokols (1987) defined situations as “...sequences of individual or group activities that occur at a particular time and place” (p. 51). Prior to this, the situation had been similarly described “...in terms of *who* is there, *what* is going on, and *where* it is taking place” (Pervin, 1981, p. 347). The person:situation relationship had been raised earlier (e.g., Endler, 1981; Fredericksen, 1972), with Stern (1964) contending that a description of the situation must take into account the expectancies which are aroused in the person. This was in contrast to others of that time who saw the situation in terms of objectively measured characteristics (e.g., Barker, 1963b; Sells, 1963). More behaviour specific than expectancies and activity, Magnusson (1981b) contended that situations gave meaning to behaviour, in that “...behavior takes place in situations; it does not exist except in relation to certain situational conditions and cannot be understood and explained in isolation from them” (p. 10).

Although the assigned function or characteristics of the situation have changed since the 1950s and early 1960s, the defining difference in meaning and/or function with the other terms is still far from clear. Endler (1981) drew a temporal distinction in that while he defined environment as a general background or context of behaviour, he saw the

situation as “...the momentary or transient background” (p. 364). The concept of an “immediate situation” had also been raised around this time (e.g., Bronfenbrenner, 1977; Nystedt, 1981), which Endler (1981) equated with the “momentary situation”.

The final point raised here is consideration of the situation as fluid, always changing as a consequence of alterations in time or temperature or some other accompanying aspect, so that the same situation is never quite the same situation (Rotter, 1981).

1.5.1.5 Conclusions about the use of terms and concepts in the literature

The terms environment, setting, situation, context, and milieu, appear regularly in the literature, and have been supplemented with specific temporal characteristic which make them immediate or momentary. However, the time-space attributes of each term have been used inconsistently across studies and appear to be used interchangeably on occasions. As a consequence, providing definitions for the current study based on previous applications of the terms requires a degree of arbitrary decision-making in relation to the physical, geographic, and temporal characteristics of each. While this is acknowledged as a potential limitation on any future cross-study comparison of findings, the following specification of the meaning and function of terms used in the current study will clarify the interpretation of data collected as part of the current investigation.

1.5.2 Definitions for the current study

All five commonly used terms have been assigned specific functions relative to each other and persons.

1.5.2.1 A definition of environment

Environment is defined as

the totality of the milieux, settings, situations, and contexts, incorporating physical, social, cultural, structural, and temporal, aspects of all components within a general location of time and space. Location can be remote or in close proximity to a specific setting or person.

1.5.2.2 A definition of milieu

A milieu is defined in accord with English and English (1958) as

the totality of the person and his or her immediate environment, in any given situation, over any period of time. It comprises all aspects of the person:environment relationship as perceived by the individual concerned and, therefore, cannot be interpreted objectively by an observer.

1.5.2.3 A definition of settings

Drawing from Stokols (1981), settings are

locations characterised by specific physical and temporal boundaries within the environment. They are, more often than not, associated with a narrow range of expected behaviours designated as “standing behaviours” by Barker (1968), and may be referred to as “behaviour settings” (Kounin & Sherman, 1979; Sherman & Oppenheimer, 1989).

In the current study, the child care centre is a setting. Smaller settings can be embedded within the larger setting, each with variations in expected behaviour. These may exist naturally or be deliberately created for a particular purpose, such as may be seen with multiple activity centres within a single classroom. Settings, or behaviour settings, comprise physical and structural factors and can exist without persons being present, but when persons are present, they comprise any number of situations.

1.5.2.4 A definition of context

For the current study, context is defined in some agreement with Clitheroe Jr et al. (1998), and represents

the “why” of the situation or setting. It is the subjective interpretation of a participating individual, using selected “bits” of information about the situation or setting, incorporating his or her milieu, and is stated as *the reason for being of the situation at a given time, as perceived by a participant*. Similar to milieu, context is a perception of the individual and, therefore, cannot be interpreted objectively by an observer.

1.5.2.5 A definition of situations

A situation is defined in Pervin’s (1981) terms as

the “who”, “what”, and “where”, of person:setting interactions. A situation is created by the person’s contextual definition of the setting. As other persons or the temporal aspects of the setting’s structure change environmental factors within the setting, so the person’s definition of the context of that setting changes. In accord with Rotter (1981), therefore, situations are seen as fluid; ever changing, never quite the same from moment-to-moment, but they cannot exist without persons.

1.5.3 Embedded factors

In addition to the five main terms defined above, a further two embedded factors useful in

facilitating analysis, have been adopted. These are “behaviour units” or “episodes” and “momentary situations”. Emanating from studies during the 1950s and 1960s (Barker, 1963a; Barker, 1968; Wright, 1967; Wright et al., 1951), both concepts were conceived as parts of behaviour streams, as described by Barker (1963b) and are utilised in the current study to aid interpretation of the data.

1.5.3.1 Behaviour units or episodes

Whether occupying a setting on their own, or with others, the activities of individuals can be analysed as a constant stream of behaviours. This stream is made up of behavioural units or episodes, each representing an action with an identifiable starting and finishing point located in time and space (Barker, 1963b), which can be represented schematically, as in Figure 1.1. In this example, one of the observed children, identified as preschooler female number 3 (PF03), arrives at the easel to paint, but before starting was involved in four behaviour units, three with staff member number one (S01), as follows.

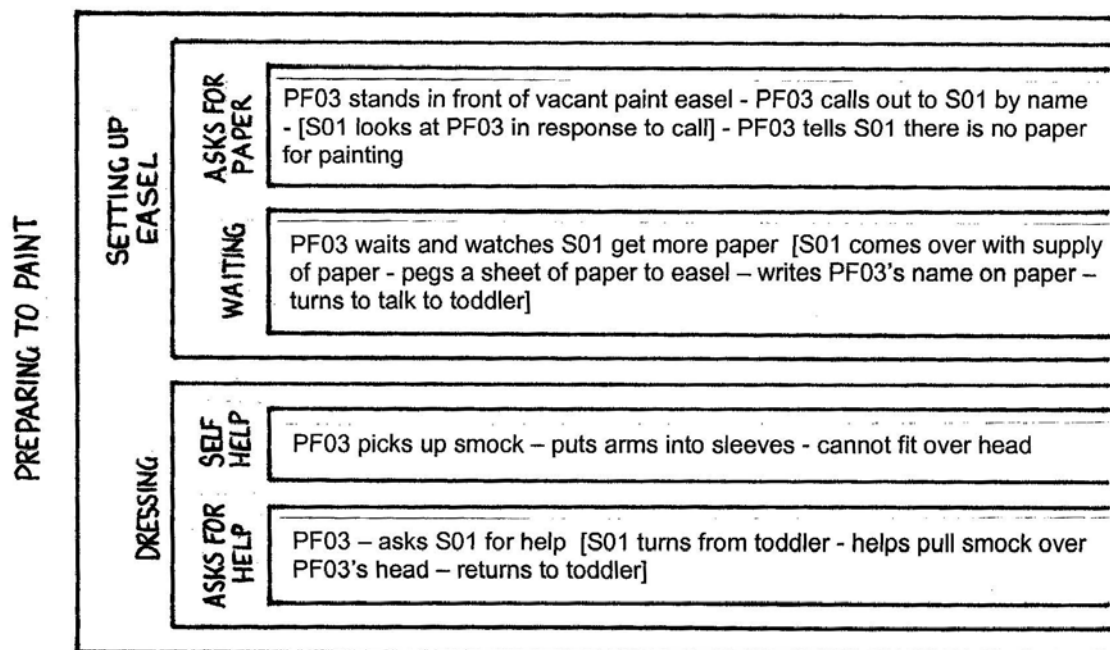


Figure 1.1 Behaviour stream for PF03 preparing to paint

The example in Figure 1.1 provides an uncomplicated section of the behaviour stream, but as Barker (1968) warned, “...behavior episodes do not move along Indian file, but, rather, one, two, or three abreast quite irregularly” (p. 148). Analysis of the behaviour stream is discussed more fully in Chapter Three (3.5), with an extension of the above sample to demonstrate the tracking capacity of the technique across complex actions.

Analysis of behaviour units in streams of behaviour has been criticised as a method, being seen as “...unwieldy for comparing many different subjects and milieus” (Bell, 1965, p. 2). Barker (1963b) had earlier warned of the “...tedious and difficult task of identifying, describing, and classifying behavior units” (p. 7), but observed that it was an essential part of the research technique. More recently, Rolfe and Crossley (1997) have noted specific advantages of an ability to track events antecedent to problem behaviours and to identify critical components in the activity:

When behaviours occur infrequently, they may be missed unless there is continuous close scrutiny of the behaviour stream. Subsequent interventions can then be based on sound understanding of which aspects of behaviour are exaggerated, missing or otherwise inappropriate and in which contexts they occur. (p. 10)

Barker (1963b) advised, however, that analysis can achieve meaningful results only by considering the whole behaviour stream, since “...the isolation of a single behavior unit, kind of unit, or unit attribute from the whole pattern can, in effect, distort the reality of behavior as surely as direct interference with the behavior stream” (p. 19).

1.5.3.2 Momentary situations

Momentary situations are segments of situations; the smallest possible temporal units. They represent the exact time-space location of critical actions in the behaviour unit at any embedded level. For example, PF03 calling out to S01 in Figure 1.1.

1.5.4 The physical relationship between setting components

In summary, the relationships between the concepts within the totality of the environment can be stated as follows. The physical setting may be populated by persons who interact with each other or with objects to create situations. Observed behaviours of participants in situations can be interpreted in sequential streams comprising separate units or episodes, each having a location with a starting and finishing point in time and space. Although dependent on the detail provided by the data collection process, these events can be dissected to reveal precise moments of specific actions within the situation. The relationship between settings, situations, behaviour units, and momentary situations is illustrated in Figure 1.2 over the page.

1.5.5 Describing environmental characteristics

In addition to problems created by confusing application of terms to describe time-space locations, researchers have often limited the utilities of studies by predetermining the

meaning or purpose of situations, settings, environments. The most commonly used method has been to precede the term with an adjective indicating a particular physical, socio-emotional, or organisational characteristic. The general descriptors imply that situations, settings, and environments are deterministic, which creates difficulties for the analysis of processes of behaviour development (Wohlwill & Heft, 1987). The interpretation of adjectives is also subject to a wide range of value judgements, with the potential to distort understanding of the circumstances in which the data is collected, as demonstrated by the examples following Figure 1.2.

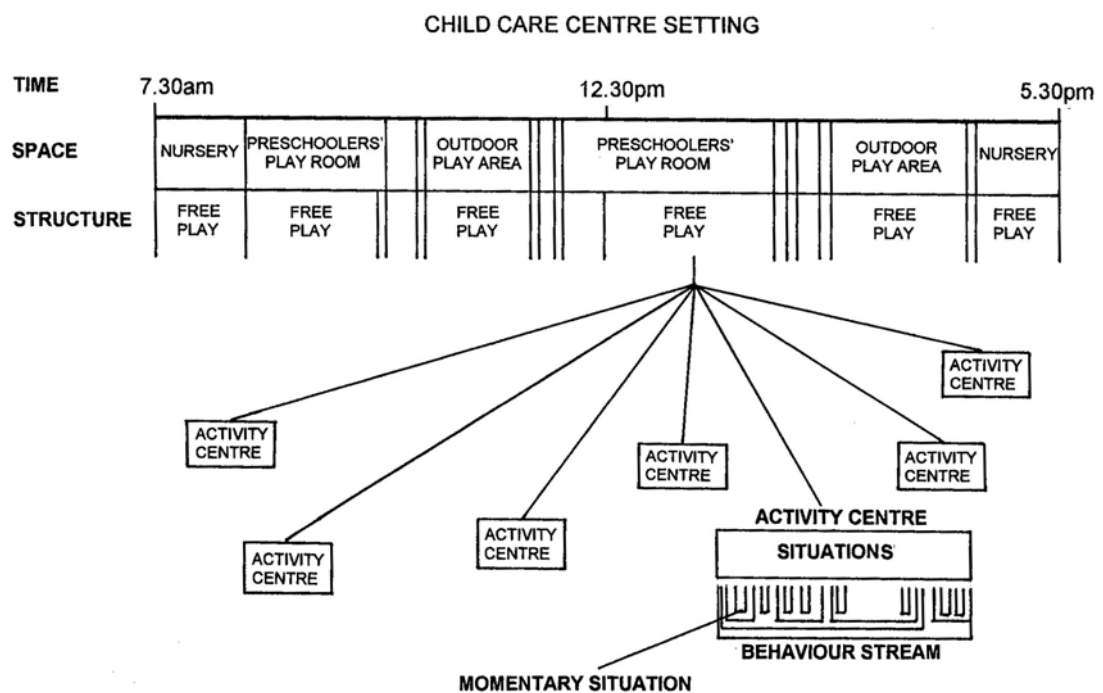


Figure 1.2 The physical relationship between setting components

1.5.5.1 Descriptions of the environment

Adjectives preceding the term environment encompass a range of socio-emotional and physical conditions or circumstances. Without evidence to the contrary, these descriptions appear to reflect the investigators' response to person:environment relationships rather than an objective accounting of observed activity. For example, "family" (Bradley & Caldwell, 1984; Braungart-Rieker, Rende, Plomin, DeFries, & Fulker, 1995) or "home" (Egeland et al., 1990; Gordon, Arthur, & Butterfield, 1996). Similarly, references are often made to environments that belong to a narrower classification of physio-socio-cultural structures, such as "day care" (Dunn, 1993; Hennessy et al., 1992), "preschool" (Bay-Hinitz et al., 1994; Carta, Greenwood, & Atwater, 1986) or "school" (Berk, 1971; Edelbrock, Rende, Plomin, & Thompson, 1995), "classroom" (Biddulph, 1997; Fisher, Fraser, & Bassett, 1995), or "laboratory" (Campbell, Breaux, Ewing, Szumowski, & Pierce,

1986).

Investigators have also used a range of descriptors to assign primary functions or specific psychosocial properties to environments, devoid of any real physical attributes. These include “learning environments” (Erickson & Mohatt, 1982), or ones described as “language” (McCartney, Scarr, Phillips, Grajek, & Schwarz, 1982) or “work” environments (Hayden, 1996; Kirmeyer, 1985), which can be “undermanned” (Bechtel, 1974). Sensory components, such as “auditory” and “visual” have also been suggested (Haugen, 1997). In addition are environments defined as “structured” (Farmer, 1988), “developmentally appropriate” (Dinwiddie, 1994), “unpredictable” (Cicchetti, Ackerman, & Izard, 1995), “caring” (Choice, 1994), “well-organised” (Koralek, Colker, & Dodge, 1993), and even “aggressive” environment (Horne, 1981), as a partner to aggressive context.

1.5.5.2 Descriptions of settings

Berk (1971) attributed settings with some form of structural or functional influence, similar to those accorded the environment, by siting activity in a “nursery school” setting. Similarly, others have sited behaviour in “cultural” settings (Bronfenbrenner, 1979), “home-like” and “institutional” settings (Greenman, 1988), and an “unsupervised” setting (Altepeter & Breen, 1992). Settings have also been accorded size (Bechtel, 1974) and social value, such as “disadvantaged school” settings, which Kazdin (1993) equated with contextual conditions. Such descriptors emphasise the general characteristics of a setting rather than identifying the specific physical and temporal boundaries of the events. They also appear to assume a general influence expected of the setting, rather than describing any effects on the behaviour of participants.

1.5.5.3 Descriptions of situations

The same one-word attempt to focus the reader’s attention on a particular set of assumptions has been applied to situations, often using the same or similar meaning words. For example, situations have been labeled “cooperative/competitive” (La Freniere & Charlesworth, 1987), “undesirable” (Levine, 1995), “provocative” (Crick, 1995), “conflictual” (Camras, 1977; Clarke & Gray, 1997), and even “explosive” (Chazan et al., 1983; Strauss, Schatzman, Bucher, Ehrlich, & Sabshin, 1969). Less violent, but just as value-laden, are those described as “neutral” (Derryberry & Reed, 1994), or “ambiguous” (Courtney & Cohen, 1996).

Alternatively, situations have been geographically or conceptually designated as “out of school” (Lichtenstein & Ireton, 1984), “nonlaboratory” (Lewis, Sullivan, & Vasen, 1987), “classroom” (Stebbins, 1971), “school” and “home” (Altepeter & Breen, 1989). There are

many more descriptors providing, what Stränger and Hommel (1995) called the “situational context”. While indicating a general type of site, they provide very little information about the specific implications for person:environment relationships upon which to base interpretation of data.

1.5.5.4 The limitations of describing environments

Beyond generally indicating categories of places, activities, and perceptions of mood, these descriptors provide little information about what the researchers or their subjects may actually be experiencing at the time the particular study was undertaken. As a result, the extent of agreement between the writers of reports and their readers, about the assumed properties and consequent impact of the locations, activities and circumstances under which the investigations was pursued, is dependent upon the degree and type of real and vicarious experiences of the reader. If that experience is of a different time in history, or of a country and culture different to that of the author, difficulties of interpretations may be exacerbated.

1.5.6 Describing properties of the environment in the current study

In view of the above, the current study does not utilise adjectives to provide a general description of the environment, settings, or situations. Rather, specific properties of the environment are provided under four designated component parts of the environment, generally described as physical, social, structural and cultural factors. Descriptions of factors within these four component parts are provided below.

1.5.6.1 Component parts of the environment

Debate about the component parts of environment has tended to concentrate on the, now generally accepted, inseparable relationship of the physical and social factors (e.g., Moore, 1986; Moos & Insel, 1974; Proshansky & Fabian, 1987), to the exclusion of any other elements. In some studies, a cultural factor has been identified as a separate component (e.g., Greenman, 1988; Harkness & Super, 1985; Kritchevsky, Prescott, & Walling, 1969; Wener, 1989), although sometimes combined as a socio-cultural constituent (e.g., Elliott, 1995; Hinde, 1992; Lerner, 1983; Magnusson, 1981a; Stokols, 1987). For the purposes of the current study, however, a separate cultural component of the environment has been adopted. The particular approach of the current study also required the adoption of a framework to describe temporally ordered factors. To meet this requirement, a structural component of the environment of a child care centre was added to the other three. A description of the constituent parts of each component is provided below.

1.5.6.2 The physical component of the environment

The physical component of a child care centre's environment includes buildings, fences, materials, equipment, and activity area layout both indoor and outdoor, as well as trees and other natural features. In short, all that can be experienced through the sense of touch. Within a child care centre, however, physical factors are usually planned and made available to both staff and children in conjunction with both structural and cultural factors.

1.5.6.3 The social component of the environment

The social component of the current work is seen as comprising child:object and child:child relationships, including intentions and outcomes, with occasional reference to parent:child interactions. The nature of staff:child relationships is seen as primarily supporting the function of the child care centre, with the purpose of most interactions and transactions being firmly based in structural or cultural factors.

1.5.6.4 The structural component of the environment

Structural factors relate to time and organisation. They include the scheduling of activity/behaviour settings throughout the day, determining the duration of each and their sequence, including children's transitions between settings. The structure also incorporates the number, age, and gender mixes of children as a result of the grouping practices, together with the allocation of staff numbers to the groups at various times throughout the day. Structural factors are usually closely aligned to the cultural values or aims of the centre and specify the temporal aspects of settings.

1.5.6.5 The cultural component of the environment

In general, culture has been defined as "...the general sense of systems of standards for perceiving, believing, evaluating, and acting" (Goodenough, 1971, p. 41). According to some investigators, these standards are learned and shared consensual behaviours of the group (Georgiou, Carspecken, & Willems, 1996; Hall, 1959; Stebbins, 1971), and in a child care centre many of the staff:child transactions are dedicated to teaching and maintaining these behaviours.

The culture dictates or guides all adult relationships with children, including the formulation of rules and the strategies used by staff to implement them, together with a system of rewards and punishments. The culture also prescribes the philosophical approach to early childhood care and education, including choices about program content, the application of which is frequently reflected in the settings, and adult expectations for child outcomes.

1.5.6.6 Summary of component parts of the environment

To facilitate discussion of the conceptual approach to the current study, and to provide a framework for analysis and interpretation of the data, the environment was separated into four component parts. Although interrelated and often interdependent, physical, social, structural, and cultural factors separately account for different facets of child:environment relationships across all settings and situations. Although they represent the basic components of environmental influence, issues of magnitude of effect and wider temporal dimensions also need to be addressed before considering the mechanism underlying child:environment relationships.

1.5.7 Magnitude of environmental influence

To further clarify the role of the environment, consideration is given to theories concerning the magnitude of environmental influence. For instance, some reports have sited the environment geographically: as “indoor” (Wohlwill & Heft, 1987), “outdoor” (Hart & Sheehan, 1986) and “external” (Bronfenbrenner, 1979). Apart from indicating the presence or absence of roofing, the descriptions could be implying an influence due to weather or temperature, or expectations about dress, activities, or a host of unmentioned other things. Some investigators have been more spatial, referring to an environment that is “surrounding” (Clitheroe Jr et al., 1998), “ambient” (Johnson, 1988), or “immediate” (English & English, 1958; Hennessy et al., 1992). Such descriptors imply movement, although not exclusively, perhaps gravitating towards the individual, concentrating strength of influence as proximity to the person increases. The descriptors may also imply that the environment is not amorphous, but multi-layered with functions or spheres of influence separated by elements of time and space.

Following the spatial theme, some theorists have specified a structure of different levels; for example, Brim’s (1975), suggestion of micro-, meso-, and macro-structural levels of environmental influence on child development. The micro-structural level included influences closest to the child, such as his or her family, while the meso-structure included relationships at the neighbourhood level, including child care centres. In relation to the macro-structural level, which appeared to concern him the most, he declared that professionals “...must look at economics, cultural values, politics, law, and sociology in relation to child development” (Brim, 1975, p. 517).

Adapting Brim’s terminology (Bronfenbrenner, 1977), and envisaging interactions between the layers, Bronfenbrenner (1979) proposed a four-level system in relation to child

development and introduced the concept of an interconnected micro-, meso-, exo-, and macro-system. In the most immediate proximity to the person was placed the micro-system, comprising a “...given face-to-face setting with particular physical and material features and containing other persons with distinctive characteristics of temperament, personality, and systems of belief” (Bronfenbrenner, 1992, p. 227). Magnusson and Allen (1983) also defined a micro-level of the environment, and saw it as “...that part of the total physical and social environment that an individual is in contact with and can interact with directly in daily life during a certain period of time (in the family, at school, at work, during leisure time, etc.)” (p. 11).

In a practical application of the model, Minuchin and Shapiro (1983) related micro-systems to frequented behaviour settings, describing schools as “...a series of behaviour settings in which the student participates directly” (p. 202). The influence of the connection between two or more of these settings, or micro-systems, was nominated as the meso-system (Bronfenbrenner, 1977). The exo-system described events in which the person did not participate but which still had an impact on him or her. For a child attending a child care centre the exo-system includes the parents’ work place which dictates family schedules (Milligan, 1994). Particularly relevant to the current study is the parents’ workplace or other time/space commitments that, through the meso-system, determine the child’s arrival and departure times, days or attendance, and stability of these arrangements.

On the outer reaches of the sphere of influence, Bronfenbrenner (1992) depicted the macro-system as comprising

...micro-, meso-, and exosystems characteristic of a given culture, subculture, or other broader social context, *with particular reference to the developmentally-instigative belief systems, resources, hazards, life styles, opportunity structures, life course options, and patterns of social interchange that are embedded in each of these systems*. The macrosystem may be thought of as a societal blueprint for a particular culture, subculture, or other broader social context. (p. 228)

The concept of a relationship between different levels of the environment was also supported by Magnusson and Allen (1983), who saw the macro-level as “...that part of the total environment that in some way or other influences and determines the character and functioning of the micro-environment” (p. 11).

1.5.7.1 Space and time

Although indicating connections between levels, the models do not include any special chronological or chronometrical relationships between person and environment. The

necessity of incorporating time in explanations for changes in behaviour has increasingly come to the fore, resulting in the separation of the concepts of space and time from physical factors within the environment (Altman & Rogoff, 1987; Bronfenbrenner, 1992; Clitheroe Jr et al., 1998; Hinde, 1992).

1.5.7.2 Impact of time on the person and behaviour

A chronological factor allows consideration of a person's intentions for actions and/or reactions. Additionally, attempting to understand the meaning of person:environment relationships in the present may require incorporating the outcomes of transactions from the past. The importance of this latter point may be found in the observation that behaviour

...in any situation reflects the type of person we are, and this, in turn, involves our parental upbringing, the socio-economic class to which we belong, the values of our society, our religious and ethnic background, the influence of significant figures on our lives, accidents of fate, our short- and long-range goals, the education we have achieved, the norms of the society in which we live, and so on. All these factors, in the very broad sense, are part of our environment. They constitute the world we know. (Ittleson, Proshansky, Rivlin, & Winkel, 1974, p. 168)

Apart from individual differences in types of experience, for the very young child many of these issues may be subject to incomplete learning, inexperience, or immature cognitive processes, which renders the outcomes of their relationship with an environment quite different to those of an adult in a similar situation. This point may have significant implications for child behaviour and is discussed further in Chapter Two. In the meantime, the current study incorporates the concept of a multi-layered environment, as proposed by Bronfenbrenner (1992), in conjunction with the superimposition of elements accounting for time in person:environment relationships.

1.5.8 Models of influence

Although many of the previously cited studies implicate the environment as an influence on child development or the creation of problem behaviours, few offer any specifications about the process of creation. Nor do they explain why, in the same situation, some children exhibit problem behaviours while others do not. In very general terms, approaches to explaining the relationship between persons and environment encompass three matters: first, the nature of the interface between the child and the setting; second, the directionality of influence; and third, the mechanism underlying any change in persons and environments resulting from relationships. The following is a summary of the most salient points relevant to children's relationships with the environment in a child care centre.

1.5.8.1 The nature of the interface between the child and the setting

The question of how environments impact on people has concerned investigators for more than 60 years. Koffka (1935) made a distinction between the physical and psychological, which he called the geographic and behavioural, contending that the psychological was a function of the interaction between the person and the physical environment. Lewin (1935) made the connection at the same time and by linking an individual's psychological interpretation of the situation with his or her perception of the physical environment went one stage further by coupling this perception to behaviour. Lewin's (1935) formalisation of the relationship of behaviour (B) as a function (f) of the interaction between person (P) and the environment (E), expressed as $B=f(PE)$, established a clear connection between the person and environment. He contended that certain facets of the environment, particularly objects, attracted attention and elicited specific behaviours from children. Lewin (1935) is also credited with inventing the term "Life space" (Block & Block, 1981; Rapoport, 1977) as a means of describing the personal attributes an individual brings with him or her to interpret the meaning of a setting or situation.

A broad view of these personal attributes suggested that motivation, discrimination, performance, and affectivity were all required to execute behaviour in response to environment influences (Muenzinger, 1942). Wright et al. (1951) extended this mainly unidirectional model by suggesting that

...what the person does in a behavior setting, the classroom or any other, depends at any one time upon the meaning of its parts to him; it depends upon his own goals...needs....It depends, in all, upon the forces in quite another zone of influence....the naturally occurring life space, the relevant context of everyday behavior, which we have called the psychological habitat of the person. (p. 190)

According to Snodgrass and Russell (1988), a person's response to even a simple stimulus depends on the person's mood and plans, which are often formed in whole or in part before encountering the stimulus. More recently, Stein (1996) has suggested that the meaning of settings and situations have value only at the moment of appearance, as a result of their particular histories and how the person chooses to examine them. Fuhrer (1990) focussed on the individual's level of control and intentions by emphasising "...the active and voluntary, goal-directed efforts of people to cope with their behavior settings" (Fuhrer, 1990, p. 532). Together with later work by Clitheroe Jr et al. (1998), there has been a broadening of recognition that individuals bring to a situation a range of inherited and learned behaviours, which are accompanied by motives and goals for the outcome

of their involvement in the setting. In a child care centre, a child views a situation in his or her own context and the behaviour displayed is likely to reflect the experiences and intentions he or she has. Consequently, a behaviour setting can be seen as "...not just one bunch of objects; it is many bunches of objects at the same time, because it is a different bunch for each inhabitant" (Fuhrer, 1990, p. 533). Apart from intentions, the environment may also be perceived as exerting influences on or being influenced by different children, as depicted by the following overview.

1.5.8.2 Directionality of relationship between persons and environments

Various models assign dominant, submissive, or equilateral roles to person and environments, giving rise to three states:

The first is the relation in which man is understood to be reducible to the environment; second, the relationship in which the environment is reducible to man; and third, the relation in which two independent systems - man and environment - reciprocally interact. Each of these relations derive from basic and often unstated philosophical assumptions which have exerted and continue to exert a determining contextual influence.... (Overton & Reese, 1977, p. 13)

1.5.8.3 The person reducible to the environment

Similar to the first of the three views above is that which posits behaviour as setting-dependent (e.g., Barker, 1968; Gruss et al., 1998; Hinde, 1987), or as a function of the environment (e.g., Overton & Reese, 1977; Sebastian, 1988). Belief in the power of the environment to shape or dictate behaviours underpins much of the current thinking about the effects on child behaviour of family socio-economic and other demographic factors. As such, it forms much of the basis of the "nurture" case in the nature versus nurture debate (e.g., Braungart-Rieker et al., 1995; Gruss et al., 1998; Lytton, 1990b; Miller, 1995; Wahler, 1990).

Apart from naturally occurring conditions, it has been asserted that settings can be manipulated instrumentally by others to achieve behavioural goals (Proshansky & Fabian, 1987; Stokols, 1990). In the general community, it has been recognised that much social control is dependent upon the environment guiding or directing behaviour, whether in schools, public transport, libraries, or the like (Bradley & Caldwell, 1995; Parsons, 1974; Sameroff & Fiese, 1990; Willems, 1974). As a consequence, the perception of child behaviour as a problem has been defined, in many cases, as simply those behaviours being exhibited at the wrong time in the wrong place (Greenman, 1988). It reflects the view expressed by Magnusson (1981b), cited earlier, that behaviour can only exist and be understood in relation to certain conditions.

1.5.8.4 The environment reducible to the person

Other models of behaviour, such as “self-action” (Dewey & Bentley, 1949), “formism” (Pepper, 1961), and early “trait” theories, as described by Altman & Rogoff (1987), have excluded the environment as an influence, seeing behaviour as a product only of the person, similar to the second of the three states of Overton and Reese (1977) cited above. Theories postulating no relationship between person and environment underpin much of the argument for the “nature” side of the nature versus nurture debate.

Stokols (1987) provides an account of a variation, termed the minimalist approach, which accords the environment some, albeit a minimal influence. Goldsmith et al., (1987) similarly provide examples of the view that the behaviour of persons are relatively unaffected by settings and situations, but not totally immune.

1.5.9 Mechanism of change resulting from person:environment relationships

Both the minimalist and person-reducible-to-environment models are essentially unidirectional and the relationship between the person and environment provides little reciprocity of influence. Generally, under the minimalist regime, perception dictates learning, while under the opposing view learning results from conditioning.

Equilateral or reciprocity models of person-environment relations, on the other hand, emphasise a bi-directional influence, although the mechanism for this relationship has been further partitioned into at least four paradigms; interactional, organismic, contextual, and transactional.

1.5.9.1 Interactional model

An interactional model accepts that there are bi-directional relationships between an individual and his or her environment. Behaviour is seen to result from the influence of the person and environment upon each other, but the characteristic of an interaction is that it leaves both the person and the environment relatively unchanged. That is, interactions represent functional exchanges, they do not indicate modification of the environment or learning that profoundly alters the ongoing behaviours of the person.

1.5.9.2 Organismic model

The organismic view proposes that the relationship between an individual and his or her environment is complex and reciprocal, leading to changes in both. The relationship is seen as being governed by a limited set of laws or principles that try to maintain or move

the participants towards ideal states according to the sum of their individual properties. The implied developmental function has been seen as primarily involving the emotional system of the person in motivating behaviour to meet particular goals (Cicchetti et al., 1995). Although far from an ideal state, the organismic model appears to play some role in coercive parent:child relationships.

1.5.9.3 Contextual model

A forerunner to the transactional model, the contextual model depicts the world as being in a state of continuous change as a result of the relationship between person and environment. Contextualism contrasts with the transactional approach in the belief that "...the person interacts with the situation, and the resultant behavior alters the person's perception of his or her own characteristics and of the next situation in a kind of self-perpetuation of change" (Sarason & Sarason, 1983, p. 188). It implies that the person is growing as a whole, affecting all future relationships to some degree, which may have some application in the previously mentioned 'turmoil' of early childhood development.

1.5.9.4 Transactional model

A transactional model also accepts that there are relationships but not of mutual influences or resulting from antecedent-consequent processes. Transactions take the form of unique configurations of culture, setting and person, involving different aspects of the individual and environment to form a whole, so that they coexist and "...jointly define one another and contribute to the meaning and nature of a holistic event" (Altman & Rogoff, 1987, p. 24). However, the model suggests that resulting changes to the person may not be carried over to other configurations, which may also have application to early child development. In particular, the irregularity in extending environmental influence to all areas of development compliments theory that development is not regular across all domains (e.g., Biggs & Collis, 1991; Collis & Biggs, 1991; Hutt, 1972).

1.5.9.5 Summary and conclusions about child:environment relations

The relationship between the child and environmental factors has been presented as being governed by his or her individual psychological habitat, comprising within-child characteristics, experiences, motivation, and intentions. The directionality of the relationship between the child and any one environmental factor has been represented by one of three basic models. One posits persons as subservient to environmental influences; another posits the opposite view. A third model contends an equal and reciprocal relationship between persons and the environment. The first two models are essentially uni-directional, while the third presents a bi-directional exchange. Different

theories about the strength of impact of these bi-directional exchanges have been conceptualised in four models. The interactional model leaves both persons and environment relatively unchanged. On the other hand, organismic, contextual, and transactional models all propound changes to both persons and environment, but in varying ways.

The current study incorporates the dynamic bi-directional aspects of these models, in that “actual behavior is a function of a continuous process of multi-directional interactions of feedback between the individual and the situation he or she encounters” (Magnusson & Törestad, 1992, p. 92). With the added qualification that the situation comprises recognisable physical, social, structural, and cultural components of the environment within a specific time-space setting. The reciprocal relationship between the psychological habitat of the child and components of the environment, and the relationship of that influence to the child’s behaviour, is schematically presented in Figure 1.3 as a contextualisation of the child’s experience in a child care centre.

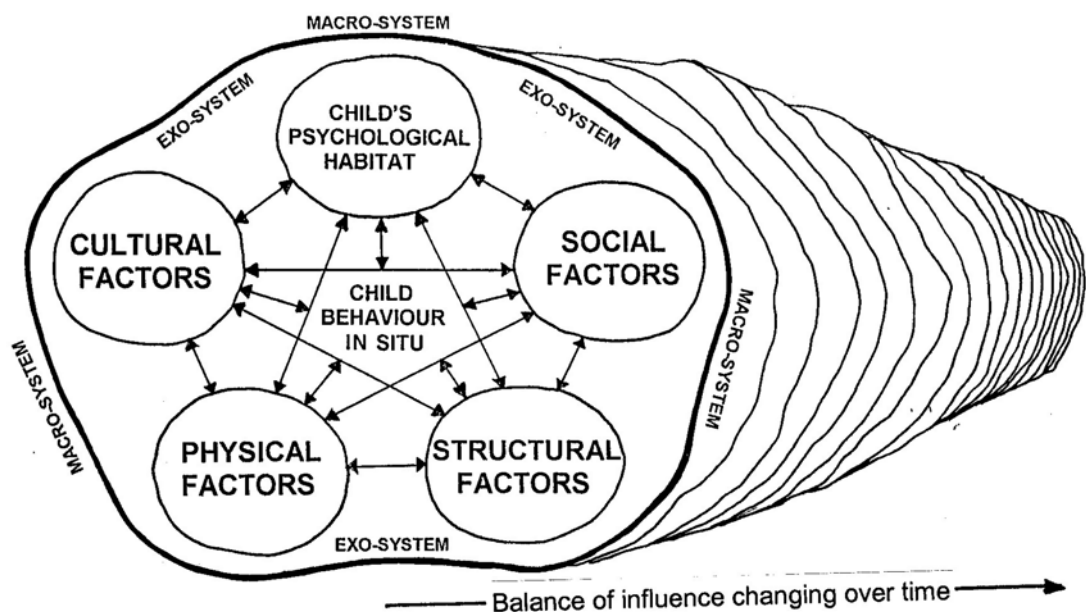


Figure 1.3 Contextualisation of the child’s experience in a child care centre

The diagram depicts a cross-section of the relationships that exist from the time the child arrives at the centre in the morning until he or she leaves in the afternoon. At any point of time, it is likely that one or more factors will exert greater influence than others, with varying strengths of uni- and bi-directional influence constantly changing.

1.5.10 Summary of concepts of environment in the current study

To help provide a conceptual framework for the current study, the term environment has been defined as the totality of four constructs: settings, situations, contexts and milieux. Settings are defined as physical entities governed by structure and culture that provide boundaries in time and space, while situations represent the interaction between people in settings, or between a person and an object within a setting. In addition to the child, each situation incorporates different but interrelated physical, social, cultural, and structural components of the environment. The four components are located in the micro-environment of the child care centre, which impact on specific settings and situations, but can also be indirectly influenced by the less proximal exo- and remote macro-systems through the meso-system. The overall production of child:object or child:child behaviours is dependent on the psychological habitat of each participants. Comprising within-child characteristics, the psychological habitat contributes to the child's milieu and provides the child with his or her context for activity. Context and milieu are considered personal constructs and, therefore, cannot be interpreted objectively by an observer. However, actions that take place in a situation can be recorded as a sequence or stream of individual behaviour units or episodes. Any action occurring at a particular point in time within a unit or episode can be assigned to a momentary situation. Analyses of streams of behaviour provide indications of the child's relationship with the totality of the environment across time and space within a child care centre.

1.6 Conceptualising problem behaviour

Closely connected to matters concerned with conceptualising child:environment relations are two issues concerned with conceptualising problem behaviour in early childhood. First, is the confusion created by inconsistent use of terms to describe behaviours, as well as failures to acknowledge the impact of different social values and cultural beliefs about the same behaviours. Second, are limitations placed on the utility of findings by unstated assumptions about *for whom* specific child behaviours may be a problem, and uncontested assumptions about *who* should identify them.

1.6.1 Inconsistencies and differences in definitions of behaviour

Studies of child behaviour have been undertaken by investigators from a range of disciplines, including various branches of education, psychology, sociology, philosophy, medicine, and architecture. The breadth of interest in the subject over a period of more than 60 years has produced findings that have undoubtedly made a significant contribution to understanding factors that may underpin some children's behaviour in some situations.

However, the variety of contributions has introduced inconsistencies and ambiguities in the definitions of behaviour, which have the potential to confuse the problematic with the non-problematic and could confound interpretations of behaviour:environment relationships. As Shantz (1987) noted: “a multitude of terms are used almost interchangeably in the literature: behavior that is aggressive, agonistic, assertive, aversive, coercive, conflictual, disruptive, and sometimes the very broad term ‘negative’ ” (p. 284). A particular dilemma for investigators is that some of the behaviours have been portrayed by some writers as indicating positive rather than negative child attributes. The contradictions result from behaviours being classified as problematic on arbitrary social, cultural, and ideological grounds, rather than on the basis of an accepted conceptualisation of what constitutes problem behaviour at a particular time and place. The extent of the difficulties for research raised by the failure of investigators to properly conceptualise and define problematic behaviour is illustrated below, using aggression as an example.

1.6.1.1 Problems associated with defining aggression

One of the most frequently occurring discussions in the literature on aggression centres on the difficulty confronting observers trying to discriminate “real” from “pretend” fighting. For instance, Etaugh and Happach (1979) and Sherburne, Utley, McConnell, and Gannon (1988) have noted that distinctions have not always been made between action that is intended to do harm, sometimes termed “hostile aggression” (Behar, 1977; Berkowitz, 1993; Hinde, 1987; Howes, Hamilton, & Matheson, 1994), or “physical aggression” (Björkqvist, Österman, & Kaukiainen, 1992; Sanson, Prior, Smart, & Oberklaid, 1993; Smith & Connolly, 1980), and aggression which is acted out as part of role play, sometimes termed “thematic aggression” (Feshbach, 1955; Sanson, Prior et al., 1993), or “playful aggression” (Shantz, 1987; Turner, 1991).

A similar lack of distinction, between “fighting” and “rough-and-tumble play”, has also been reported as being problematic in assessing aggressive behaviour (e.g., Goldstein, 1992; Zoccolillo, 1993). Whereas fighting may rightly be categorised as aggressive behaviour, rough-and-tumble play is sometimes included as aggression (e.g., Björkqvist & Niemelä, 1992; Loo, 1972), and sometimes not (e.g., Howe, Moller, Chambers, & Petrakos, 1993; Smith & Connolly, 1980). For others, particularly those representing aspects of counter theory (e.g., Reinert & Huang, 1987), some rough-and-tumble play, or roughhousing, is seen as a normal activity for young children and even encouraged (e.g., Porter, 1994).

A related problem is the question of distinguishing between anger and aggression, which has been seen as central to determining whether anger should be regarded as a child

problem behaviour like aggression, or a symptom of something else. Some investigators have seen anger as a defining feature of aggression (e.g., Crick, Bigbee, & Howes, 1996), while others have separated anger from aggression (e.g., Berkowitz, 1993; Tremblay et al., 1992), noting that not all anger results in aggression (e.g., Averill, 1982; Eisenberg, Fabes, Nyman, Bernzweig, & Pinuelas, 1994). On the other hand is the view that anger plays a role in the development of hostile aggression (Zahn-Waxler, 1993), or is a motivational force (Cicchetti et al., 1995). Alternatively, anger has been viewed as a normal and necessary part of a young child's social development. For example, Stephan (1993) suggested that "anger is an emotion and should not be suppressed", contending that "young children need to be supported, their anger acknowledged, and to be given a legitimate outlet for their anger, e.g., punching a punching bag rather than another child" (p. 3). Adding a cultural caveat, Cole, Zahn-Waxler, and Smith (1994) contended that anger is more acceptable in boys than it is in girls.

Offering a different perspective, Fabes, Eisenberg, Smith, and Murphy (1996) cast doubt on the authenticity of some children's displays of anger, suggesting that those aged 4-5 years can act out the appearance of being angry, with the possibility of further confusing an observer's interpretation of child:environment relations. Earlier findings added complications by contending that children aged 3 years cannot pose anger, even partially (Lewis et al., 1987). Accepting the findings of both studies creates particular difficulties for the identification of children's aggressive behaviours within the normal 3-5 years age-mix of the "preschoolers" rooms in most child care centres.

Anger has also been associated with "conflict", which has tended to be equated with aggression (Shantz, 1987), comprising disputes, arguments, and fights (Rende & Killen, 1992). As a result, conflict has been seen as difficult to distinguish from aggression, particularly when it involves interference or competition for resources (Hartup & Laursen, 1993). Other investigators (e.g., Laursen & Hartup, 1989), have taken the opposite view and separated conflict and aggression, while Pierce and Cohen (1995) insisted that:

It is important at the outset to make conceptual distinctions between aggression and the broader field of study, conflict. Aggression is behavior that is intended to cause harm, whereas conflict is the state of disagreement, or opposition, between two people. (pp. 292-3)

Conflict has also been described as resulting from the incompatible behaviours or goals of two or more children. The incompatibility being expressed when one child opposes, resists, or retaliates in the face of another child's actions or statements (Brown, 1996; Pellegrini & Perlmutter, 1988; Rende & Killen, 1992).

Earlier, Shantz (1987) had also contended that the difference in operationalisation of conflict and aggression, and the fact that most conflicts do not involve aggression, makes them separate concepts. The difference was accentuated by Laursen and Hartup (1989) who found that conflict occurred amongst most children. Building on the frequency of occurrence, Stephen (1993) claimed that “conflict is a normal, healthy part of young children learning to socialise” (p. 3). However, dependent on which of the above views the observer accepts, the extent to which any one child is involved in conflicts has the potential to create the impression that the child is aggressive.

Linked also to the possible misinterpretation of actions arising from children opposing, or resisting the demands of others, or retaliating against them, may be a failure of observers to discriminate between different functions of aggression. For example, hostile aggression has been defined as an unprovoked physical attack on a person in order to harm him or her (Berkowitz, 1993; Hegland & Rix, 1990; Martin & Ross, 1996; Vlietstra, 1981). Conversely, physical action that emanates from an angry retaliation to some perceived wrong has been termed reactive aggression (Crick & Dodge, 1996; Pierce & Cohen, 1995; Strassberg, Dodge, Pettit, & Bates, 1994).

To correctly interpret children’s behaviour, investigators may be forced to consider antecedent events and other issues, including within-child characteristics. For example, manifestations of reactive aggression in some children have been linked to disparate cultural norms which sanction the use of force as a means of standing up for one’s own rights (Alloway, 1997; Bandura & Walters, 1959; Rodd, 1996). It has also been described as “emotional aggression” (Berkowitz, 1993), being the consequence of a child’s low emotional regulation (Eisenberg et al., 1994). Other researchers have seen the lack of emotional control as implying impulsivity (e.g., Saifer, 1993), although it has been observed that “...there is no universally accepted definition of impulsivity” (Halperin et al., 1995, p. 1200). Alternatively, reactive aggression has been seen as an attempt to be assertive (Cicchetti et al., 1995), which adds further difficulties to the interpretation of child behaviour.

In some studies, for example, assertiveness has been used as a simile for aggression (Shantz, 1987) and even included as a measure of aggression (e.g., Belsky, 1988), while other investigators have separated the two terms (e.g., Turner, 1991). On the other hand, O’Brien (1998) observed that different teachers described the same child behaviour as assertive or aggressive dependent upon their view of the child as much as the behaviour. A critical role for teachers’ perceptions of children’s dispositions in the assessment of child

behaviours was conceptualised in the predispositional theory proposed nearly 30 years ago by Stebbins (1971).

Alternative views of social development and cultural values have led to the suggestion that assertiveness is a prosocial behaviour; a mark of self-expression which involves striving for mastery and self-enhancement, without hostility, and without violating the rights or feelings of others (e.g., Berkowitz, 1993; Deluty, 1979). Jewett (1992) defined assertion as a behaviour through which children maintain and defend their rights and not one that should not be confused with aggression. Nevertheless, confusion is evident and a failure to differentiate between children who are being assertive and those being aggressive has been noted as a source of confounding the rating of child behaviour (Hegland & Rix, 1990).

1.6.2 Describing and demarcating problem behaviours

Utilising general labels as descriptions of behaviours to identify actions as problematic is clearly beset by difficulties. These difficulties not only emanate from distinguishing the intent of children, but also arise because the basis for deciding whether a particular behaviour should be regarded as a problem or not may be quite arbitrary (Berkowitz, 1993). It has been contended that decisions frequently depend on the characteristics of the evaluator (Bandura, 1973; Crowther, Bond, & Rolf, 1981; Goldstein, 1992), social standards at a particular time (Hyde, 1984; Viemerö, 1992) and cultural values (Luk, Leung, Bacon-Shone, & Lieh-Mak, 1991; Newth & Corbett, 1993). Inconsistencies in the identification of problem behaviours have the potential to limit or confound the establishment of patterned relationships between children and the environment. Consequently, a concept of unwanted child behaviours (UCBs) has been formulated for the current study to minimise confusion between the description of a particular type of behaviour and the immediate status of that behaviour as problematic.

1.6.3 The concept of unwanted child behaviours

UCBs are defined, in part, as the unsolicited and unwelcome activities of one child that intrude upon the activities of centre staff members or other children *to the extent that staff interrupt what they are doing in order to curtail the intrusion.*

Overall, child behaviours classified as UCBs equate with many accepted definitions of problematic or conduct-disordered behaviour found in the literature on aberrant child behaviour. However, UCBs can also include joyous and friendly exuberant behaviours, including glee (Sherman, 1975), when they are exhibited at an inappropriate time,

particularly in classrooms. Therefore, UCBs include a wider range of behaviours than those described generally as a problem or negative.

Regardless of the child's activity, his or her behaviour is categorised as unwanted only if a staff member interrupted what they were doing in order to curtail the behaviour. If a staff member does not attend to the behaviour then it is not classified as unwanted. A staff member's decision to intervene or ignore a child's behaviour is regarded as a facet of the cultural component of the centre's environment. The failure of staff to notice child behaviours that might otherwise be considered problematic is regarded as a facet of both the cultural and the structural components of the centre's environment.

Interruptions to staff activity that could reasonably be expected to come within the staff members' normal duty of care to young children are not identified as UCBs. These include disruptions such as those caused by children's toileting "accidents", distress occasioned by separation from parents, the need for treatment and comfort resulting from minor illnesses and accidents, or a child's request for help.

1.6.4 The arbiters of unwanted child behaviours

Inherent in the concept of UCBs is the premise that their existence can be determined only by members of child care centre staff who are concurrently experiencing the totality of the environment in which such behaviours occur. UCBs in the current study are, in the first place, a phenomenological perception of children's behaviour by staff. They are identified by staff on the basis of their occurrence in a specific situation.

Identifying UCBs as the intersection of staff intervention in a child's behaviour represented a novel approach to establishing the foundations for data analysis. However, the strategy is in accord with Stebbins (1973), who contended that "it is doubtful...that valid data collection on and analysis of the physical conditions of disorderly behavior can be mounted without knowledge of how teachers define the situations in which such behavior occurs" (p. 293). Based on investigations of teacher:pupil interactions in school classrooms, Stebbins (1971) had previously listed 13 indicators that operationalise the definition of a situation, which "...is a synthesis, interpretation, and interrelation of the salient predispositions, intentions, and elements of the setting" (p. 221). Among other points, he noted that a knowledge of how the setting was defined meant that behaviour appearing problematic to the outside observer, such as talking out of turn, could be mitigated by circumstances not known to the outsider (Stebbins, 1971).

1.6.5 Advantages of utilising the concept of UCBs

As an aim of the data collection in the current study was to identify child behaviours that were perceived by staff as unwanted, and staff intervention was used as the sole marker for such behaviours, the margin for observer error in recording occurrences of UCBs was significantly reduced. There were no requirements for the observer to make any judgements about the nature or intent of child behaviours, or be cognisant of prevailing social or cultural values that may confound interpretation of some child behaviours. At the same time, using staff intervention in children's behaviour to identify UCBs removed the need for the observer to be selective in the type of behaviours recorded, as is usually required when utilising checklists. The strategy also eliminated the need for the observer to memorise codes representing categories of child behaviours.

1.6.6 Consistency in the identification of UCBs

In many studies, considerable attention has been given to establishing acceptable levels of agreement between the behaviour ratings of multiple observers to ensure the reliable recording of those behaviours. In the current investigation, consistency in the identification of UCBs was achieved by utilising staff as the sole arbiters of child behaviours as unwanted. The observer had only to identify the staff member's act of intervention, which made recording of UCBs less prone to error. As previously mentioned, the actions of staff represented facets of the cultural and structural components of the centre's environment and were subject to analysis and interpretation as influences on child behaviour in the same manner as physical and social factors. The process of data analysis provided a far greater opportunity for detecting inconsistencies in staff intervention in children's activities, as well as providing details of those inconsistencies, than would normally be available in studies that only correlate the level of agreement between observers.

It is acknowledged, however, that a high level of staff agreement about centre-wide attitudes to specific child behaviours would facilitate the identification of other environmental influences on UCBs. It can reasonably be expected that higher levels of agreement would be achieved in centres with stable staff and management within the setting and structure of a fully accredited community-based child care centre. Staff who had successfully completed the accreditation process are more likely to exhibit a consistent group approach to the behaviour management of young children. A failure to reach or maintain consensus would almost certainly lead to staff resignations or conflicts, providing evidence of an unstable staff membership and, possibly, management difficulties. It is further acknowledged, therefore, that accreditation and stability are

important characteristics of the setting selected for the current study¹. The literature on salient features of individual characteristics of staff, and staff:staff interactions, as they impact on group management processes within child care centres is reviewed in Chapter Two.

1.6.7 Use of the term UCB in this thesis

Throughout this thesis, the term UCB is used to describe the wider range of child behaviours that attract staff intervention. However, in discussions of the literature, original terms that indicate a range of child behaviours narrower than those categorised as UCBs have been retained to indicate the parameters of studies being reviewed.

In terms of counts, frequencies, and percentages of the total number of UCBs, none is weighted or accorded a greater or lesser value relative to other UCBs. Synoptically, no UCB is any more unwanted than is another. For the purposes of analysis and interpretation of child:environment relationships, however, the child's behaviour antecedent and consequent to staff intervention, as revealed by the details of his or her behaviour stream, were examined to provide a catalogue of all activity.

1.7 Categorising the methodology

Borrowing a term from the biological sciences, the general approach of this work is as an ecological study. As such, it is concerned with the relationship between the organism (the child) and his or her environment (the child care centre). The approach may just as easily have been designated as an ethological study, but that may have emphasised a transactional relationship between the organism and environment (Pellegrini, 1992). Similar to the ethological approach, however, the current study does "...look to the immediate antecedents of behavior, what functions behavior may serve, and how behavior has developed, both ontogenetically and phylogenetically" (Pellegrini, 1992, p. 285). On

¹ In 1993 the Quality Improvement and Accreditation System (QI&AS) was introduced Australia-wide as a voluntary scheme to encourage individual child care centres to achieve "...a well-considered, integrated, and professional approach to providing one of our society's most valuable services..." (National Childcare Accreditation Council, 1993, Foreword). Undertaking the accreditation process involves centre staff, management, and parent representatives in a considerable amount of written work, planning and discussion, as well as submitting their centres to inspection, over a period of several months. A particular feature of the accreditation process is the requirement for a high level of agreement between staff and the other representatives on a range of day-to-day child care centre issues. Without consensus accreditation would be difficult if not impossible to achieve. In addition to providing a highly transparent form of implementing publicly acceptable standards of child care, centres that successfully complete the process are certified for up to three years and are eligible to receive additional funding benefits from the Commonwealth Government.

the other hand, restricting the membership of the phylogenic group to a specific social unit in the natural conditions of a child care centre, with particular reference to the unique culture and structure of the centre, could be construed as taking an ethnographic approach (Erickson, 1986; Smith & Connolly, 1980; Turner, 1991). However, according to Erickson and Mohatt (1982), general ethnography provides only summary accounts of what people customarily do, and it is microethnography that focuses on particular cultural scenes within key institutional settings. In particular, "...microethnography attempts to specify the processes of face-to-face interaction in the events by which the "outcomes" of those events are produced" (p. 137). Therefore, the current study could just as easily be said to take a microethnographic approach to investigating unwanted child behaviours in a child care centre, although it may have appeared that the emphasis was on cultural matters. Although important, the culture of the setting is assumed to exert an influence equally and consistently on all children, rendering it no more influential on the production of UCBs than the physical, social, and structural components of the environment. To avoid an undue emphasis on any specific area, the current work incorporated elements of all three approaches in an eclectic design.

Similarly, the structure of the investigation could be construed as a case study. The well defined building and fenced play areas of the child care centre, its regular operating days, along with specific opening and closing times, provide the spatial and temporal boundaries suited to a case study (Stake, 1995; Yin, 1994). The centre could be used as the case but an approach more suited to one of the relationships models would be to use the children as multiple case studies within a stable setting, albeit one composed of dynamic situations. As Yin (1994) notes "...you would use the case study method because you deliberately wanted to cover contextual conditions - believing that they might be highly pertinent to your phenomenon of study" (p. 13). According to Wener (1989), such an approach may also be appropriate as

...case studies are best used to answering the 'how' and 'why' questions because of their unique ability to deal with the full range of evidence. They investigate phenomena in real-life contexts, where multiple sources of evidence are needed for the assessment of complex and multicausal events. (pp. 294-5)

A major difficulty in adopting such a design for the current investigation concerns the creation of the multiple sources of evidence, particularly in relation to accuracy of the collected data. In general, other investigations have relied on second observers, the use of documentation such as policy statements, and the views of participants, to support triangulated validation of the observational data. In the current study, however, the observation of staff intervention in children's activities is the crucial but instrumental event

that identifies UCBs. The focus of analysis is the child:environment relationship at the time when the UCB is identified by staff who, as previously mentioned, are part of the concurrent environmental influence. Soliciting the pre-or post-observation views of staff in regard to children's problem behaviours or supposed environmental influences on the manifestation of those behaviours cannot provide situational information concurrent with UCBs. The use of children's records or other documentation, or the opinions of parents, is similarly unhelpful. On the other hand, the ongoing questioning of staff and children during the observation period, or the presence of a second observer, would almost certainly create substantial difficulties in relation to maintaining the integrity of the natural setting.

Therefore, the emphasis for validation of findings in the current study has been based on three aspects of the data. First, ensuring that the observer recorded data reliably and consistently over the period of investigation. Second, making sure that the identification of staff interventions from the recorded data, as a forerunner of UCB identification, was accurate and consistent. Third, establishing patterns of child:environment relationships across multiple settings and situations involving different children. The first and second factors are discussed in Chapter Three, while the third is illustrated in Chapters Four and Five.

1.7.1 Raw numbers

There is, undoubtedly, a degree of amalgam in the approaches used for this investigation which may defy precise methodological categorisation, particularly in relation to most of the previous studies of problem behaviours exhibited by children aged 3-5 years. However, no previous studies have been undertaken to determine the influence of the totality of the environment in a child care centre on the manifestation of unwanted child behaviours.

Thus, an essentially qualitative approach incorporates elements of a case study design, using the children as multiple cases, in a single child care centre setting. It is acknowledged, however, that analysis of the transcripts for evidence of environmental influence would be enhanced if number, frequency and duration could place UCBs synoptically and in a clear timeframe. In accord with Erickson (1986) and Stake (1995), the raw numbers for child attendance patterns and occurrences of unwanted child behaviours in relation to settings, activities, and peer associations are provided for inspection (Appendices 2-7).

1.8 Summary

The purpose of the current study was to investigate the relationship between the totality of the environment of a single child care centre and occurrences of unwanted behaviours exhibited by attending children aged 3-5 years. To provide a conceptual framework for the investigation, a variety of issues associated with definitions of environmental factors and children's problem behaviours were considered. As a consequence, the child care centre was defined as a micro-system with an environment comprising interrelated physical, social, structural, and cultural components. All activities were seen to take place in physical time-space locations designated as settings. Within settings, persons relate to objects or other persons to generate situations that give rise to behaviours. The behaviours were depicted as occurring in streams or sequences, which could be examined in detail through identification of behaviour units and momentary situations. Within this framework, UCBs were recognised as a phenomenological perception of staff and could, therefore, only be identified reliably by staff. Consideration was given to methodological issues, particularly those concerned with reliability of data collection, the maintenance of ecological validity, and presentation of raw data. Together, these matters were composed to form a conceptual framework for the assessment of previous studies in the area under investigation, development of the data collection strategy, procedures for identification of UCBs, analysis and interpretation of environmental influences, and the basis for presentation of findings.

1.9 Assumptions underlying method

Hall (1959) contended that "to interact with the environment is to be alive, and to fail to do so is to be dead" (p. 62). Less dramatically, perhaps, but more recently, Bijou (1992) asserted that "...the individual is always in interaction with the environment" (p. 68). The current study agrees with both views and makes specific assumptions about the relationship between the environment and the unwanted behaviours of young children. In particular:

1. Although internal states play a major role in determining the duration and affect, the unwanted behaviours of young children will primarily occur as a result of immediate stimulation external to the organism.
2. The behaviour of young children can be understood only in relation to the environment in which it takes place. Therefore, an understanding of concurrent environmental influences is essential for an appropriate interpretation of behaviour.

1.10 Limitations of the methodology

This study was concerned with investigating the relationship between environmental factors and occurrences of UCBs in a single child care centre. As such, the generalisation of findings to other centres is limited by the degree of similarities in setting conditions and other environmental factors shared by other centres.

1.11 Sources of personal bias in research

It has been recognised for some time that research, particularly with a focus on human behaviour, may be influenced by the researcher's bias. Perspective may be positioned by theoretical preconceptions constructed from professional training and experience, cultural values, and personal background (McCall, 1969; Perry, 1994; Schwartz & Schwartz, 1969; Vidich, 1969). As it has also been recognised that biases cannot be entirely filtered, I concur with those who urge work to be prefaced with an explicit statement of the author's value premises and summary of relevant experiences (Erickson, 1996; McIntyre, 1993; Stake, 1995). Consequently, I provide the following summary of specific features of my background which I, and close colleagues, believe may influence aspects of this thesis.

In 1979, after completing my early childhood teacher training and teaching in a primary school for a short period, I became director of a Local Government-managed child care centre. Licensed to enroll 55 children per day, from six weeks to five years of age, the centre operated from 7.30am until 5.30pm Monday to Friday, for 48 weeks each year. The clinical austerity of the almost new building raised my interest in the physical component of environmental influences on both child and adult behaviour. That interest was increased as floor-carpet, wall-colours and a wider range of equipment was added to the three playrooms.

After two years as director of the centre I resigned to take up a position with the Department of Technical and Further Education (TAFE), in New South Wales (NSW), as a teacher on the Child Care Certificate Course. The two-year full-time course of study and practicums qualified graduates to work in a range of early childhood education and health care services. One of my allotted teaching subjects was "space and equipment". Three years teaching and research reinforced my beliefs in the power of the environment to influence child behaviour through the child's continuous relationships with places and objects as well as people.

After three years with TAFE, I returned to the early childhood workplace to direct a recognised high-quality university-based child care centre. Operating for 10 hours each

day, 50 weeks per year, the centre was equipped with four playrooms for the daily enrolment of 60 children from birth to five years. I held the position of director for four years during which I was able to initiate and oversee substantial alteration to the building, interior and outdoor play areas, as well as changes to the program structure and the centre's culture.

Since then, my work with several early childhood professional associations and research into children's behaviour, both in Australia and overseas, have given me the opportunity to gain an understanding of child care centre operations in a variety of physical settings and national cultures.

As a result of these experiences, I have come to the conclusion that the environments of child care centres are substantially different to those of other early childhood services and almost incomparable to schools. I also believe that unique physical, social, cultural, and structural components of environment further separate centres from each other. Therefore, I closely examine the generalisation of findings derived from research based on one or two centres only. At the same time, I become suspicious of attempts to unquestioningly apply findings across a range of different early childhood services, such as preschools, occasional care, and playgroups. Finally, I find almost incomprehensible any application of school-based research on behaviour to children in child care centres, which does not allow for environmental factors as well as matters associated with the maturational levels of children.

1.12 Organisation of remainder of the thesis

Chapter Two provides a two-part review of salient literature relevant to the psychological habitat of the child and features of the environment of a child care centre that have been found, or are thought to contribute to the manifestation of children's problem behaviours.

Chapter Three describes the methodology used in collecting data for the current investigation, and delineates the techniques used for analysing that data.

Chapter Four reports the outcome of the data collecting strategy and presents evidence for occurrences of unwanted child behaviours.

Chapter Five comprises an analysis and interpretation of the data, which demonstrates differences in children's experiences of child care and shows relationships between environmental factors and occurrences of unwanted child behaviours.

Chapter Six provides a summary of the major findings, discusses some of the salient points and draws conclusions about implications of the findings for future study and/or practice.

CHAPTER TWO

Overview of approaches used in previous studies to identify the causes of children's problem behaviours

2.1 Introduction

To provide a basis for analysis and interpretation of the data, findings from previous studies in two related areas pertaining to the manifestation of children's problem behaviours were reviewed. The first area concerned investigations that have reported a wide variety of child characteristics that may provide the child with components of his or her psychological habitat. These included genetic and inherited traits, behaviours developed as a result of toxins or trauma, and those learned outside a child care centre. The second area considered studies and texts that identify or imply a relationship between child care centres generally, or specific environmental factors within child care centres, and manifestations of problematic child behaviours.

2.2 Components of the child's psychological habitat

A considerable portion of the literature on child behaviour reports a range of findings that correlate problems with a wide variety of qualities inherited or learned by the child. For the most part, these findings indicate the possible existence of a propensity or potential for a child with specific characteristics or experiences to act in, or react to, particular situations in a particular manner. In many cases, however, findings have been challenged on methodological grounds that limit their utility or generalisation. Additionally, many of the researchers concede that their findings for any individual child may be mitigated by the environment, although few have identified that environment or the specific factors within it that may affect the likelihood of problem child behaviours.

The research to date has made a substantial contribution to an understanding of genetic and family risk factors that may create the potential for child behaviour problems. However, little attention has been paid to situations or settings that turn the propensity into expression. Support for this contention is provided by a review of the relevant literature under the general headings of "nature" and "nurture".

2.2.1 Nature as an explanation for UCB

Factors contributing to the child's nature have, generally, encompassed the biological

individuality of the child that has resulted from genetic and/or inherited characteristics, and prenatal injury or preterm birth. For the most part, the outcomes of these factors have been categorised under “temperament” and “personality”. Although the literature on these subjects is voluminous, the evidence for deterministic effect on child behaviour is far from conclusive.

2.2.1.1 Genetics and heritability

Over many years, for example, genetics have been implicated in a number of behavioural conditions for girls and boys, including depressive symptoms (Fergusson et al., 1994a; Fergusson, Horwood, & Lynskey, 1995; Field, Pickens, Fox, Nawrocki, & Gonzalez, 1995), disruptive behaviours (Greenberg, Speltz, & DeKlyen, 1993), hyperactivity (Lambert, 1990), conduct disorder (Costello & Angold, 1993; Wahler, 1990), and aggression (Achenbach, 1993; Morris, 1967; Tinbergen, 1968). Some researchers have looked at specific gender differences in the heredity of child problem behaviours (e.g., Braungart-Rieker et al., 1995; Lambert, 1990). Others have tried to explain broader differences between children by looking for “...the existence and effects of genes that can turn on or off various processes at different times in the life cycle” (Hyde, 1984, p. 732). In a later study Edelbrock et al. (1995) found a connection between inherited characteristics and behavioural malfunctioning in childhood and adolescent, but they also observed that genetic effects were not equally strong in all areas.

Over a period of two decades, a number of investigators have contended that genetics alone could not explain behaviour, acknowledging the known role of toxins, trauma, and disease in adversely affecting normal development (e.g., Greenberg et al., 1993; Lefkowitz, Eron, Walder, & Huesmann, 1977). The less understood role played by experience and interactions with the environment was also acknowledged, with a belief that “...experiential influences may well result in alterations in gene expression per se” (Reite, 1987, p. 597).

2.2.1.2 Temperament and personality

A considerable amount of research has suggested that temperament is an important constituent in the expression of behaviour (e.g., Barnett, Schaafsma, Guzman, & Parker, 1991; Derryberry & Reed, 1994; Dunn & McGuire, 1992; Eisenberg et al., 1994; Pavuluri & Smith, 1996; Prior, Sanson, Oberklaid, & Northam, 1987; Sanson, Smart, Prior, Oberklaid, & Pedlow, 1994; Slee & Cross, 1990; Sonuga-Barke, Lamparelli, Stevenson, Thompson, & Henry, 1994; Stormont-Spurgin & Zentall, 1995). However, widespread and long-held differences in definitions of temperament have characterised many investigation (e.g.,

Goldsmith et al., 1987; Greenberg et al., 1993; Price & Bouffard, 1974). The role of environmental factors, in particular, is accorded varying strength of influence and is not explained well at any level. As a consequence, it has been noted that findings related to the influence of temperament are not always easy to compare or generalise (Greenberg et al., 1993; Prior et al., 1987).

For example, temperament has been defined by Buss and Plomin as "...a set of inherited personality traits that appear early in life....genetic in origin" (Goldsmith et al., 1987, p. 508). In this, they drew a distinction between personality traits and personality which, they said, originated solely in environmental events. Thomas and Chess described temperament as "...the stylistic component of behavior..." (Goldsmith et al., 1987, p. 508), viewing temperament as separate from motivation, abilities and personality but contending that temperament, motivation, and ability interact to determine behaviour. While appearing to agree in part, Rothbart asserted that temperament was only one of many factors influencing behaviour. In addition to those mentioned, she included environmental related factors, such as the individual's knowledge structures, and expectations, influenced by previous reinforcement or punishment (Goldsmith et al., 1987).

These expectations are also implied in the "reactivity" component of temperament. For example, Goldsmith stated that "it is the expression of emotions and emotional arousability that is identified with temperament..." (Goldsmith et al., 1987, p. 511). Buss and Plomin specified three traits. The first, emotionality, they equated to stress; the second, activity, comprised tempo and vigor; and, third, sociability. They also noted that impulsivity, described as "...one of the original temperaments" (Goldsmith et al., 1987, p. 512), was no longer included. In some contrast, Rothbart proposed four dimensions of temperamental variability: negative reactivity, positive reactivity, behavioural inhibition to novel or intense stimuli, and the capacity through effort to focus and shift attention (Goldsmith et al., 1987, p. 513).

Using a broader approach, nine categories were provided by Thomas and Chess. These were "...rhythmicity of biological functions, activity level, approach to or withdrawal from new stimuli, adaptability, sensory threshold, predominant quality of mood, intensity of mood expression, distractibility, and persistence/attention span" (Goldsmith et al., 1987, p. 513). A rating scale for these items allowed individuals to be designated as having an easy, slow-to-warm-up, or difficult temperament. Difficult temperament was found to be associated with more behavioural problems, although the findings from a study by Sanson, Smart, Prior, and Oberklaid (1993) "...also emphasized the contribution of both

within-child and environmental characteristics to the aetiology of these problems” (p. 1213).

Finally, the direction of interactions between temperament and environment also appears to be changeable. One view sees temperament as exerting an influence on the environment and that the influence is bi-directional in that the temperament can be shaped (e.g., Goldsmith et al., 1987; Pavuluri & Smith, 1996; Prior et al., 1987). A similar claim has been made for personality, including not only environment but also the temporal affect of past experiences (Hinde, Easton, Meller, & Tamplin, 1983). On the other hand, Rothbart defined temperament as “relatively stable” although she observed that “...personality structures and strategies are developed in the course of maturation and subsequent interaction with the environment” (Goldsmith et al., 1987, p. 510).

The arguments referred to above would appear to indicate that assigning temperament a role in the manifestation of child behaviour problems is beset by difficulties. These include disagreements about a definition of the concept, a failure to clarify its relationship with environment, and difficulties separating the confounding influence of early development. In addition, it has been observed that child temperament is most frequently measured by parental rating and, therefore, “...might well be as much an indicator of parental perceptions and biases (an environmental factor) as of biological predisposition” (Dodge, 1990, p. 700).

These concerns reflect earlier assertions that the evidence for an association of very early temperament with behaviour problems is not strong (e.g., Greenberg et al., 1993; Robins, 1991). Additionally, a recent review of relevant studies concluded that:

...much of the research concerning early childhood temperament and behaviour has generally been inconsistent or methodologically unsound....it is unclear whether the early childhood temperamental and behavioural characteristics studied are equivalent and comparable. The result is a body of research comprised of many small-scale investigations which have, in general, produced mutually exclusive findings that cannot be summarised to form a generalised body of knowledge. (Hemphill, 1996, p. 115)

Nevertheless, there is wide support for the use of temperament as a reason for the manifestation of child problem behaviours and even a cause of them, with staff of centres being urged to take child temperament into account when working with young children (e.g., Aloa, 1994; Anderson-Goetz & Worobey, 1984; Mobley & Pullis, 1991; Stormont-Spurgin & Zentall, 1995). At the same time, there have also been calls for situational factors to be taken into account (e.g., Kean, 1997; Lerner, 1983; Price & Bouffard, 1974).

2.2.1.3 Prenatal trauma and preterm birth

Biological assault on the foetus, particularly involving damage to the frontal cortices, has also been associated with later child problem behaviours. Occasioned by maternal alcohol and other drug abuse, including cigarette smoking during pregnancy, the damage has been related to the prenatally injured child having little or no anxiety, not responding well to discipline, being unable to learn from experience (Pennington & Bennetto, 1993), and having poor attention skills (Streissguth et al., 1984).

Utilising a theoretical model of cognitive operation, the condition has been attributed to an impairment of executive functioning, said to create problems with emotional self-control (Moffitt, 1993). The deficit is thought to occur as a consequence of the brain's failure to process information about the child's environment in general, and social interactions in particular (Bradley & Caldwell, 1995), thus limiting the child's ability to learn from experience. Recently, however, studies focusing on the model have been criticised as using inadequate definitions of executive function, which has been viewed as limiting their utility (Tannock, 1998).

A greater propensity for behaviour problems between the ages of three and six years was also reported for children born preterm, particularly with very low birthweights (Rose, Feldman, Rose, Wallace, & McCarton, 1992), although neonatal medical data on low birthweight was not found to be a good predictor of such problems for children at age four years (Goldberg, Corter, Lojkasek, & Minde, 1991). An earlier comparative study of 47 children aged three years born preterm with 47 born at term found no difference in occurrences of behaviour problems between the two groups generally. However, a sub-group of preterm children who had respiratory distress syndrome did demonstrate a higher incidence of behaviour problems than preterm children who did not exhibit the syndrome (O'Mara & Johnston, 1989).

Thus, it appears that prenatal exposure to drugs and other toxins, birth injury, or being born preterm and having respiratory problems may increase a child's propensity for behaviour problems of some sort at some time. Overall, however, knowing that a child has one or more of the above conditions does not appear to provide a clear indication that he or she will be a behaviour problem for staff of child care centres.

2.2.2 Nurture as an explanation for UCB

Investigations into the effects on child behaviour of nurture cover a wide range of influences, experiences, and learned behaviours (Slee, Murray-Harvey, & Ward, 1996).

These include comparatively infrequent early childhood events, for example, illness and hospitalisation (Drotar & Sturm, 1992), the trauma of war (Chimienti, Nasr, & Khalifeh, 1989; Le, 1986), and the death of loved ones (Christian, 1997; Greenberg, 1996; Parker, 1995). In general, however, the majority of research appears to concentrate on the influence of more widely experienced family circumstances, particularly those described as adverse. Most prominent under this heading are the individual or combined impact of marital discord, family instability, and inappropriate parenting behaviour, especially in matters of discipline.

The findings of most studies are reported as correlations between child behaviour problems and socio-economic, educational, and other demographic characteristics of parents. However, the utility of the approach was challenged more than 20 years ago by Bronfenbrenner, one of America's leading developmental psychologists (Vasta, 1992), who suggested that such attributes are "...crude and undifferentiated categories that do little more than locate people in terms of their social address" (Bronfenbrenner, 1979, p. 17).

Despite the criticism, the findings of most investigations are still presented under specific predetermined attributes. A number of the classifications have been endowed with such acceptance that they are frequently included on application forms and other child records kept by child care centres. Amongst these are marital status of the parent(s), and ordinal birth position as well as details of age and number of siblings. These and others of the most salient demographic features are utilised as headings in the following review of the literature.

2.2.2.1 Single parenthood

Although a wide body of literature nominates having a single parent as a frequent characteristic of behaviour problems in school-age children, there is little evidence to suggest that the marital state of parents is, on its own, a determinant of children's problem behaviours. In the main, early childhood behaviour problems have been correlated with factors commonly concurrent with single parenthood, such as low levels of parent educational and low socio-economic status which combine to affect poor child rearing practices, rather than correlating with marital status per se.

On the other hand, expectations for child behaviours held by teachers, based on their stereotyped image of single parent families, has been seen as a factor in identifying child behaviour problems. For example, it was noted that studies in the late 1970s and early

1980s found teachers more likely to hold negative attitudes to children of single parents compared to those from intact homes (Elliott, 1985). Almost 20 years later, it appeared that such attitudes still existed, evidenced by the Australian Early Childhood Association reminding subscribers to its resource book series that “many single-parent families provide a stable, happy environment for children” (Parker, 1996, p. 6).

Parker (1996) also observed that children of parents in the process of separation or divorce were likely to exhibit adverse behaviours, supporting Dunn and McGuire (1992) who found marital conflict a more important factor in the creation of child behaviour problems than single parenthood.

2.2.2.2 Marital conflict

Similar to single parenthood, marital conflict is mentioned frequently as a family characteristic of children with behaviour problems (e.g., Cohen & Bromet, 1992; Pavuluri, Luk, Clarkson, & McGee, 1995; Shaw, Vondra, Hommerding, Keenan, & Dunn, 1994; Stormont-Spurgin & Zentall, 1995; Strassberg et al., 1994). However, unlike assumed links between single parenthood and child behaviour problems, researchers have made firmer connections between conflictual situations and the creation of detrimental nurturing environments likely to engender problem behaviour in the child. In particular, it has been found that marital conflict may increase the likelihood of cold unresponsive parenting (Gottman & Katz, 1989; Kazdin, 1993). The effect has been seen to heighten children’s levels of distress, making them more prone to bouts of anger and aggression (Cummings, Iannotti, & Zahn-Waxler, 1985), particularly when violence is also observed at home (Fantuzzo et al., 1991; Sanson & Di Muccio, 1993).

However, Katz and Gottman (1995) noted that children are not equally affected by marital conflict, citing earlier claims that less than 30% of children show adverse reactions to parental divorce. In a longitudinal study of children at age five years and again at age eight years, they found “there was no relationship between marital hostility and children’s externalizing for children with high vagal tone², suggesting that high vagal tone can buffer children from the negative effects of marital hostility” (p.83). Earls and Jung (1988) had earlier taken a broader view and suggested that the child’s temperament also played a role in their behavioural reaction to aversive situations, although Greenberg et al. (1993)

² “Vagal tone assesses the functioning of the parasympathetic branch of the autonomic nervous system (ANS), which is the branch of the ANS most related to soothing and the restoration of calm in the body....[it]....is measured by the rhythmic fluctuations in heart rate that accompany respiration” (Katz & Gottmann, 1995, p. 84).

contended that high IQ and situational factors also have to be considered.

2.2.2.3 Unstable family

A number of studies have implicated poor family functioning in the occurrence of child behaviour problems (e.g., Fergusson et al., 1994a; Frick et al., 1992; Pavuluri et al., 1995), occasioned by rejection of the child (Kazdin, 1993; Lefkowitz et al., 1977). Alternatively viewed as a problem of poor interaction (Waters, Posada, Crowell, & Lay, 1993), a source of discord (Braungart-Rieker et al., 1995), stress (Campbell, Breaux, Ewing, & Szumowski, 1986), and adversity (Campbell, 1994; Shaw et al., 1994; Susman, 1993), the main fault has been identified as a failure of the parent(s) to teach children self-regulation skills (Snyder, Edwards, McGraw, Kilgore, & Holton, 1994). It has also been suggested that dysfunctional interactions very early in life can lead to young children developing defence mechanisms "...involving some sort of cognitive or affective distortion, in an attempt to suppress an otherwise possibly overwhelming emotional conflict" (McKeough, Yates, & Marini, 1994, p. 299).

2.2.2.4 Maternal depression

Allied to reports on child behaviour problems implicating single parenthood, marital conflict, and family instability are studies of maternal depression, which has been recognised as relatively widespread. For example, according to an English study "the incidence of major depression among young women is alarmingly high....Most vulnerable are non-working mothers of preschool children, among whom the rate reaches as high as 40%" (Puckering, 1989, p. 807).

Consequently, maternal depression (Dawson et al., 1994; Egeland et al., 1990; Fergusson et al., 1995; Frick et al., 1992; Zahn-Waxler, Iannotti, Cummings, & Denham, 1990), or poor mental health (Pavuluri et al., 1995), features commonly in the literature on child behaviour problems. Marital depression often accompanies family stress (Milgrom, 1994; Shaw et al., 1994), marital discord (Fergusson et al., 1995), isolation (Slee & Cross, 1990), and low income (Alpern & Lyons-Ruth, 1993). Findings suggest that depression may cause the mother to be negatively demanding of her child (Campbell, Breaux, Ewing, & Szumowski, 1986; Kuhns & Marcus, 1992), or could lead to her inappropriate use of the child as a source of comfort as well as diminish her sensitivity to a child's cues and needs (Rutter, 1990).

It has also been suggested that the mother's diminished sensitivity to the child's needs during the neonatal stage could result in the baby suffering malnutrition, deprivation of

stimulation or even affection, which could lead to brain damage (Moffitt, 1993). Findings in relation to mothers of toddlers and preschool-age children suggest that low maternal involvement with their child, such as failing to engage in play, may be an important factor in the development of behaviour problems (Gardner, 1994; MacDonald, 1987).

The impact on children of maternal depression has been associated with externalising behaviour in boys and internalising behaviours in girls, described as typical for behaviour patterns of clinically-referred children (Cuccaro, Holmes, & Wright, 1993). On the other hand, investigations of different effects on children have suggested that maternal depression has a greater impact on boys (Cohen & Bromet, 1992; Frick et al., 1992; Shaw et al., 1994), than girls (Ricks, 1985; Sharp et al., 1995; Stormont-Spurgin & Zentall, 1995). However, claims for differential effect on boys and girls have been seen to be confounded by the frequent failure of studies to separate the impact of the mother's condition from other adverse family characteristics and demographic factors (Fergusson et al., 1995). In addition, few studies provide any direct link between the behaviour of depressed mothers and problem behaviour exhibited by their children.

Among the exceptions were Brody and Forehand (1986) and Conrad and Hammen (1989) who suggested that depressed women may be less tolerant of their children and use coercive strategies, providing children with a model of interactions that they transpose to other situations. Field, Healy, Goldstein and Guthertz (1990) took a similar view in examining behaviour-state matching of depressed mothers and their infants. Among other actions, they observed depressed mothers poking their infants in anger and the infants' reactions. The influences of both physical and coercive family interaction on the manifestation of problematic child behaviours have been well documented and are discussed further in the current chapter. However, Radke-Yarrow et al. (1995) noted the importance of considering interactional and dispositional characteristics of the child, observing that "...the child's style of coping with the mother's functioning establish patterns of behavior that influence the child's vulnerability to later problems" (p. 247).

2.2.2.5 Low socio-economic status

Membership of a low socio-economic status (SES) group has traditionally been allocated on the basis of a number of family factors, including parental occupation, race, education level, marital status, and age (Alpern & Lyons-Ruth, 1993; Campbell, Breaux, Ewing, & Szumowski, 1986; Hauser-Cram, Bronson, & Upshur, 1993). However, it has been noted that social status is sometimes confounded with other factors, such as paternal absence, spacing of children, and domestic crowding (Bradley & Caldwell, 1984).

Being a member of a low SES group has been seen as correlated to a range of negative outcomes for children. Amongst others, these include child behaviours described as aggressive (Alpern & Lyons-Ruth, 1993; Glazer, 1992; Strassberg et al., 1994; Zoccolillo, 1993); non-compliant (Campbell, Breaux, Ewing, & Szumowski, 1986); more competitive (McKee & Leader, 1955); exhibiting early-onset conduct problems (Dodge, Pettit, & Bates, 1994); and lower persistence (Sanson et al., 1994). The connection between low SES and child behaviour problems appears based on a concept of the child learning particular behaviours thought to be more prevalent in low SES families. For example, Strassberg et al. (1994) noted that low SES parents were likely to use "...physically coercive disciplinary strategies" (p. 448), which children would learn as a power-assertive tactic and use them with peers and other adults.

On the other hand, a New Zealand prevalence study of children with behaviour problems concluded that, in itself, "socio-economic status was not a significant correlate with behaviour disorder..." (Pavuluri et al., 1995, p. 461). The investigators found, instead, that poor family functioning, poor maternal mental health (maternal depression), and marital discord, were more accurate correlates of child behaviour problems.

2.2.2.6 Discipline

For more than 40 years, researchers have suggested a link between physical punishment and aggression (e.g., Parke & Slaby, 1983; Skinner, 1953), particularly between punishment received at home and aggression expressed at school (Spivack, Marcus, & Swift, 1986). It has also been noted, however, that the effect of punishment may be mitigated by a number of factors (Strassberg et al., 1994), including the normal relationship between the punisher and the punished (Hinde, 1992). Although, as previously mentioned, the use of physical punishment was found to be more prevalent among low SES parents (Strassberg et al., 1994), the more important characteristic of an aggressive child had earlier been identified as aggressive family members, regardless of social class or number of parents (Horne, 1981).

The concept of bi-directionally aggressive behaviour between parents and child has also been investigated, with findings suggesting that aggressive children are active agents (Snyder et al., 1994), who may elicit physical punishment as "...a means of obtaining predictable (albeit aversive) social feedback" (Wahler, 1990, p. 703). It is thought that the interaction may also become cyclical in the presence or perceived presence of extreme child behaviours, such as child hyperactivity or impulsivity, particularly if accompanied by defiant and oppositional behaviours. These types of behaviours have been seen to

increase parent frustration, which raises the chances of aversive reaction by the parent, which in turn heightens the risk of accelerating the development of more anti-social child behaviour (Hinshaw, Lahey, & Hart, 1993; Lytton, 1990a).

On the other hand, non-existent, poor, or inconsistent discipline has been linked to inadequate functioning of the child's behavioural inhibition system (Goodenough, 1931; Patterson, 1982; Quay, 1993; Reid, 1993). A lack of control may lead to the development of possible long-term behaviour problems (Susman, 1993). Similar to other aversive situations, however, child reactions to harsh discipline strategies has been seen to be mediated by temperament (Zoccolillo, 1993).

2.2.2.7 Learned behaviours

In addition to learning from family members (Cummings et al., 1985; Dodge et al., 1994; Lefkowitz et al., 1977), findings from a range of studies have consistently associated displays of aggression in young children with their witnessing violence from a variety of sources. These include the socio-cultural influences of television (Bandura, 1992; Bronfenbrenner, 1979; Cummings et al., 1985; Dodge et al., 1994; Huesmann, Lagersptz, & Eron, 1984; Lipkowitz-Susser, 1994), including that which is portrayed in cartoons (Sanson & Di Muccio, 1993; Watkins & Durant, 1992), and even displayed in professional sports (Coie & Jacobs, 1993).

At least three developmental pathways have been suggested for this occurring. First, parents who condone violence may lead the child to believe that violence is acceptable (Sanson & Di Muccio, 1993). Second, television violence may emotionally desensitise children, making them more likely to be aggressive (Coie & Jacobs, 1993). Third, the use of aggressive behaviour results from viewing violence as a successful method of achieving goals (Crick, 1995). As with other theories on the development of problem behaviour, however, it has been noted that the "...effect is not uniform across all children and all situations..." (Sanson & Di Muccio, 1993, p. 93).

2.2.2.8 Health & medical

Illness and hunger have long been recognised as short-term factors influencing children's interactions at all levels (Goodenough, 1931; Kantor, 1959). Over the past two decades, there have also been an increasing number of investigations into a variety of psychopharmacological (e.g., Shellshear, 1988; Susman, 1993), psychophysiological (e.g., Evans & Lepore, 1993; Quay, 1993; Zahn-Waxler, Cole, Welsh, & Fox, 1995), and neurochemical assaults on young children (e.g., Gratz & Boulton, 1993; Sciarillo,

Alexander, & Farrell, 1992). Two of the most prevalent areas of study have been those concerned with toxicity: the first involving lead and the other involving food additives. A small number of studies have also examined the effect of sugar intake on the behaviour of young children.

2.2.2.9 Lead toxicity

For some time, lead absorption has been implicated in abnormalities and malfunction in children's development. Specific areas of concern include the poor development of language-linguistic and spatial factors (Shaheen, 1984), hyperactivity (David, Hoffman, Sverd, & Clark, 1977), poor intellectual functioning (Baghurst et al., 1992; Karamoskos, 1981), and neuropsychological problems as well as cognitive impairments and behaviour problems (Kimball, 1994; McCabe, 1991; Thomson et al., 1989). In particular it has been found that children exposed to lead toxicity exhibit "...decreased attention span, irritability, lethargy, aggressiveness, destructiveness, withdrawal and sleep problems" (Beattie, 1993, p. 17).

2.2.2.10 Food additives

Apart from dietary deficiencies, there have been long-standing concerns about the effects of food additives on children's behaviour. Feingold's (1975) claims of successfully extinguishing many child behaviour problems by eliminating a range of food additives from children's diets generated considerable debate about behavioural reactions to certain foods. Much of this debate has been to dispute the efficacy of Feingold's K-P diet (e.g., Kavale & Forness, 1983; Krummel, Seligson, & Guthrie, 1996; Mattes, 1983; Pescara-Kovach & Alexander, 1994), although supporters have also been on hand, both to support Feingold and to criticise the methodology of opposing research (e.g., Holborow, Elkins, & Berry, 1981; O'Shea & Porter, 1981; Rimland, 1983). To date, neither side has managed to present sufficient evidence to conclude the debate one way or the other (Wolraich, 1998).

On the other hand, it has been acknowledged that as a result of implementing a special diet, the child received more parental attention (Mattes, 1983). Findings also indicate that the mother developed a more positive perception of her child, which improved mother-child interactions (Endler, 1981; Lancaster, Prior, & Adler, 1989).

A separate study into hyperkinetic syndrome found a connection with "...foods, food colors, and inhalant allergens" (O'Shea & Porter, 1981, p. 191). However, the investigators also implicated setting and situational factors with the finding that children behaved differently

at home compared to school. Another study in the same year acknowledged that individual children may vary in their sensitivity to food additives, and “where a hypersensitivity exists, *very little* additive may produce an extreme response” (Holborow, Elkins, & Berry, 1981, p. 146).

This finding followed a previous investigation to determine causes for the variability in diet outcomes that found “there was a significantly higher level of copper in the children who were reported to respond to the restricted diet compared to those children who apparently had no response” (Brenner, 1979, p. 944). Although the study did not identify the source of the higher copper levels, it was noted that copper could inhibit the enzyme 5-hydroxytryptophane decarboxylase, which could then interfere with the production of serotonin (Brenner, 1979). Decreased blood serotonin concentration has been associated with hyperactivity and other child behaviour problems (Cicchetti & Richters, 1993; Coleman, 1971).

Thus, researchers to date have failed to generalise any specific behavioural effects of food ingestion that is not confounded by individual sensitivities, comorbidity with other chemical imbalances, or situational specificity.

2.2.2.11 Sugar

A similar situation exists for studies into the effects of sugar consumption which, in the main, have found little correlation with the manifestation of child behaviour problems in preschool-age children (e.g., Goldman, Lerman, Contois, & Udall, 1986; Krummel et al., 1996; Rosén et al., 1988).

2.2.3 Nature, nurture, and child development

Issues of gender, ordinal birth position, and maturation may be ordered by nature but, as evidenced by the literature in the following section, associated behaviours may be subject to both nurture and the expectations of others.

2.2.3.1 Gender

The current investigation focused on person:environment relationships. According to one long-standing psychological view, however, “persons do not exist; there are only male persons and female persons - biologically, sociologically, and psychologically” (Colley, 1959, p. 165). In a more recent review of gender specific behaviours, Moir and Jessel (1991) presented a case for cerebral differences between the sexes in their book Brainsex. The authors generally ascribe more sedate social aptitudes to females and

more spatial activity to males, although only a little over 1 of the 228 pages focuses on the preschool period. As such, it reflects the paucity of strong or unambiguous evidence for the significance of gender in relation to a range of child problem behaviours, at least up to the age of five years.

For some time, however, persistent research effort has been directed towards establishing categories of gender-related behavioural characteristics. Commonly, findings depict boys as more physically aggressive, noisier, and active than girls (e.g., Bandura, 1973; Charlesworth & Dzur, 1987; Hartup, 1974; Hinde et al., 1983; Ochiltree & Edgar, 1995; Rutter, Tizard, & Whitmore, 1979; Zahn-Waxler, 1993). Other investigators have found variations in aggressive behaviour, such as bullying, likely to be much more normal in boys' than in girls' behaviour repertoires (Strassberg et al., 1994; Zoccolillo, 1993). Notwithstanding the difficulties surrounding research into children's aggression, partly discussed in Chapter One, further review of studies in this area helps illustrate gender-based anomalies in some findings.

In the early 1990s, research evidence for children's aggression was questioned on the basis that the focus on physical aspects of aggression had greatly biased aggression research towards a male perspective (Björkqvist & Niemelä, 1992). It has been noted that girls have been stereotyped as being more verbally aggressive than boys (Rutter et al., 1979; Saifer, 1993), and more likely to use a relational oriented form of aggression (Crick, 1995). "Relational aggression", sometimes called "indirect aggression" (Björkqvist et al., 1992), typically incorporates behaviours that are intended to interfere with the friendships of the victim, or their inclusion in the peer group (Crick & Grotpeter, 1995). Because relational aggression is verbal rather than physical, and is often executed through whispers as opposed to hits or kicks, it does not immediately appear as a behaviour problem. As a consequence, relational aggression and its perpetrators are less likely to be noticed.

The victim's distress at losing a friend or being excluded from a group may provide the only indication of relational aggression at work. It has been shown, however, that a teacher's view of a child's emotional displays can be governed by his or her beliefs about the child's temperament (Kean, 1997), lessening the likelihood that he or she would recognise distress as a consequence of relational aggression. In any case, it has been observed that teachers typically respond to behaviour problems in girls with nurturance rather than discipline (Minuchin & Shapiro, 1983), and this may well have little impact on preventing recurrences of causes of the distress. Apart from prolonging the effects of

victimisation, it has been suggested that a distressed child "...could monopolize a member of staff's attention for some time, and a constant 'shadow' could have considerable nuisance value" (Neill & Denham, 1982, p. 110). Under these circumstances, it could easily be the victim who gains the reputation as a behaviour problem.

Further insight into gender bias in the evaluation of aggression can be gained by considering the assigning of motivation for aggression. For example, aggression that focussed on an object, either as a target or directed towards obtaining or retaining possession of it, and where injury to another person appears to be a secondary goal, has been termed "instrumental" (Berkowitz, 1993; Hegland & Rix, 1990; Howes et al., 1994). The importance of functionally defining types of aggression, such as instrumental, is that gender differences tend to be less marked when such attributes are considered. In a study of 102 children, comprising 56 boys and 46 girls, in six classrooms, for example, hostile aggression was attributed to boys but "...no significant sex difference was obtained in the rate of occurrence of instrumental aggression" (Hartup, 1974, p. 340).

The age at which this pattern is established is also disputed. Maccoby and Jacklin (1980) claimed that "...the case for greater male aggression in children aged 6 or younger has been established beyond reasonable doubt" (p. 967). Putting a limit on how much younger, Tieger (1980) asserted that "...the pattern of existing evidence suggests that the gender-dimorphic nature of aggression is reliably observable in children's spontaneous behavior only after the age of 5 years" (p. 943). Supporting the assertion, a review of eight studies concluded that serious problems are no more common in boys than girls until after five years of age (Rutter & Garnezy, 1983), and even when differences were observed, they were found to be not statistically significant (Hinde et al., 1983). In contrast, a later longitudinal study of children from infancy to age eight years, in 300 families, found differences between boys and girls after toddlerhood. In particular, boys increasingly became more uncooperative, noncompliant, and aggressive compared to girls of the same age (Sanson, Prior et al., 1993). On the other hand, studies since the 1930s have found that differences in levels of expressed anger and aggression among members of the same gender exceeded the average difference between the genders (e.g., Goodenough, 1931; Hyde, 1984).

Other studies suggest that the behaviour of children under the age of five years may be evaluated differently on the basis of the observer's beliefs about the child's gender (e.g., Fagot, 1978; Frisch, 1977; Goldstein, 1992; Gurwitz & Dodge, 1975; Smith & Lloyd, 1978). In particular, studies of adult expectations for gender specific emotionality in young

children has shown the same behaviour defined as anger when the displaying child was believed to be male, was judged to be fear when the child was believed to be female (Condry & Condry, 1976). Similarly, another study involving children of ambiguous gender in a film, found that for the viewers "...the gender of the actors significantly influences both the connotative and affective meaning of an event" (Condry & Ross, 1985, p. 230).

The findings confirm the existence of adult expectations for children's likely behaviour based on gender, and further suggest that these expectations may turn into self-fulfilling prophecies (Adams & Crane, 1980). For example, it has been observed that aggression in boys is differentially reinforced or sanctioned by a wide range of environmental influences (Sanson, Prior, et al., 1993). As a consequence, boys are recognised as being more active and noisy (Biddulph, 1997). According to Ebbeck (1986), it follows that "...if boys are perceived as boisterous, physically active, noisy, demanding, and so on, then not unexpectedly they may behave this way" (p. 48). At the same time, it has been found that high activity levels have been associated with increased adult perceptions of behaviour problems (Crowther et al., 1981).

2.2.3.2 Birth order and siblings

Matters concerning birth order and sibling influence on the propensity for child behaviour problems have also been the subjects of some study, with inconsistent findings. Dreikurs, Grunwald, and Pepper (1998), for example, claimed particular characteristics for children as a result of experience within families associated with birth order. In particular they suggest that the only child may try and elicit sympathy from adults "...by being shy, timid, or helpless", is "...often pampered....may become self-centred....may feel insecure....may have difficulty in relating to his peers....usually accepts the values of his parents....is often conservative and serious" (p. 58). Although contending that "...these points apply in most situations...", the authors temper their predictions by stating that they "...would like to emphasize that these characteristics may not always apply" (Dreikurs et al., 1998, p. 63), citing a range of parenting practices and family values as mediating factors. It is noteworthy that few studies of children in adverse family condition, such as those discussed earlier, mention ordinal position of children as mediating factors in the presentation of problem behaviour.

Other studies correlating a child's birth order with specific types of behaviours invariably hypothesise the influences of parents' interaction with a particular birth order child, rather than birth order per se. The form of these interactions may reflect parental concern derived from inexperience of parenthood and/or lack of knowledge about developmental

norms. For example, comparing the behaviour checklist rating of parents who had different numbers of children, one study found that parents of only one child indicated significantly more concern about behaviour management than parents of more than one child (Stallard, 1993).

Researchers have also found that parents with more than one child demonstrate different behaviour towards older and younger siblings. For example, Baskett (1984) observed that the eldest child was likely to receive more negative responses, from both parents and siblings, than was a younger child displaying the same behaviours. Earlier work had found that eldest children with a male sibling two to four years younger were less obedient, less friendly, and generally less responsive to adult approval (Koch, 1955). In contrast, another investigation found that it was second born children, particularly when there was also a younger sibling, who were more likely to develop behaviour problems, thought to emanate from a lack of parental attention and resultant insecurities (Lewis, Feiring, McGuffog, & Jaskir, 1984).

Gender implications were suggested in a study that found birth order differences applied only to problem behaviours among male children. However, the investigators included only two child families in their study and stated that they could not determine whether the behaviours were biologically or environmental related (Lahey, Hammer, Crumrine, & Forehand, 1980). An earlier study of leadership styles amongst nursery school children found that first born females were more-task oriented and later born females more relation-oriented, but found no difference between males related to birth order (Hardy, Hunt, & Lehr, 1978).

Other investigations have examined children's responses to changes in the social environment as a result of the birth of a sibling (e.g., Zajonc, Markus, & Markus, 1979), and to differences in the way parents interact with them, particularly in relation to siblings. Stocker (1995), for example, found that both mothers and fathers treat siblings differently, and that young children noticed discrepancies. Several studies have reported that children who believed they received less favourable treatment from their parents, compared to siblings, were likely to exhibit more problem behaviours (Dunn & McGuire, 1992; Dunn & Munn, 1986; McGuire, Dunn, & Plomin, 1995). Conversely, other researchers have suggested that these reactions and subsequent behaviours are part of normal relationship between siblings throughout childhood (Martin & Ross, 1996).

Of particular relevance to the current study, Lieberman (1977) found that birth order was

not a significant factor in the peer-group social behaviour of preschool boys. Similarly, in a cross-cultural study involving three countries, birth order and number of siblings were found to have only limited correlation with deviant behaviours (Matsuura et al., 1993). A study by Campbell, Breaux, Ewing, and Szumowski, (1986), however, found that the presence of more children in a family contributed to higher initial aggression ratings by parents.

In contrast to the studies of social behaviours, two linked studies carried out in America, found birth order differences in motor activity levels. Surveying adults in relation to more than 7000 children over a seven-year period, investigators found that motor activity was perceived by respondents to decline linearly from the first to later born children. In a second study, of 81 children attending child care centres, teachers rated eldest children as significantly more active than younger siblings (Eaton, Chipperfield, & Singbeil, 1989). The findings may assume some relevance in the light of the suggestions by Crowther et al. (1981) and Fagot and O'Brien (1994) that there was an increased chance of a child with a high activity level being perceived by teachers as aggressive or hyperactive.

Overall, however, the evidence for any effect of ordinal birth position alone on the manifestation of child behaviour problems is far from conclusive. It is apparent that other family demographic characteristics, family values and social functioning, as well as gender and age specific expectations of adults, combine to confound any generalisation of propensities for problematic behaviours exhibited by an older, middle or younger child.

2.2.3.3 Maturation

Just as gender has been seen by some as a rationale for accepting or rejecting certain behaviours, lower levels of maturation have been cited as a rationale for accepting the age of preschoolers as mediation for behaviours that may not be countenanced in an older child (Egeland et al., 1990; Kazdin, 1993). Specifically, high activity levels (Routh, Schroeder, & O'Tuama, 1974) and a degree of aggression and non-compliance (Pettit, Bakshi, Dodge, & Coie, 1990; Saifer, 1993; Snyder et al., 1994; Stormont-Spurgin & Zentall, 1995; Zoccolillo, 1993), have been suggested as normal behaviour for this age group. Similarly, many behaviour problems are expected as a result of the weak but maturing emotional regulating processes (Cicchetti et al., 1995). Even the early stages of relatively serious problem behaviours have been viewed as difficult to separate from the turmoil of normal preschool-age development (Campbell, 1995; Hartup, 1974; Ledingham, 1981; Susman, 1993). For example, the symptoms for some specific problems, such as ADD, are said by some not to emerge clearly until children are aged six to nine years

(Marakovitz & Campbell, 1998).

Complicating the picture is the domination of early childhood care and education services by maturational approaches to child development. The writings of Rousseau and the theories of Freud, Erikson, Gesell, Piaget, and Rogers have reinforced the idea of stages of development, through which children pass at particular ages. The acceptance of the consistency of these stages by many practitioners and others, and the expected consistency of the child moving through them, has led to the use of behaviour problem descriptors such as “immaturity” and “developmental delay”. For some time, however, inconsistencies in rates of maturation beyond the normally accepted levels have been noted between children, as well as unevenness across areas of development in the same child (e.g., Biggs & Collis, 1991; Collis & Biggs, 1991; Hutt, 1972). These observations have led to the “ages and stages” approach to child development being challenged on a number of social and cultural grounds (e.g., Alloway, 1997; Donaldson, 1978; Jipson, 1991), particularly in relation to school readiness where one investigator specified “...a lack of success in trying to utilize a psychological view...” (Graue, 1992, p. 66). Despite evidence to the contrary, however, age alone still appears to exert considerable influence on the evaluation of young children’s behaviour.

In addition, the physical appearance of the child may also play a role in influencing adult expectations about behaviour, particularly in determination of problem behaviour.

Specifically, it has been suggested that the

...cranial/facial proportion is a particularly salient abstract specification for age level and may be used without awareness in caregiving decisions. This may lead to caregivers’ unrealistic expectations of youngsters who appear atypically older than their chronological age. (McCabe, 1984, p. 267)

The difficulties may be compounded by the traditional preschool and child care centre practices of grouping 20-24 children, between the ages of 3-5 years, together in one group. For example, Charlton, Leo, Evans, and Flagg (1994) suggested that wide age variations could lead to unfavourable, and misleading, comparisons of the behaviour of younger to that of older or more mature children in the same group.

2.2.4 Summary

Putting aside differences and ambiguities in attributes ascribed to individual children and various child-nurturing situations, much of the literature reviewed above suggests that within-child characteristics, prenatal injury, prematurity, and childrearing practices that impact on brain development or stimulate learning, may result in a propensity for some

children to exhibit certain types of problem behaviours. At the same time, it has been suggested that the child's gender, birth order, age, and the demographic status of his or her family may create expectations in other adults for the child to exhibit certain types, styles or levels of problem behaviour. While innate and learned behaviours, biological impairments and the expectations of others may contribute to the psychological habitat of the child, no studies indicate that a child will be problematic in any specific situation or explain why he or she may be a problem in one but not another. Apart from speculating that other within-child or environmental factors may play a role, little evidence is provided to explain why some children develop behaviour problems as a result of their nature or nurture while others with similar characteristics and experiences do not.

Exceptions are those few studies that have identified within-child protective factors that may shield children from long-term consequences of adversity (e.g., Fergusson et al., 1994a; Mathias, Mertin, & Murray, 1995). These factors may manifest as high vagal tone (Field et al., 1995; Fox & Field, 1989), or high levels of serotonin metabolite and 5-hydroxyindoleacetic acid (Cicchetti & Richters, 1993; Gottman & Katz, 1989; Greenberg et al., 1993; Katz & Gottman, 1995), among other biological attributes. At the same time, particular facets of the environment have also been suggested as having the capacity to mitigate the effects of adversity and reduce the likely manifestation of problem behaviours. These include the presence of siblings, friends, or a stable peer group (e.g., Cummings & Smith, 1993; Dodge et al., 1994; El-Sheikh, Cummings, & Goetsch, 1989), although how these factors mitigate the impact of adversity is rarely explained.

It must be concluded, therefore, that attempting to use characteristics of a child's nature or nurture to identify him or her as being at greater risk of exhibiting problem behaviours than other children in a group, has limited value for the current study. While the literature indicates the likelihood that individual children will bring to the centre the potential for a unique range of behaviours that could be exhibited with varying intensity, there is little evidence that those behaviours will be consistent or patterned across situations located differently in time and space. Nor is there evidence to suggest that any environmental influences implicated in triggering those behaviours will differ substantially in effect between children. On the contrary, the conclusion from a variety of sources concerned with the effects of out-of-home care, reviewed in the following section, suggests that the environment of a child care centre is a consistent and dominant influence on the manifestation of all problematic child behaviours.

2.3 Children's problem behaviour and child care centres

As a structure for presenting a review of the literature in this section, most of the findings have been arranged under the titles representing the physical, social, structural, and cultural components of environment specified for the current study. It is reiterated, however, that the headings are no more than organisational devices as each component is seen to function in relation to the others and, in some cases, are almost impossible to separate. In addition, the four headings are preceded by a review of investigations that have claimed general problematic child behaviours result from children attending child care centres, and others that have found behavioural consequences of specific patterns or histories of enrolment in child care.

2.3.1 Child care centres as a source of influence on child development

Attending child care centres can, according to individual opinions, reports in the media, and the conclusions of some studies, shape both the development and behaviour of young children. The common feature of many claims is that the effects are general to most children and are retained into the school years. At the same time, few accounts discriminate between different centres or specify any particular facet of the centre's environments that may influence the children. In most cases the child care centre is represented as a concept rather than a concrete entity.

For example, in a story printed by a major Australian daily newspaper (Loane, 1996), an unidentified schoolteacher was quoted as stating "You can always pick a child who has been to child care....They are often uncooperative, aggressive and secretive,..." (p. 31). In the previous year, an Australian magazine article had quoted the Professor of Sociology at Boston University as saying that "early childcare does have an effect on children's behaviour....the centre for childcare studies at the University of Pennsylvania has shown they're much more rambunctious, easily excitable" (Duffy, 1995, p. 40). Similarly, in an investigation by the Australian Institute of Family Studies, it was observed that boys who had attended group care were more "bratty", competitive, "classroom-wise", less conforming, and may be "...more likely to question authority..." (Ochiltree & Edgar, 1995, p. 61). A later commentary from the Centre for Independent Studies asserted that the "brattishness" of children who attended child care centres was "...noticeable to the casual observer from the beginning,..." (Sullivan, 1997, p. 25).

The above comments give rise to two observations; the first about research methodology. For example, the findings reported by the Australian Institute of Family Studies, referred to above, were derived from a retrospective survey completed by schoolteachers and

parents of school-aged children who had received out-of-home care prior to starting school. Little information was provided about patterns of attendance, characteristics of individual child care centres involved, or the experiences of the children enrolled in them.

Investigators have long expressed concern about the omission of situational factors in checklists and rating scales, such as those used in surveys, which may cause evaluations to be made out of context (e.g., Altepeter & Breen, 1992; Campbell, 1995; Kohn, 1977; Tisak, Nucci, & Jankowski, 1996). There has also been considerable debate over the general efficacy of checklists (e.g., Achenbach, Howell, Quay, & Conners, 1991; Behar, 1977; Condon, 1995; Halperin et al., 1995; Hegland & Rix, 1990), and their rating scales (e.g., Charlesworth et al., 1993; Goyette, Connors, & Ulrich, 1978; Sandoval, 1981). In addition, it has been noted that findings can be confounded by respondents' lack of understanding about child development, particularly in relation to discriminating between parental concerns and normative problems (e.g., Pavuluri et al., 1995; Stallard, 1993).

At the same time, problems associated with retrospectivity have long been recognised. It has been contended, for example, that the accuracy of a respondent's recall is effected by their cognitive ability (Piaget & Inhelder, 1973), past and present contextual factors (Ricks, 1985), social desirability factors (Hagekull & Bohlin, 1994) and the degree of emotionality engendered by the questions (Carey, 1982). The threats to accurate data collection posed by the last two points, in particular, have been well illustrated by the highly emotive language of ongoing debate in Australian newspapers and magazines about the harm or otherwise of out-of-home child care in general (e.g., Duffy, 1995; Manne, 1996; McHugh, 1997; Sullivan, 1997).

The second observation about the comments relates to the noticeable lack of discussion concerning possible alternative explanations for the behaviours. For example, Elliott (1998) noted the difficulty of predicting the success of children's adjustment to school, citing a number of variables unrelated to what the child learned in a child care centre. Although she found that for children who had attended a child care centre, "...the actual transition to school was relatively seamless..." (p. 31), she also found that the shift from the longer hours of child care to the shorter hours of school presented a number of logistic difficulties for working parents. These included making arrangements for children's travel to and from school, and finding suitable after-school care, as well as a number of other factors associated with parental participation in school activities, all of which needed to be resolved to ease the child's transition between child care and school. Elliott concluded that "...the behind-the-scenes manoeuvring, compromising, and negotiating needed to

effect this continuity was exhausting and stressful for parents, particularly mothers” (p. 31). The relationship between maternal stress and child behaviours has been discussed earlier in this chapter. If the child is also feeling anxious about school, or the new travel and other arrangements, then it is likely that behaviour problems may occur. Rarely, however, do arguments citing child care as a cause of problematic behaviour in schools consider these additional issues.

As a consequence of the above observations, the findings of many prevalence studies are not included in this review. In particular, those that retrospectively surveyed respondents who had no close working knowledge of the situations in which behaviours occurred, are deemed to have little ecological relevance to the current investigation. Similarly, interpretations of findings that have simply blamed problem behaviours exhibited in classrooms exclusively on behaviours supposedly learned in child care centres, rather than consider the possibility of more complex issues being involved, have limited utility for the current study.

The treatment of child care centre attendance as a concept, devoid of detail about centre environments and actual child-experiences, is also a feature of much of the extensive debate in the literature about infant out-of-home care. Fears for normal infant development, as consequences of both maternal deprivation and the failure of child-parent bonding, were debated by researchers internationally throughout the 1980s and 1990s (e.g., Belsky, 1988; Clarke-Stewart, 1988; Crockenberg & Litman, 1991; Hagekull & Bohlin, 1995; Hennessy et al., 1992; Rothbaum, Rosen, Pott, & Beatty, 1995; Thompson, 1988). It was also suggested that there was a possibility of out-of-home child care weakening the attachment bond, not just between the child and his or her parent(s), but also between the parent and his or her child (Zigler & Turner, 1982).

Prior to these later concerns about damage to families, wider behavioural effects of child care enrolment on the development of young children was also investigated overseas, with mixed positive and negative results (e.g., Belsky & Steinberg, 1978; Gifford, 1978; Heinicke, Friedman, Prescott, Puncel, & Sale, 1973; Rutter, 1982). Comparisons continued to be made between the development and behaviour of children reared at home and those attending child care centres, with contradictory findings. A number of investigators have reported children in child care as more aggressive and less co-operative with adults (e.g., Bronfenbrenner, 1979; Crockenberg & Litman, 1991; Robertson, 1982; Schindler, Moely, & Frank, 1987; Thornburg, Pearl, Crompton, & Ispa, 1990). Others have reported finding no evidence associating child care with aberrant child

behaviour (e.g., Sternberg et al, 1991) and no evidence that good quality child care harms children (Ochiltree, 1994; Sroufe, 1998). At the same time, studies have also suggested benefits for some children attending centres (e.g., Field, Masi, Goldstein, Perry, & Parl, (1988; Fergusson, Horwood, & Lynskey, 1994b; Greenblat & Ochiltree, 1993; Hagekull & Bohlin, 1995; Hennessy et al., 1992; Phillips, McCartney, & Scarr, 1987; Podmore, 1993; Scarr, 1998).

A number of investigators have been critical of the research methodologies used in many of the above studies (e.g., Caruso & Corsini, 1994; Howes, 1988; Leach, 1994; McGuire & Richman, 1986; Sternberg et al., 1991), particularly in relation to data collection methods. In most cases, studies relating to the effect of child care centres on the behaviour of children have taken a global or group approach, without considering the mechanisms of child:environment relationships, or individual differences in either children or centres. In addition, it has long been contended that other external environmental factors, such as maternal motivation for using child care, including family characteristics and economic circumstances, may be a confounding variable in separating child care centre effect on child behaviours from other influences (Schwarz, Strickland, & Krolick, 1974; Vlietstra, 1981). As a result, these investigations have contributed little to the identification of environmental influences on the occurrences of problem behaviours of children attending individual child care centres.

2.3.1.1 Length of attendance

Length of time children have attended child care has been considered a variable by some investigators of problem behaviours in young children (e.g., Derscheid, 1997; Podmore, 1993; Schindler et al., 1987). The underlying assumption appears to be that boredom, or a lack of stimulation, could become an issue after the child had been attending the same centre for several years (Clarke & Gray, 1997; Schuster et al., 1980). In most cases, observations of boredom in children have been related to inactivity or limited choices of equipment and materials over a short period within a single day (e.g., Christie, Johnsen, & Peckover, 1988; Davidson, 1980; Gruss, et al., 1998; Smith & Connolly, 1980; Walsh, 1997). However, no studies were found that have attempted to quantify boredom over time and settings, or provide evidence that boredom or a lack of stimulation alone are a continuing factor in the production of child behaviour problems.

In addition, investigations incorporating length of attendance have rarely considered the totality of variations in the quality of that experience. Components of attendance have been recognised as including the duration of the child's day (Holloway, 1991; Kennedy,

1991; Stephen, 1993), the program of activities (Fox, 1990; Gruss et al., 1998; Hennessy et al., 1992), quantity and quality of staff interactions (Azar & Tansey, 1995; Dunn, 1993; Hestenes, Kontos, & Bryan, 1993; Leach, 1994), and peer group relationships (Campos-de-Carvalho & Rossette-Ferreira, 1993; Dodge et al., 1994; Hartup & Laursen, 1993). Any one of these points could confound any speculative attributes of mere length of attendance which, in any case, one Australian Federal Government report found to be non-significant on its own (Department of Health, Housing, and Community Services, 1992).

In quantifying the child's experience in child care, previous research has largely failed to consider the child's history of out-of-home care beyond the setting in which the study was conducted. Similarly, investigators have largely failed to address the impact on children of frequent changes in child care arrangements. Of those studies that have considered changes, two found that regular changes correlated with lower social-emotional and cognitive development (Hennessy et al, 1992; Podmore, 1993), while a longitudinal study of 52 children in Sweden found no effect of changes in care or combined length of attendance (Hagekull & Bohlin, 1995).

There is little discussion of the possible implications for child behaviour of concurrent enrolment in different child care settings, including the confusion a child may experience in adapting to different programs, schedules and staff attitudes. For example, a parent who concurrently enrolled her child in a preschool for three days per week, and in child care for the other two days, reportedly did so because she thought her son, who had attended the child care centre from a very early age, "...wasn't being challenged enough" (Parents who choose preschool, 1995, p. 7). The child care centre obviously met some needs of the parent as enrolment was maintained for two days, requiring the young child to adapt to the structure and culture of both institutions, in addition to his home, on a regular basis. Whether the arrangements had any impact on the child's behaviour was not reported and the author found no studies of the phenomenon.

2.3.2 Physical environment

As mentioned earlier, the influence of the physical environment on child behaviours has long been acknowledged (e.g., Barker, 1963b; Body, 1955; Gump et al., 1963; Hartup, 1983; Isaacs, 1933; Lewin, 1935; Walling, 1977). Studies have investigated a range of possible outcomes, including "...positive social interaction, productive play, conflict, or aggression" (Minuchin & Shapiro, 1983, p. 203). Yet, by 1987, Moore, a developmental

and environmental psychologist and, at that time, Professor of Architecture at the University of Wisconsin-Milwaukee, observed “...we know more about the global effects of day care than we do about their causes and almost nothing about the causes that may or may not be attributable to the designed physical environment” (Moore, 1987, p. 44).

A number of researchers have investigated the influence of spaces, places, and objects, on child behaviour (e.g., Pellegrini & Perlmutter, 1989; Proshansky & Fabian, 1987; Wolfe & Rivlin, 1987; Wyver & Spence, 1995), and particularly in relation to problem child behaviours (e.g., Koralek et al., 1993; Neill & Denham, 1982; Saifer, 1993). Findings have pointed to a variety of physical features of child care centres that appear to influence child behaviour. Amongst the more salient of the claims have been those related to the design of buildings, the organisation of internal spaces, types of room lighting, sound and noise levels, and matters of physical and psychological comfort associated with soft furnishings, cosy corners, and private space. In addition to these predominantly interior features, the function and form of outside play areas have also received attention. The following provide a summary of research findings and educators’ comments in each of these areas.

2.3.2.1 The design of child care centres

There are long-standing claims, particularly from architects and urban planners, as well as educators, that the man-made physical environment communicates meaning, thereby influencing the behaviour of users (e.g., Parsons, 1974; Rapoport, 1982; Sommer, 1969; Stebbins, 1973; Wolfe & Rivlin, 1987). For example, Sebastian (1988) observed that “most people have had experiences where feelings and behaviour have altered in response to the environment, such as upon entering a library or a cathedral, or being in the midst of the congestion of a department store sale” (p. 33).

Despite the claims and experiences, a search of the literature reveals little investigation of the influence of child care centre design on children’s behaviours, in Australia or elsewhere. In America, Moore (1987) observed that the physical environments of child care centres were “...that part of the total environment that environmental professionals (architects, planners, and policy makers) are manipulating with little understanding of human developmental consequences and scant scientific evidence on which to base design decisions” (p. 46).

His comments followed one of the few systematic examinations of settings and the subsequent situations that settings could influence in child care centres. Directed at examining the impact of a range of indoor and outdoor architectural and design issues on

child behaviours, data was collected on situations in designated settings across 14 centres representing a spectrum of educational philosophies and socio-economic factors. After a month of observations, findings included the contention that spatial definitions of settings were an important factor influencing child behaviours, and there was clearly interaction between physical and social aspects of the environment (Moore, 1986).

Moore's multidisciplinary approach to child care centre design, involving both environmental and developmental psychology as well as architecture and urban planning propagated one of the few sets of "...design principles based on empirical research on the relationship between child development and the built environment..."(Moore, 1993, p. 83). In advocating for developmentally appropriate design of child care facilities, Moore (1994a) contended that the impact of the physical environment on the child was likely working in "ecological concert" with curriculum, family structures and systems.

In addition to matters associated with the size of centres (Moore 1996a, 1996b), layout of child care building (Moore, 1996b), children's privacy (Moore, 1996c, 1997a), block areas (Moore, 1997b), and the siting centres within communities (Moore, 1997c), he also called for a number of playrooms features, including clearly defined activity areas, separated from each other by permanent or semi-permanent dividers and variation in floor covering (Moore, 1993). The advocacy was supported by the development of detailed observation schedules and rating scales for a range of physical and structural factors within the environments of child care centres (Moore, 1994b).

2.3.2.2 The organisation of internal spaces

Rather than look at the definition of settings, other studies have investigated the effect of open space. For example, Neill (1982), who was with the Department of Psychology and Department of Architecture, at the University of Strathclyde, made observations of child care in Scotland almost two decades ago that could apply equally to centres in Australia today. He noted that building designs "...have been largely influenced by educational views which suggest that children should learn by active and spontaneous interaction with resources..." (p. 309), and usually incorporate large rectangular open plan playrooms with high ceilings and big windows.

He also reported that staff of these centres believed the open plan facilitated better supervision (Neill, 1982). The arrangement of classrooms to suit the needs of adults, particularly in relation to ease of supervision, has also been noted in Australia and America (e.g., Clarke & Gray, 1997; Cunningham, 1994; Jorde-Bloom, 1988; Meyer, 1997;

Mobbs, 1994; Walsh, 1997; Weinstein & David, 1987).

At the same time, a majority of centre staff who Neill interviewed felt that open plan spaces led to "...increased running, high level motor activity and rough-and-tumble, as such spaces suggested these activities to children" (Neill & Denham, 1982, p. 108). Other findings reported by Neill (1982) and Neill and Denham (1982) suggested that open spaces also provided more opportunity for attack by aggressors, with subsequently distress for victims. Similar views have been recorded in Australia, with space being attributed with the ability to encourage "...aggressiveness and those nastier type of behaviours" (Balcombe & Tansey, 1996, p. 11). These conceptualisations of space inducing children to act in one way or another reflected Gump's (1971) definition of "physiognomic perception": where open places invite running and enclosed spaces promote grouping.

Some researchers have examined the guiding and constraining aspects of spatial arrangement in relation to program structure and planning (e.g., Hartup & Laursen, 1993; Kritchevsky, Prescott, & Walling, 1977; Parsons, 1974; Shantz, 1975; Soto, Fernandez, & Cantieri, 1990). The well-planned design of internal and external physical space has also been linked to better teaching, with more time spent responding to children and fostering social interaction (Kritchevsky et al., 1977; Moore, 1986; Prescott, 1987). Other investigations have found an increased potential for accidents if a lack of effective boundaries allow children involved in one activity to intrude upon children in adjacent activities (e.g., Greenman, 1988; Prescott, 1997). The need for clear pathways between well defined activity areas, as an aid to avoiding distractions and disruptions, has been acknowledged on many occasions (e.g., McCrea & Piscitelli, 1991; Neill, 1982; Prescott, 1994; Sebastian, 1988; Trancik & Evans, 1995; Department of Health, Housing, and Community Services, 1992; Youcha & Wood, 1997). At the same time, poorly arranged space has been recognised as a source of tension and frustration among children, with the potential to precipitate conflict (e.g., Davidson, 1980; Krantz & Risley, 1977; Stephen, 1993; Watkins & Durant, 1992).

2.3.2.3 Social and spatial density

Space itself is, however, relative to the people or objects that occupy it. Over more than half a century, investigators in America and Britain have studied the behavioural effects on children of play area crowding, with mixed results. Some studies have suggested that crowding increases aggression (e.g., Hutt & Vaizey, 1966; Jersild & Markey, 1935; Krantz & Risley, 1977; Loo, 1972; McGrew, 1970), while others have found only some children

adversely affected (e.g., Stephen, 1993), and one study has reported increased cooperative behaviours amongst children under certain conditions (Rohe & Patterson, 1974). Investigators also found variations in children behaviour attributable to differences in the conditions created by “spatial density”, involving a group of the same number of children in different size spaces, and “social density”, involving groups of differing numbers in the same size space.

The variations in findings, particularly in the earlier investigations, have been ascribed to weaknesses in research methodology, including insufficient interobserver agreement (Brown, Fox, & Brady, 1987), failure to control for or to measure teacher-child interactions (Hart & Sheehan, 1986), and failure to measure or control the amount or types of toys and materials present during experimental conditions (Quilitch & Risley, 1973). Each of these factors was seen as either mitigating the effects of density or contributing to the behaviour problems regardless of crowding. More recently, Maxwell (1996) found that detrimental effects of crowding could be mitigated by the length of time during the day that crowding had to be endured. In particular, it was concluded that temporal issues were as important for analysis of influence as were the setting and situations.

Hartup and Laursen (1993) suggested that the children’s culture might also be a significant factor in determining the levels of disruption caused by crowding. Specifically, they suggested that there might be culturally learned differences in the way children perceive spatial or social density. Further, it has been suggested that young children have to learn the lore and values of their culture (Bandura & Walters, 1959; Hall, 1959; Slaughter-Defoe, 1995), and that until the learning is complete they may not experience the same social conditioning as adults. Investigators have acknowledged for some time that what is “crowded” for some children may not be so for others (e.g., Greenman, 1988; Kritchevsky et al., 1969; Smith & Connolly, 1980). Consequently, it is argued that a perception of crowding may be a cultural artefact and, if they have not yet been thoroughly conditioned in cultural mores, young children may not perceive crowding as adults perceive it or expect children to perceive it.

While incomplete conditioning to the culture may account for some of the variations in children’s behaviour, the variation in findings could also indicate fundamental differences in the way children perceive overall situations in addition to the characteristics of crowding. For example, according to Endler (1981) “crowding is a function of the interactions among environmental, social, and personal variables” (p. 371). Relatedly, a study of effects of the physical environment on the behaviour of children in three Vienna kindergartens found that

the number of playrooms was a significant factor in the children's perception of space limitations. In particular, the investigators concluded that for children aged 4-5 years "...the psychological effect of group size seemed to be more dependent on spatial organization than on actual numbers or density" (Larson, Greenfield, & Land, 1990, p. 37).

2.3.2.4 Resource scarcity

While a number of investigators found different social and spatial densities influenced the relationships between children, they also suggested that the occurrence of problem behaviours could be mediated by increasing resources (e.g., Brown, 1996; Rohe & Patterson, 1974; Smith & Connolly, 1980). The strategy suggested the possibility of exerting instrumental control over the behavioural outcomes of grouping, to the extent that

...if the major goal is to increase associative behavior among children, then increasing the density and decreasing the resources is suggested by the data. However, an increase in aggression should also be expected. Alternatively, if cooperative behavior is more important, an increase in density with a concomitant increase in play materials would be suggested. Aggression would still increase, but not to as great an extent. (Rohe & Patterson, 1974, p. 170)

Importantly, the findings from the investigations mentioned above demonstrated that spatial and social density alone are not determinants of behaviour but could be subject to the intent of staff through the quantity of resources provided.

Other studies have also associated problem child behaviours with both social and spatial density relative to the availability of resources. However, it has been suggested that problems young children have with the concept of sharing may also be involved (e.g., Koralek et al., 1993; Stephen, 1993; Watkins & Durant, 1992). In this regard, it has been recognised that "...some activities are particularly conflict-prone because they involve shared space and equipment which must be negotiated, and because they create a sub-group of participants who may exclude other children" (Minuchin & Shapiro, 1983, p. 205).

In a more recent contribution, Brown (1996) suggested that a common demand for one particular high status toy, even in conditions of other resource abundance, could also create conflictual situations. That elements within the environment can be construed as communicating meaning, such as "high status", has been pursued since at least the mid-1930s. The result has been to imbue objects with "valences" (Lewin, 1935) or "affordances" (Gibson, 1979), signifying their attractiveness to children. The intensity of the attractiveness has been acknowledged to be dependent on the individual child's needs at the time (Lewin, 1935).

In relation to children in child care centres, Kritchevsky et al. (1977) contended that the extent of children's involvement in an activity or interaction with materials and equipment would depend on how well those activities or objects "...meet their 'hunger, attitudes and interests' " (p. 5). Moore (1986) observed that attitudes, if not hunger and interest, might be mediated by the organisation of the setting. Specifically, he noted that well defined activity areas encouraged cooperative behaviours, whereas less well defined areas appeared to stimulate competition for resources, although a lack of resources was noted as a frequent characteristic of poorly defined areas.

2.3.2.5 Resource use

While poorly defined settings allow children at one activity to encroach into adjacent areas (Prescott, 1997), intrusions have also been found to occur when a child's use of resources conflicts with the expectations or intentions of adults, particularly in relation to the space allocated for it (Trancik & Evans, 1995). Apart from any other reasons, children's imagination has been recognised as capable of transforming the attributes of material and equipment (Pellegrini & Perlmutter, 1989) that, for the child, may legitimise its use outside the allocated area.

Bronfenbrenner (1979) also called for consideration of the role of children's fantasies in perceptions of settings and situations. As Lewin (1935) wrote much earlier "the description of the child's environment would be incomplete without including the whole world of phantasy [sic] which is so important for the child's behavior and so closely connected with its ideals and with its ideal goals" (p. 76). In many programs, fantasy has been recognised as a fundamental component of the child's milieu, essential for appropriate child behaviour in a variety of settings, and far from discouraged by adults. For example "pretend play" has a major role in most early childhood programs, through "dressing-up" corners, "wendy-houses", "home" areas, and the like.

In addition, there are a number of society-wide and adult supported fantasies introduced to children from birth, such as "Father Christmas". Children have little control over participation in the plot and "parents often go to great lengths to provide concrete evidence that Santa is real....In fact, the entire community is involved in the conspiracy..." (Taylor, 1997, p. 1016). Similar adult-inspired fantasies, including the traditional "Easter Bunny" and "Tooth Fairy", have more recently been augmented with television promoted super heroes. The possible influence of the new characters on the way children use resources has been the subject of a number of studies. Some findings suggest that the frequent death- and gravity-defying exploits of the latter group have considerable influence on child

behaviours (e.g., Culpit, 1989; Dawkins, 1991; Warren, 1996; Wilder, 1996), but perhaps no greater influence than fantasy in general.

More relevant to every day activities in child care centres, however, may be the role of fantasy in the child's ability to transform the attributes of places and objects with his or her own personal interpretations. As Lewin (1935) pointed out, "a wooden cube may be one time a missile, again a building block, and a third time a locomotive. What a thing is at any time depends upon the total situation and the momentary condition of the child involved" (p. 76).

On the other hand, it is assumed that while staff members may share some culture-wide perceptions of situations with children, adults would be less likely to include the same degree of fantasy in their interactions with the environment (Taylor, 1997; Woolley, 1997). Consequently, an adult's perception of Lewin's wooden cube may be substantially less personal or motivating than the child's, with the possibility of subsequent differences in their respective goals and intended location for the activity.

Non-shared fantasy aside, however, the range of child behaviours expected for many standard types of equipment and toys available within child care centres is well documented (e.g., Fagot & O'Brien, 1994; Fox, 1990; Hartup & Laursen, 1993; Kounin & Sherman, 1979; Minuchin & Shapiro, 1983; Parke & Slaby, 1983; Pellegrini, 1984; Rettig, Kallam, & McCarthy-Salm, 1993). Frequently, these studies report correlations between the toy use or activity and the child, while other aspects of the environment are rarely considered in any detail. Consequently, it is not always clear whether the reported behaviours are solely a result of the toy or influenced by other factors within physical, social, structural, or cultural components of the centre's environment.

2.3.2.6 Play places and child behaviours

A number of investigators have identified specific settings as being particularly prone to creating situations with high frequencies of conflict between children. For example, Kounin and Sherman (1979) reviewed earlier research and noted that climbing equipment, home area play, and large block construction were particularly conflict prone. Hartup and Laursen (1993) also identified block building and home area, and added dramatic play to the list of activities most susceptible to outbreaks of problem behaviour.

Moore (1997b) assigned the potential for conflict in block play areas to the high level of activity they engendered, as well as aspects of territoriality and possession of materials.

On the other hand, Pellegrini (1984) had earlier observed that problem behaviours were not always directly associated with the legitimate purpose of the activity area. For example, he found that older preschool children did not play in the home corner very frequently, and when they did use the area they were more likely to engage in rough-and-tumble play.

Responding to a survey on children's problem behaviours, staff of centres in north Queensland nominated block and home areas as the second highest sites of conflicts among children, with the sandpit being judged as the most conflictual (Gruss et al., 1998). It was noted, however, that the activity was a stronger indicator of anti-social behaviour than was the physical location, although no explanations were forthcoming to account for the eruption of problem behaviour as a result of the child:setting interface.

2.3.2.7 Sound and noise levels

Associated with the physical environment, sound has been suggested as one of the senses of space, with ability to evoke strong physiological and psychological reactions (Greenman, 1988). In most research, however, sound is equated with loud or persistent noise that interferes with the performance of tasks and "bothers" a majority of people (e.g., Sundstrom, Town, Rice, Osborn, & Brill, 1994).

Researchers have studied the effect of exposure to high chronic noise levels on children's development, mainly in the home. Consistent high levels of residual or background noise, such as that created by busy roads, has been suggested as a cause of delay in cognitive development and diminished motivation, linked to a lack of on-task ability. In particular, findings have suggested that high levels of noise cause some children to manifest greater distractibility and a propensity to "...*tune out* signals from the environment, particularly verbal signals" (Wohlwill & Heft, 1977, p. 127).. However, Wohlwill and Heft (1987) noted that "...adaption to noise and similar conditions of background stimulation is highly selective and ephemeral" (p. 319), and Evans and Lepore (1993) also observed important individual differences among children.

Inside child care centres, attitudes towards noise and children have been more prevalent than research findings. For example, it has been contended that children should be free to be noisy (Eisenberg, 1997), and that noisy areas should be part of the planned centre environment (Olds, 1997). More frequently, however, noise is described as unwelcome and likely to intrude on children's activities and interfere with program goals (e.g., Brown et al., 1987; Greenwood, Carta, & Atwater, 1991; Neill, 1982; Wohlwill, 1983). Excessive

noise in the classroom has been described as fatiguing and stressful for both children and staff (McCrea & Piscitelli, 1991; Sebastian, 1988), with the potential to “...encourage behaviour in young children that leads to conflict” (Stephen, 1993, p. 7).

However, there appear to be no studies of connections between measured noise levels and children’s problem behaviours in child care centres. There are no child care centre regulations in Australia that stipulate levels for inappropriate noise and no evidence to equate ratings of volume, pitch, tone, or wavelength, with behaviour or any other child problems in the playroom. Furthermore, the identification of methodological problems associated with measurements of noise in playrooms (Wohlwill & Heft, 1987) and the effects of noise on very young children (Evans & Lepore, 1993), suggest that such research would be an extremely difficult if not an impossible undertaking. As a consequence, further consideration of the impact of sound and noise levels on children’s behaviour in a child care centre were not included in the current study.

2.3.2.8 Types of room lighting

A number of commentators have mentioned the desirability of different types of lighting in early childhood classrooms, such as table lamps and spotlights (e.g., Bunnett & Davis, 1997; Olds, 1997; Shepherd & Eaton, 1997; Watkins & Durant, 1992). Most of these suggestions appear to be based on adult aesthetic preferences for “warm” or “soft” lighting to influence mood (Greenman, 1988), or for spotlights to focus attention on children’s work or other objects (Shepherd & Eaton, 1997). Although variations in lighting were suggested as a “...healthy alternatives to fluorescent lights” by Eisenberg (1997, p. 56), no rationale or references to investigations were provided to support the contention that fluorescent lighting is unhealthy.

Investigations have been undertaken in relation to the behavioural effects of fluorescent lighting, with mixed results. For example, an examination of fluorescent lighting as a source of hyperactive behaviour, by a team that included a representative of the General Electric Lamp Business Group, found no effect (O’Leary, Rosenbaum, & Hughes, 1978). The methodology was criticised on the grounds that it measured only short-term influences and a subsequent longer-term study that did not include a representative of the General Electric Lamp Business Group, did report some impact on children’s behaviour (Mayron, 1978). Ten years later, an investigation into the effects of warm white, cool white, and full-spectrum fluorescent lighting, on simple cognitive performance and rating of others, found “...no significant differences among the three lighting types on any of the dependent measures” (Boray, Gifford, & Rosenblood, 1989, p. 297). Whether consequent to the

general failure of investigations to establish any ill effects from exposure or not, fluorescent lighting is the standard type of electric lighting in most Australian child care centres and, in the author's experience, it is rare to see the use of incandescent lighting in playrooms for aesthetic or any other reasons.

Abbott and Abbott (1995) also referred to children's health, albeit from a different perspective. They contended that "natural light is important not only for its health benefits...but because it can provide an element of seasonal and daily changes that keeps the child in touch with the surrounding natural environment" (p. 6). Rather than light, the emphasis appears to be on views or windows and, notwithstanding some city and shopping-centre-based child care centres, assumes that the surrounding environment is natural. More to the point, the health benefits of natural light were not quantified, and no claims were made for any influence that lighting might have on child behaviour.

In view of the difficulties in separating the influence of lighting from other variables, within a child care centre program that moves children from indoors to outdoors for extended periods usually twice a day, the current study gives no further consideration to the effects of fluorescent lighting on children's behaviour.

2.3.2.9 Cosy corners

In addition to soft lighting, commentators have also called for soft or cosy areas in child care centres (e.g., Bunnett & Davis, 1997; Choice, 1994; Clarke & Gray, 1997; Greenman, 1988; Koralek et al., 1993; Olds, 1997; Shepherd & Eaton, 1997), with the item being included in the Early Childhood Environment Rating Scale (ECERS)³ (Harms, Clifford, & Cryer, 1998). No specific rationale was offered in any of the studies or texts reviewed beyond claims that a full day program is fatiguing and that soft areas are likely to help ease tension (Prescott, 1994), and provide a homely atmosphere (McCrea & Piscitelli, 1991). However, no studies were found that have measured the impact of soft or cosy areas on the behaviour of children.

2.3.2.10 Private places

The restorative and home-like theme has also been used by early childhood professionals and others to call for private places to be made available for children in child care centres

³ The ECERS is a 43-item checklist designed in America to measure the quality of the environment in early childhood services. It is based around seven classes of items that provide subscales relating to space and furnishings, programs, children's activities, child:child and child:staff interactions, personal care routines, language-reasoning, and staff:parent interactions.

(e.g., Alexander et al., 1977; Bunnett & Davis, 1997; Clarke & Gray, 1997; Cook & Kirby, 1989; McCrea & Piscitelli, 1991; Moore, 1996c; Trancik & Evans, 1995; Youcha & Wood, 1997), and the inclusion of private places for children in child care is highly rated on the ECERS (Harms et al., 1998). The rationale for providing private places for children, however, appears to be based more on theory and observation than on the findings of research on children in child care. It has been suggested, for example, that an ability to retreat from unpleasant stimuli, or over stimulation, may be important both for infants (Wohlwill, 1983), and older children (Mobbs, 1994; Stephens, 1996b). Others have suggested that securing privacy allows children to experience control over their environment, considered by Proshansky and Fabian (1987) to be essential for healthy psychological development. Similarly, access to privacy has also been seen as an ability to regulate social interaction (Altman & Rogoff, 1987). In addition, It has been observed that children will seek out private places for rest (Moore, 1996c), even if those spaces were not intended for their use (Rettig, 1998). Despite all the calls, claims, and utilisation of theoretical frameworks about private spaces, the author found only two studies that claimed to have investigated the desire of young children for private places in a child care centre.

In the first study, Lowry (1993) contended that “this research investigates the need for privacy of the preschool child” (p. 130). However, the findings provided evidence of the differential use of specific structures by gender and activity rather than reporting children’s need for privacy. No details were provided of the numbers of children using the facilities, how often each child used them, when they used them, or what other environmental conditions existed at the time, apart from stating that the time-interval observations were conducted during ‘free play’. The interpretation of the data, based on the children’s use of two specially constructed small enclosures over three days, also appears confounded by an apparent failure to consider the novelty value of the items and their attractiveness to the children as facilities for play rather than privacy.

In the second study, Zeegers, Readdick, and Hansen-Gandy (1994) examined the provisions that 100 children, aged 3-5 years, made for their own privacy in 10 child care centres. During short interviews, each child was asked if he or she had a special place and, if so, to tell the interviewer about it. While 58 mostly younger children indicated they did have a special area, 42 stated that they did not have such a place, or require one. The authors reported that the finding “...requires some reflection” and contended that “...it is possible that children without perception of a special place in their childcare centre have no problem and are simply more secure in their group setting or in general” (Zeegers et

al., 1994, p. 269). By limiting the children's needs for private spaces to issues of security and associated problems, and asking to be shown the place, Zeegers et al., (1994) predetermined a standing need and a permanent setting for private spaces, which could have confounded the findings. There was no suggestion in their study, for example, that private places would not be permanent areas, or that impromptu settings would be used for temporary respite, a place to observe others, or the creation of a private world.

In relation to the latter point, Langeveld (1983), viewing children's secret places from a phenomenological perspective, suggested that children under the age of five years experience only "...by accident the stirrings of a secret place behind a piece of furniture..." (p. 186). He contended that the meaning of private space was also age-dependent, and that it is not understood as a place for creating his or her own world by children under the age of eight years.

It is also probable that the child's need for private places would be determined by the structure and length of the day, the activities in which the child was involved, and the variety of settings available to the child. Opportunities for uninterrupted solitary play, or being an onlooker, may well compensate for a lack of physical structures designed for privacy. In their study of playgroups and nursery schools, for example, Sylva, Roy and Painter (1980) observed that "children often used manipulative materials as a 'cover' for observation or just plain rest" (p. 64). That socially competent children aged 3-5 years sometimes choose to be involved in solitary play and as solitary onlookers in group situations has been well documented (e.g., Coplan, Rubin, Fox, Calkins, & Stewart, 1994; Fler, 1996; Harper & Huie, 1985; Roper & Hinde, 1978; Wyver & Spence, 1995).

Although adults recognise a need for access to privacy and an ability to regulate the social environment, the immediate implications of a lack of private spaces for children, or of a lack of opportunities for them to be involved in solitary play or as an onlooker, have not been investigated. As a consequence, no direct link has been made between the provision or absence of private places or substitute opportunities to withdraw from the group, and manifestations of child behaviour problems.

2.3.2.11 Outside play area

In the late 1970s it was recognised that playgrounds needed to respond to a variety of children's needs, including the provision of opportunities for manipulating the environment, areas for quiet play, "...and clear accomplishment points to reinforce the development of self-concepts..." (Cohen, Hill, Lane, McGinty, & Moore, 1999, p. 23). Similarly, a little

later, Cielens and Cielens (1986) advocated for flexibility and variety, urging staff to provide "...many changing tactile experiences, e.g. variety, textures, colour. Develop a challenging space, not a static boring one. Develop a sense of 'safe' adventure" (p. 124). However, research during the 1980s, investigating the influence of different playground designs on children's social, cognitive, and physical play behaviours, provided few guidelines for specific approaches to design or programming (e.g., Brown & Burger, 1984; Hart & Sheehan, 1986). Throughout the late 1980s and into the 1990s, concern continued to be expressed about the inappropriateness of Australian child care centre designs, including the outside play areas (e.g., Choice, 1994; Gelenter, 1988; Lacey, 1994; Mules, 1993; Nyland & Wood, 1994). However, little rationale was offered to explain what was inappropriate, beyond general comments about the limited size and/or siting of the play area in relation to surroundings.

A number of researchers have contended that children's behaviour in the outdoor play area is contingent upon the design of the setting in conjunction with its purpose in the overall program (e.g., Carter, 1994; Cunningham, 1994; Susa & Benedict, 1994; Walsh, 1989). The point was reiterated by Walsh (1997) who cited examples of "...very bleak and sterile settings" she had visited, observing that "the emerging pattern in these centres is that of distracted children competing for the same play opportunities, leading to a breakdown in behaviour, often exhibited as anti-social, aggressive behaviour" (p. 14). A variety of investigations have been made into the impact of playgrounds on play, as well as other aspects of social, cognitive, and physical development (e.g., Bruya, 1985; Cook & Kirby, 1989; Frost, Shin, & Jacobs, 1998; Henniger, 1985; Meyer, 1997; Naylor, 1985; Wyver & Spence, 1995). Despite the anecdotal evidence, however, little research has been directed at the influence of child care centre outdoor play areas on the manifestation of UCBs and, consequently, specific physical factors in the environment have not been identified.

An alternative approach to the study of play area behaviours has examined the impact of nurturing styles on young children's orientation to playgrounds and peers, finding that "...age-related developmental characteristics of behavior may interact with aspects of parenting and peer relations during the preschool years" (Hart, DeWolf, Wozniak, & Burts, 1992, p. 888). In particular, the investigators found that older preschoolers of mothers who used an inductive style of discipline (i.e., setting limits, explaining reasons, and eliciting ideas from children rather than using coercion), were more prosocial with peers, engaging in rough-and-tumble but not anti-social play. The study provided no description of the playground and made no reference to other environmental influences, but implied

the importance of the child's psychological habitat in child:child relationships in the setting of a playground.

2.3.3 Social factors in the environment of a child care centre

Ramsey (1995) contended that "one critical aspect of the social environment is the range and intensity of children's peer contacts" (p. 764). Her claim followed the Campos-de-Carvalho and Rossette-Ferreira, (1993) observation that "...peer interactions are as important as adult-child interactions in the children's learning and development" (p. 20). Some years earlier, however, Hartup (1983) had warned that

Isolating the variance in children's socialization that derives from contact with other children is extremely difficult. Peer interaction affects behavioral development in conjunction with experience occurring within other social networks. Neither contrived experiments nor experiments of nature provide very good opportunities for studying the developmental contributions that derive directly from peer interaction. The investigator must always tease this information from data confounded by organismic changes, stimulation from the nonsocial environment, and stimulation from adults. (p. 104)

2.3.3.1 Play objects as a source of conflict

In a later example of the difficulties separating social factors from others, Hartup and Laursen (1993) contended that children's conflicts usually involved either object control or social control, and are particularly evident when children are in situations promoting social interdependence. The impact of particular activities and activity areas on occurrences of conflictual behaviour has already been mentioned, as have matters relating to resource scarcity and object status. The focus of other research on objects frequently involves investigations of toy use, particularly their role in promoting social or isolate play (Rettig et al., 1993) or aggression (Feshbach, 1955; Parke & Slaby, 1983; Sanson & Di Muccio, 1993; Sherburne et al., 1988). These studies have featured the object as determining or contributing to much of the behaviour exhibited by children.

In some contrast, Sims (1997) suggested that objects are frequently used instrumentally by children as a means of initiating group entry. In one study, noting that

Children commonly attempted to join the play of another by focusing on an object involved in the play....On the surface such conflicts appear to be over the possession of an object....However, deeper analysis identifies these conflicts as peer entry conflicts, with initiating children using the object as a way into the play. (p. 36)

2.3.3.2 Intragroup conflicts and social control

The conflicts that arise from attempts at group entry may be part of necessary social interaction, with Maynard (1985) suggesting that "the manifest function of social conflict

among children is to build their small group society and its structure....Disputes and arguments among peers represent a way that children acquire a sense of social structure" (p. 207). La Freniere and Charlesworth (1987) found that although peer status may take some time to appear among preschool aged children, "...once established, the individual child's dominance rank and sociometric status are stable over the course of a school year" (p. 346).

Earlier investigations had also recognised social status among young children and suggested that staff intervention in children's conflicts needs to be undertaken with care, warning that disturbing dominance relationships among children may lead to greater problems (Smith & Connolly, 1980; Watkins & Durant, 1992). La Freniere and Charlesworth (1987) found that gaining entry to the group did not guarantee a decrease in the manifestations of problem behaviours. They found "...complex patterns of social organisation with respect to dominance and friendship...that conspire against equal exchanges..." (pp. 345-6), and that more than two-thirds of interactions "...were verbal or physical attempts to manipulate or control the behaviour of the social partner" (p. 356). More specifically, Dunn and McGuire (1992) found a greater amount of social conflict among friends than peers who were not close friends.

Other researchers have also investigated implications of dominance relationships (e.g., Pettit et al., 1990; Strayer & Strayer, 1976; Vaughn & Waters, 1981), with estimates that dominance or status conflicts account for 20% of all preschool interactions (Abramovitch & Strayer, 1978). In particular, it has been contended that "...a certain amount of bullying in boys is normal maintenance of dominance and a pecking order" (Zoccolillo, 1993, p. 75). Contrary to group entry behaviours, one study reported no clear sex differences in the exercise of dominance, with results indicating that some girls were dominant over some boys and vice versa (Sluckin & Smith, 1977). Examining occurrences of particular types of behaviour, Fabes et al. (1996) reported that a greater amount of anger provocation related only to girls, citing the higher percentage of time well-liked boys spent together as confounding previous findings.

Hatch (1987) identified a set of strategies used by kindergarten children to negotiate social standing including self-promotion and attempts to dominate as well as "put-down" others. While bullying is often associated with dominance, other variations of dominant behaviour are less frequently specified, although Tisak et al. (1996) noted that some children initiated more confrontational behaviours than others.

Examining the format of behaviours, Camras (1977) noted the importance of facial expressions in children's conflicts, and it has been suggested that children learn to recognise dominance gestures early in life and that this ability "...may be in place by age 4" (Keating & Bai, 1986, p. 1274). The capacity of children at age three years to recognise a range of common facial expressions, and to assess their meaning, has been observed elsewhere (Hestenes et al., 1993).

Other investigations have focussed on the consequences of children's failure to recognise expressions and meaning in interactions. In particular, a number of studies have examined impairment in the social cognitive processes of young children, particularly in relation to the misinterpretation of positive or ambiguous social cues (Courtney & Cohen, 1996; Crick, 1995; Crick & Dodge, 1996; Dodge, 1980). McKeough et al. (1994) observed that children aged four years are often unable to sustain an understanding of intentions in many situations, which they attributed to "...systemic limitations in working memory" (p. 287). Hartup (1974) had similarly contended that, before the age of six years "...children have limited capacities for role taking and the generation of inferences and attributions about other people" (p. 338). While Bandura (1973) observed that the task of assessing a person's intentions is no simple matter, noting that, among other factors, intent is inferred from the social context of the act.

Children's difficulties in judging intent were similarly observed in relation to assessing mitigating circumstances for apparently harmful or hostile acts (Martin & Ross, 1996). Several studies have found that children also have some problems applying adult perceptions of morality to their relationships with other children (Berndt, 1977; Levine, 1995; Nucci & Turiel, 1978). In some cases, the cause of the problems have been attributed to social and cultural differences in attitudes towards some behaviours rather than maturation of children alone (Alloway, 1997; Bandura & Walters, 1959; Erickson & Mohatt, 1982; Lefkowitz et al., 1977; Loane, 1996). Separate from normal maturation considerations, McKeough et al. (1994) found "...that behaviorally disturbed boys demonstrated a significant lag in their understanding of human intentionality, compared to their normal peers" (p. 299).

In addition to problems children may have in interpreting the intent of others, it has been proposed that boys tend to be less accommodating to children outside the group while girls will "...notice them and befriend them" (Biddulph, 1997, p. 9). Providing gender-related prerogatives was also observed in another study as reasons for refusing a child entry to a group. However, conflicts associated with objects, territory, and crowding were

also noted and together comprised 50% of all resistance to group entry attempts (Hartup & Laursen, 1993).

2.3.3.3 Joining a friendship circle

While the importance of peer relations has been widely acknowledged, it has been proposed that the child's smaller circle of friends may be more influential than the general group (Pierce & Cohen, 1995), or may be more important than being popular in the larger peer group (Dockett & Degotardi, 1997). The suggestion generates specific questions about the importance of peer group relations, and what it is that may attract children to one another.

Successfully joining a peer play group has been seen as a prerequisite for the child's further social interaction (Putallaz & Wasserman, 1990). Much earlier, Isaacs (1933) suggested that there was also an element of safety involved, in that if the child saw others doing things without punishment or danger then he or she felt safe to copy the behaviours, reinforcing the link between social interaction and social learning among peers. On the other hand, the actions of the group, or the attractive status of its members, may also be a motive for a child seeking membership (Furman & Masters, 1980).

2.3.3.4 Popularity

Studies of other aspects of children's relationships have found a consistent link between a child's popularity within the peer group and positive peer perceptions of his or her physical attractiveness and social behaviour (e.g., Adams, 1977; Dion, 1973; Dion & Berscheid, 1974; Langlois & Stephan, 1977; Styczynski & Langlois, 1977). Relevant to child care centre groups, "...physical attractiveness appears to be a significant determinant of social attraction as early as age 3" (Langlois & Stephan, 1981, p. 153). In relation to group membership, the more physically attractive children were found to be chosen as friends more frequently by other children (Drewry & Clark, 1985).

In the longer term, however, findings from one study suggested that physical attractiveness might be less a determinant of popularity among boys than it is for girls (Vaughn & Langlois, 1983). Other investigators have pointed to different factors in creating friendships, for example, similar interests and values (Bandura, 1992), and "...common activities, general play, propinquity, evaluation, and physical possessions..." (Hayes, 1978, p. 908). Although including attractiveness, Drewry and Clark (1985) also found personal and social self-concepts important, along with verbal intelligence. More recently, Dockett and Degotardi (1997) suggested a relationship between the popularity of

children among peers and a “representational theory of mind” (p. 21).

2.3.3.5 Unattractiveness

Supporting contentions about the influence of physical appearance, preschool-age children have frequently been reported over a period of two decades as attributing antisocial and aggressive behaviours to unattractive children (Berscheid & Walster, 1972; Dion, 1972, 1973; Fabes et al., 1996; Hartup, 1983), although Styczynski and Langlois (1977) found the attribution applied only to unacquainted children. Meanwhile, Hayes (1978) noted that “...rule violation, aggression, and aberrant behavior seem to provide important bases for dislike among young children...” (p. 908).

Looking at the evidence from another perspective, Adams and Crane (1980) expressed concern that socialisation based on physical attractiveness or unattractiveness could lead to stereotyping and to reinforcing behaviours. The point was supported later when it was observed that among boys the actions of a child who is not well liked are more liable to be interpreted negatively, and responded to with more physical retaliation, than are the action of a liked peer (Fabes et al., 1996). In addition, Turner (1991) found that having a reputation for aggression was seen as likely to provoke more exchanges that are aggressive.

On the other hand, it has also been observed that “normal peers do not like to play with these children, thereby depriving them of potentially normalizing social experiences” (Reid, 1993, p. 251). The claim was in contrast to Hayes, Gershman, and Bolin (1980) who had observed that few children of preschool age appeared to show reciprocity of disliking or strong mutual animosities. In addition, Rholes and Ruble (1984) found that young children do not regard the dispositions of others to be stable as a personal characteristic across time or settings. However, tolerant peer behaviour towards aggressive children, particularly those with a limited capacity for social cognition, was seen as likely to serve as a form of positive reinforcement for aggressive children and “...might further contribute to their lack of status awareness by simply failing to provide them with the feedback they need in order to realize that their behavior is unacceptable” (Coie & Jacobs, 1993, p. 266).

Of some significance to the general claims made about aggressive children are the findings of studies that have taken the identity of victims into account. In particular it has been found that aggression is usually directed to only a few specific children and may not impact on the classroom peer group as a whole (Dunn & McGuire, 1992; Pierce & Cohen,

1995). In addition, it has been suggested that opportunities for aggressive and other problematic behaviours may be limited by structural factors within the setting, the most salient of which are discussed below.

2.3.4 Structural factors within a child care centre environment

Under ten sub-headings, studies that primarily implicate the structural environment in the manifestation of behaviour problems are reviewed. Although comprising elements of the environment that are distinct from both direct social interaction of children and the influences of physical factors, structural factors are intricately linked to both and cannot be fully considered without reference to them. At the same time, structural factors may be seen as a product of cultural influence and providing support for cultural factors.

2.3.4.1 Program organisation

Three decades ago, an American investigation into the effects on child behaviour of different types of early childhood programs found that “the single environmental characteristic of importance...was the structure of the nursery school day” (Berk, 1971, p. 865). In particular, the study showed that fewer child behaviour problems occurred in the more teacher-directed programs because, it was suggested, children were more compliant and there were fewer opportunities for the occurrence of child:child conflict. Smith and Connolly (1980) reported similar findings for sessions that were more teacher-directed, establishing that children spent a greater amount of time interacting with staff than with peers and more time on fewer activities, but noting that “...for some, joining in was a rather passive business” (p. 311). Although they found less rough-and-tumble play, in contrast to Berk (1971), the more teacher-directed sessions did occasion “...some increase in aggressive interactions with other children” (Smith & Connolly, 1980, p. 311).

In addressing staff on issues about child autonomy in Australian centres, Farmer (1988) presented an alternative view to the findings referred to above, suggesting that child behaviour problems were often created by “...formal, structured environments; adult-imposed routines; and large group experiences...” (p. 11). Overseas, other researchers have also identified problems associated with rigidity in planning, suggesting that “the child who feels locked into a set of rigidly determined activities and responses to them may seek anything novel so he can experience some stimulation - even to the point of engaging in the forbidden and the dangerous” (Watkins & Durant, 1992, p. 56).

The general idea that a staff-directed programs could engender problem behaviours in children is supported by the results of an investigation made some years earlier, although

the children in that study had been previously identified as exhibiting high levels of activity. Using what they called structured play sessions and free play sessions, Schleifer et al. (1975) compared the behaviours of hyperactive and non-hyperactive children in the two types of settings. Findings indicated no group differences in the free play settings, but a greater amount of problematic behaviours from the hyperactive group in the structured setting.

On the other hand, Del'Homme et al. (1994), in a study of 42 preschool children in free play and what they called "instructional" settings, found children identified as being at risk of externalising behaviour problems exhibited fewer on-task and attending behaviours during the instructional sessions, and more aggressive behaviour in the free play settings. The findings demonstrated that the level of staff direction in a session might not be the sole influence on behaviour as it appears confounded with child characteristics, at least. However, the investigators noted that not recording teacher or peer responses to observed children, or other environmental factors such as materials used, might have limited their findings.

A number of studies have found that behaviour problems often occur in temporally ordered shared situations involving programs and schedules (e.g., Atwater & Morris, 1988; Clarke & Gray, 1997; Courtney & Kowalski, 1995; Davidson, 1980), and materials and equipment (e.g., Buffin, 1996; Koralek et al., 1993; Prescott, 1994). On the other hand, it has also been suggested that excessive flexibility could be a threat to internal functioning (Wicker, 1987).

2.3.4.2 Routine activities

Principle 27 of the Australian QI&AS, states that "routine activities such as eating, toileting, and resting/sleeping provide security for children who do not yet understand the abstract concept of time" (National Childcare Accreditation Council, 1993, p. 69). Accreditation requires that procedures for routine activities within the centre are flexible and developmentally appropriate for the enrolled children. The reasons for this statement appear to be based on ideas similar to those suggested by Watkins and Durant (1992), in that "preschoolers benefit from routine....Too many schedule and activity changes upset and frustrate them" (p. 39).

On the other hand, Australian educators and practitioners have claimed that problem behaviours often occur during specific group rituals, such as mealtimes, afternoon sleep periods, and toilet routines (e.g., Farmer, 1988; Holloway, 1991). American early

childhood professionals had observed the same phenomena and suggested that the problems were due to staff using the structure of time as a form of social control, assuming “...absolute power over the rhythm of living...” (Greenman, 1988, p. 84). It was also suggested that external control over time may lower a child’s self esteem and, in particular, “adults who often make children wait for them...convey a basic lack of respect for children” (Davidson, 1980, p. 13).

The claim is of particular interest in the message it conveys about adult:child relationships but is subject to a number of child development and cultural factors. It has been contended, for example, that the child’s concept of time is different to that of adults (Scott, 1998). For young children, it has been suggested, time is devoid of all abstractions (National Childcare Accreditation Council, 1993), being phenomenologically related to his or her physical activity which is confounded by perceptions of space in relation to velocity (Piaget, 1971). Assigning young children a lineal view of time was challenged by Lippitz (1983), who from another phenomenological position argued that children live in time and with time as much as adults, with their own aspects of past, present, future, boredom, and concepts of age.

Taking a different perspective, the importance of time, and negative meanings attached to being kept waiting, has been clearly identified as a facet of Western cultures and particularly the American lifestyle, with no value accorded waiting-time by many other cultural groups (Greenman, 1988; Hall, 1959; Hall, 1969). Therefore, the contention of Davidson (1980), that keeping children waiting shows a “lack of respect” for them, may reflect the view of an adult influenced by Western culture rather than the interpretation of a situation by children aged 3-5 years.

Although there is probably general agreement that children should be respected, there may be other good reasons for keeping waiting times for children to a minimum. For example, Davidson (1980) indicated that waiting has been identified as engendering boredom and encouraging young children to behave inappropriately. However, she based her claim on the unsubstantiated premise that such behaviours result from children’s “...natural desire to keep busy” (p. 13). Overall, therefore, there appears to be little agreement or evidence to confirm the advantage or disadvantage of the implementing routines as a means of minimising the occurrence of problem behaviours.

2.3.4.3 Transitions

Apart from group rituals, transitions between locations and activities within the centre have

also been identified as periods vulnerable to the manifestation of problematic child behaviours (Clarke & Gray, 1997; Courtney & Kowalski, 1995; Davidson, 1980). The planning of transitions as part of the program has been encouraged (e.g., Bunnett & Davis, 1997; McCrea & Piscitelli, 1991; Stephens, 1996a), with the ECERS allocating top ratings to transitions that "...handled a few children at a time rather than the whole group" (Harms et al., 1998, p. 42), a point reiterated for Australian centres by Gruss et al. (1998).

More importantly, for Australian centres, principle 28 of the QI&AS states, as a requirement, that "transitions between activities are smooth" (National Childcare Accreditation Council, 1993, p. 71). In their manual for assisting staff to achieve and maintain quality care, Clarke and Gray (1997) suggest involving preschool-age children in clean-up and pack-away tasks. They also suggest pre-empting transitions with a five-then two-minute warning, to allow children involved in time-consuming activities to complete tasks, which would ease the way for change. American research has shown for some time that the use of warnings has significant effect for the preschool age group (Routh et al., 1974), with findings demonstrating that "verbal warning caused these children to move more quickly to initiate and finish the pick-up tasks" (Zeece & Crase, 1982, p. 272).

Other practitioners have suggested that the consistent use of a signal, such as flicking lights or a ringing bell, could be used to cue children for transition and help them "...get into the 'mood'..." and provide a "...sense of stability, familiarity, and predictability" (Stephens, 1996a, p. 42). On the other hand, Courtney and Kowalski (1995) contended that such signals were an example of teachers exerting power over children by demanding an immediate response, describing them as "...manipulative strategies based on group conformity" (p. 7). The potential danger for creating problem behaviours in such a situation was noted by Miller (1996) in contending that "children need ways to feel more powerful to counteract feelings of helplessness. Their response to feelings of helplessness, to 'cover-up' for it, may be to become bossy, belligerent, aggressive, and to challenge rules and limits" (p. 50). However, apart from the Zeece and Crase (1982) experiment, which was contrived in a free-play session and not implemented under entirely naturalistic conditions, there has been little research into the efficacy or consequences of employing warning systems to alert children of transitions.

Questioning the rigidity of formal transition periods, there have been recent suggestions that the limitations imposed by schedules should be kept to a minimum for children, allowing them "...to work with the understanding that they are not going to be required to

finish a game, project, construction, or painting within a 30 minute time frame” (Shepherd & Eaton, 1997, p. 46). Similarly, there have been calls to “...set aside the old notion of needing to have everything ‘cleaned up’ during clean up time” (Bunnett & Davis, 1997, p. 44). As with the use of cues and warning, the removal of restrictive schedules and allowing children greater freedom in pursuing activities appears to be more an ideological conceptualisation of empowering children and encouraging creativity than a strategy based on the findings of methodological research. In a small way the predicament for staff, created by schedules and transitions in child care centres, reflects that which Kahn (1996) viewed as a problem of the wider relationship between human behaviour and nonlinear dynamics (chaos theory), in that “in this search for creativity, one is seeking a relationship between order and disorder, between structure and freedom...” (p. 326).

2.3.4.4 Schedules

Difficulties caused by contrasting biological demands on children inherent in the relationship between structure and freedom have been illustrated in child care centres by investigations of the consequences of moving children between different types of settings. For example, a study of behavioural ecology in the classroom found that levels of problem behaviour during transitions and story periods varied significantly depending upon the preceding level of physical activity (Krantz & Risley, 1977). In particular, it was found that child behaviour problems were more frequent in a passive session if the children had been involved in a very active period beforehand, such as outdoor play immediately prior to “group-time” or “circle-time”. The reason was suggested by Morehouse and Gross (1977) in their adult exercise guide: Total fitness in 30 minutes a week. They contended that for most people, young or old, “the body doesn’t like to be quiet after exercise. It’s restless. It wants to move” (pp. 150-1). A point reiterated by Watkins and Durant (1992) in their behaviour management guide, when they advised that children “...cannot simply turn off their outdoor behavior because someone rang the bell...” (p. 60).

A more cerebral example of the problem was related by Holloway (1991) who found, in her centre, that the children had difficulties settling down to afternoon sleep after lunch. Rather than a period of exercise, she identified the problem as excitement caused by bedtime stories that were too stimulating. Staff had to moderate their approach and “...stories before bed had to be told in a quieter tone, with little excitement in the voice, otherwise they found the children were not relaxed sufficiently to sleep easily” (Holloway, 1991, p. 173).

2.3.4.5 A group view of children

While acknowledging the individuality of each child, a group view of children in child care is apparent among the staff of some centres (Balcombe & Tansey, 1996). Furthermore, it has been suggested that each group of children, and their families, have broad characteristics that manifest in specific needs unique to their group (Masselos & Healey, 1981; Schneider, 1986; Watts, 1987). Therefore, as one group becomes the numerical majority in a centre as a result of changing enrolment, so the program may have to change to meet the dominant needs (Butterworth, 1987; de Lacey, 1979). In any situation that caters for the group as a whole and for the dominant majority in particular, there may be a greater potential for generating child behaviour problems if the needs of individuals in the minority sub-group are not met as well.

2.3.4.6 Group size

Apart from issues concerned with crowding, the numerical size of groups has also been seen as an influence on child behaviour. For example, in reviewing the literature for her study of 30 classrooms in 24 child care centres in America, Dunn (1993) reported that children enrolled in programs with fewer than 25 in the group tended

...to be more cooperative, compliant, and considerate, engage in more sophisticated social play, perform with more sophistication on measures of social competence, give fewer antisocial responses during social problem-solving tasks and make better academic progress....Large group sizes have been associated with more aimless wandering by children and lower levels of social adjustment. (p. 168)

Her own study, however, found that the effects of group size could be mediated by the qualities of the staff members (Dunn, 1993).

In a British study using an experimental design that involved selected teachers, Connolly and Smith (1978) had earlier compared the behaviours of children in small groups of 10-15 children with those in larger classes of 20-30 children. They concluded that "...the frequency of aggressive behaviour did not change, but it must be remembered that the physical resources were increased commensurately with increase in class size" (p. 93). Smith and Connolly (1980) observed that sub-groups, mainly of the same sex, were often created within larger groups, whereas sub-groups within the smaller groups were larger than sub-groups within the large groups, and often of mixed-sex composition. They also found there was generally less aggressive behaviour in the smaller groups, but the group size findings may have been confounded by sub-group sex compositions.

2.3.4.7 Mixed-age grouping

Most Australian child care centres are designed to meet staffing and floor space regulations which require specific adult:child ratios for children under 2 years, over 2 but under 3 years, and those aged 3-5 years. Consequently, standard designs for child care centres include a nursery (0-2 years), a toddler room (2 years), and a preschool age children's room (3-5 years). As such, most Australian centres constitute what educators in the United States would probably see as a mixed-age group of children aged 3-5 years, which could confound the interpretation of one nation's research findings by the other.

For example, two investigations into mixed-age grouping carried out in America in the late 1970s and early 1980s were with children in the age-range 3-5 years. Goldman (1981) found that the age group composition of children in the preschool group did influence the pattern of social interaction. Explaining similar findings in an earlier study, Lougee, Grueneich, and Hartup (1977) suggested that "...preschool-aged children have not yet acquired stable mechanisms for modulating the rate of social activity in accordance with the affective and cognitive demands of mixed-age social situations" (p. 1360). In a later investigation of sex-role socialisation in mixed-aged classroom involving children aged three and four years, inconsistencies were found when both age and sex were considered simultaneously as independent variables (Roopnarine, 1984).

The relatively few Australian centres known to the author that specify the practice of mixed-age grouping normally have groups of children aged 2-5 years, if not 0-5 years. This age-range, again, may present some difficulties for the application of findings on mixed-aged groups defined as being composed of children aged 3-5 years. However, no studies were found that have investigate the long-term effects of mixed-age grouping, compared to age-grading, and no consensus about particular compositions of ages appears to have been achieved.

Nevertheless, the wider mixed-age, or family grouping, has been promoted in Australia as an alternative to the separation between babies, toddlers and preschoolers (Jones, 1990). That promotion has varied from advocacy for a permanent full-time arrangement to encouragement for mixed-age grouping in particular settings (Clarke & Gray, 1997). It has been suggested that the wider range of ages in a single group provide a more stimulating work setting for staff (Jones, 1990; Sebastian, 1986). In the absence of any research finding for the efficacy of the wider age-range mix, the advantages have been conjectured in America as providing "...power...for scaffolding children's play and learning" (Fromberg, 1997, p. 55). However, no further consideration appears to have been given to the

possible behavioural issues raised earlier by Goldman (1981) and Lougee et al. (1977).

2.3.4.8 Program duration, timing and time-of-day

Although the time factor has already been considered in a number of different ways, the effect on the behaviour of young children, of length of time in a single behaviour setting during any one day, has received very little attention. Amongst researchers who have addressed the issue, Christie et al. (1988) compared the play behaviours of 34 children aged 4-5 years in 15- and 30-minute play sessions. They found that the longer period engendered higher percentages of group and constructive play, but made no report on the occurrence of problem behaviours. In contrast, Boisen (1992) found more child conflicts occurred in a single play periods of 30 minutes duration than in the total duration of two separate periods of 15 minutes each.

The results of both studies may be reporting similar phenomena, as increased complexity of play may necessitate greater amounts of negotiation, with subsequent increases in conflict. In terms of child care centre programs, which may have both indoor and outdoor free-play sessions lasting 60 minutes or more on several occasions each day, the comparison with 15-minute sessions have limited relevance.

Smith and Connolly (1980) found that the time-of-day had a generally small "...but not insignificant" (p. 48) effect on behaviour, a point that they considered important. Other investigators have also noted variations in stimulus conditions with the time-of-day and day of the week (e.g., Touchette, MacDonald, & Langer, 1985). Holloway (1991), quantified the importance of timing by indicating that life in her centre "...starts slowly, becomes a VORTEX in the middle of the day, then gradually slows down..." (p. 171). Similarly, Stephens (1996b) associated 3.00pm with herself being tired and the children being "...rambunctious" (p. 44).

As time is little more than a measuring device, however, it cannot directly effect behaviour. Even though it may be conceptualised differently by adults and children, time impacts on behaviour only in concert with a specific situation that may be temporally sited. Holloway's vortex, for example, resulted from the nature of the planned program and was smoothed by alteration to that program. For Stephens, it is more likely that the program of activities during the course of the day had exhausted her rather than the abstraction of 3.00pm.

In the absence of findings relating child problem behaviours to the duration, time and timing of activities in a child care centre that are not confounded by schedules and

programmed activities, timing of events and their duration in the current study are regarded as artefacts of the program and schedule.

2.3.4.9 Seasons

Although included as part of the structure in the current review, seasons and the following section of weather, should probably be regarded as part of the macro-system of the environment of a child care centre. However, the seasons and associated weather impact on structure and the program of activities provided by staff for children, particularly in the balance of indoor and outdoor play. Mainly in the medical rather than educational literature, the seasons have also been acknowledged as exerting influence on behaviours, particularly the autumn and winter months, as a consequence of seasonal affective disorders (SAD). Although a considerable number of studies have investigated SAD among adults, frequency of occurrence among children has received less attention (Giedd, Sweno, Lowe, & Rosenthal, 1998). Incidences of SAD in school-age children have been investigated over the past few years by Milman and Bennett (1996), and Glod, Teicher, Polcari, and McGreenery, (1997). Parental reports on 1680 primary school-age children indicated seasonal changes in children's sleeping and eating patterns, as well as their levels of irritability, energy, withdrawal, and sadness (Carskadon & Acebo, 1993). In addition, the findings of case studies have been reported on children aged 9 years (Cooke & Thompson, 1998; Meesters, 1998), 7 years (Swedo et al., 1997), and 6 years (Giedd et al., 1998). However, no studies were found that have investigated occurrences of SAD in children under the age of 5 years. Therefore, no evidence is available to suggest that the seasons in themselves impact on the behaviour of very young children, although the winter months may exert another type of influence. The point was clarified by O'Keefe (1995) who pointed out that winter is "...usually a period when there is a lot of sickness for children, staff and indeed children of staff. This can be a very frustrating and tiring time for everyone involved" (p. 19).

2.3.4.10 Weather and problem behaviour

Similar to seasonal factors already mentioned, weather is often stated as a likely influence on behaviour (e.g., Barker, 1968; Brown et al., 1987, Clarke & Grey, 1997; Sylva et al., 1980; Roper & Hinde, 1978), although no studies were found that have examined specific links between climatic conditions and young children's behaviour. Most investigations concerned with the influence of weather have been in the form of forensic studies of violent crimes committed by adults (e.g., Cohn, 1990; DeFronzo, 1984; Michael & Zumpe, 1983; Perry & Simpson, 1987; Rotton & Frey, 1985). While periods of high and low temperatures and levels of precipitation were examined, and a variety of correlations with

assaults, murder and rape have been established, the findings are contradictory.

Part of the difficulty associated with linking behaviour to weather appears to be in establishing precisely what aspect of weather affects people. For example, while heat has been associated with many problems, the impact of prolonged hot spells compared to sudden changes from cool to very hot periods is less clear. Similarly, the corresponding effects of humidity, wind, and sunlight, appear not to have been considered in detail. Taken together, therefore, there appears to be little evidence for associating the manifestation of child behaviour problems solely with weather conditions. As a consequence of the difficulties associated with measuring the impact of weather on child behaviour, no further consideration is given to weather conditions in the current study.

2.3.5 Cultural factors within the environment of a child care centre

The cultural of a particular child care centre is represented by the learned and shared consensual behaviours of the group, its values and rules, and evolves from a combining of the experiences, beliefs and training of individual staff members. At the same time, in addition to the product, the dynamic processes of trying to achieve and maintain consensus gives rise to work and child rearing climates.

Although the climate has been equated with culture (Shepherd & Eaton, 1997; Werner, 1996), a definition of climate in a child care centre usually refers to the attitudes and interpersonal style of staff, particularly their behaviour towards enrolled children (Hedin et al., 1997). More specifically:

Climate in a day care centre is supposed to reflect the psychosocial processes in the center concerning the behavioral regularities of the adults in their work with the children, concerning their intentions about the work with the children and concerning their attitudes and norms about their interpersonal relations and about their work. (Ekholm et al., 1995, p. 97)

Similar to the work climate, organisational climate incorporates many staff:staff issues as well as those associated with the workplace. In her book, A Great Place to Work, Jorde-Bloom (1988) listed some of the dimensions of organisational climate that she saw as crucial measures in relation to staff and administration. The list included collegiality, supervisor support, the reward system, goal consensus, and physical setting. The organisational climate has been nominated as "...affecting critical process components of quality care in child care centres..." (Hayden, 1996, p. 6), which in turn affect child behaviours.

Like many other concepts inherent in matters of behaviour and environment, additional

terms with non-shared meaning have been introduced and threaten to confound discussion. For example, in their attempt to capture the pervading feeling of calm or strain resulting from person:person interactions in early childhood settings, Harms and Clifford (1980) used the terms “tone” and “atmosphere”. On the other hand, Sebastian (1988) saw atmosphere as being deliberately created for children by manipulation of the environment. Watkins and Durant (1992) shared the latter definition and identified the constituents of atmosphere as aspects of the physical environment, including lighting, temperature, ventilation, and colour of the room. At the same time, they agreed with Harms and Clifford that tone is “...set by adults as they interact with children, parents, and with other staff members...” (Watkins & Durant, 1992, p. 74). Campbell, Breaux, Ewing, Szumowski, and Pierce (1986) used tone to describe the emotional component of interactions, nominated by others as “affective” (Magnusson, 1981a; Scott-Little & Holloway, 1992), “negative affective” (Eisenberg et al., 1994), or “friendly” (Turner, 1991).

To review the literature on the most salient features of this complex area, studies have been organised under five interrelated headings that reflect various manifestations of culture and climate. These are: individual teaching and group management strategies; staff:staff interactional processes; staff:child interactional processes; classroom rules for children; and developmentally appropriate practices.

2.3.5.1 Individual teaching and group management strategies

In general, there is widespread support for the concept that the teaching and group management strategies of an individual staff member, including anticipation of and reaction to problematic child behaviours, is the result of theories he or she develops from personal experience, training, and practical knowledge (e.g., Charlesworth et al., 1993; Condry & Ross, 1985; Fagot, 1977; Johnson, 1988; Malaguzzi, 1994; McGuire & Richman, 1986; Tisak et al., 1996). For example, the acceptance of some psychoanalytic beliefs, such as innate aggressiveness (Johnson, 1972; Lefkowitz et al., 1977), has been seen to have the potential to create different expectations and tolerance for problem behaviours compared to someone who takes a more interactionist view (Carey, 1982). The point was illustrated in a report on day nurseries in Britain which found that, while some staff saw children as basically sensible and reasonably responsible, others “...saw them as being basically unruly and incapable of sustained activity without adult direction...” (Garland & White, 1980, p. 35).

The latter tenet has a long history going back many hundreds of years before Freud (Ariès, 1962), and variations of its continuity into the twentieth century can be seen from

the view of one leading child psychologist in the 1930s, who noted, in her book on childhood anger, that:

The process of transforming the child from an undisciplined little savage, whose physical needs are attended to only at the urge of his own desires, into a civilized human being, in whom such activities are brought under the control of a standardized routine established by the social group, is not an easy one. (Goodenough, 1931, p. 144)

It has also been observed that different reactions may result from variations in the degree of tolerance for child behaviour problems exhibited by teachers (Conway, 1990; Crowther et al., 1981; Luk et al., 1991). Other investigators have been more specific, suggesting that staff members' responses to problem behaviours are related to their beliefs about locus of control for particular children (Miller, 1995; Ollendick & LaBerteaux, 1978; Scott-Little & Holloway, 1992), the child's intention (Slee & Cross, 1990; Spivack et al., 1986; Tisak et al., 1996), and the implications (Bugental, Blue, & Lewis, 1990) or the amount of damage to property or pain caused to other children (Bandura, 1973; Martin & Ross, 1996).

Alternatively, in the study of nursery schools in Scotland by Neill and Denham (1982), referred to earlier, it was found that a significant majority of staff were "...prepared to let children get away with some amount of aggression", mainly because "...staff actions were determined more by knowledge of the children involved and the reasons for the aggressive act, less by the kind and extent of the aggression involved..." (p. 109). Tolerance levels have also been associated with teachers' experiences of their own childhood, with the suggestion that "females who had engaged in aggressive play or played with aggressive toys as children were less likely than other females to judge children's play episodes as 'aggression' " (Goldstein, 1992, p. 68).

Consequences of a different type may also play a role as the tolerance levels of teachers has been observed to depend on how much a child's problem behaviour influences their own relationship with the child (Anderson-Goetz & Worobey, 1984; Taylor & Romanczyk, 1994). For example, Stebbins (1971) contended that the actions of some teachers reflected their desire to avoid provoking a child into further confrontation. Evaluation of problematic child behaviours may also be influenced by the adult's need to maintain power (Dreikurs et al., 1998; Gordon et al., 1996) or be biased by the way teachers see their role in maintaining order (Coie, Dodge, & Kupersmidt, 1990; Stebbins, 1973).

Alternatively, it has been suggested that busy staff may not make proper assessments of

specific child behaviours (Rodd & Holland, 1990; Schachar, Sandberg, & Rutter, 1986). Rather, they may rely “...on only a few highly visible motoric and contextual social behaviors rather than a large number of variables in making their judgements” (Vlietstra, 1981, p. 604). In such cases the high activity level and/or poor reputation of a child, factors that were both referred to earlier, may play a significant role in staff decision-making. Stebbins (1971) had also found that teachers in classrooms sometimes make mistakes in defining misconduct, which he saw as unavoidable in the immediacy of events.

More recently, Arnold, McWilliams, and Arnold (1998) examined teachers’ methods of child-discipline, especially lax practices, in child care centres. They define laxness as “...allowing rules to go unenforced, giving in to children’s coercive behavior, and coaxing or begging children to behave” (p. 277). In their findings they suggest “...that teachers who do not set and enforce clear, firm, consistent, and appropriate classroom rules are likely to face higher levels of misbehavior, which may trigger coercive cycles” (Arnold et al., 1998, p. 284).

Elsewhere, it has been suggested that attempts by a child care centre staff member to be consistent throughout the day, or over any number of days, may be thwarted by his or her uneven workload in a typical early childhood classroom (Barnes, 1996; Holloway, 1991). That workload has been seen as making escalating demands on staff members’ time (Mellor, 1988; O’Keefe, 1997), which has included calls for them to become greater advocates for social change (e.g., Piscitelli, 1994; Sims & Hutchins, 1996). As a result of busy or disrupted schedules and the number of children in the group, Reid (1993) contended that a staff member “...cannot really take effective disciplinary action each time the child acts up” (p. 253). It has long been recognised that a failure to implement consistent management techniques may be enough to reinforce occurrences of the problem behaviour, which is then further reinforced by “nattering”, or the making of empty threats (Eibl-Eibesfeldt, 1974).

Staff may plan for consistency of response, and link those responses to a theory of child development or to reflect the centre’s goals for the children’s learning (Johnson, 1988; McLean, 1988), or classroom management (Stebbins, 1971). It has been noted elsewhere, however, that intentions do not always match ensuing action (e.g., Kean, 1997; Rodd & Holland, 1990). In a study of British teachers, for example, Corrie (1994) observed that “...in the course of explaining their pedagogy, teachers contradicted themselves often, but they seemed unaware of this happening. Elements of knowledge

seemed to be stored in isolation rather than as a cohesive framework” (no page number).

It has also been acknowledged that individuals may vary in their interpretation of problem behaviours and may not always be consistent in their own reactions over time or in comparison to other staff members (Rogosa, Floden, & Willett, 1984).

2.3.5.2 Staff:staff interactional processes

One of the issues encountered in child care settings employing staff with different styles, experiences and types of training, is maintaining group consistency in centre-wide teaching and behaviour management strategies (Farmer, 1988; McLean, 1988; Mules, 1993). In his assessment of similar behaviour settings, Wicker (1987) contended that “through a series of interactions, including small- and large-scale negotiations, staff members will adjust their individual interpretations, actions, and working knowledge (recollections) to be more congruent with those of their co-workers and clients” (p. 629). Wicker suggested that a number of negotiating and adjusting cycles may be needed before a program was operating smoothly and the time required depended on a number of factors including compatibility of staff members. As mentioned earlier, the QI&AS incorporates negotiation and adjustment cycles that must be completed in the process of successful accreditation.

Among points seen by Wicker (1987) as slowing the process of reaching agreement, were large numbers of staff and a diversity of causal explanations, or cause maps, of behaviours and events held by different staff members. As mentioned above, for child care centres the difficulties are likely to be increased by the diversity of staff qualifications and the variety of their experience (Mules, 1993). The situation is further aggravated by the imposition of shift work over the long day, which enforces changes to combinations of staff working together with the same children on the same day. The frequent use of casual staff to relieve or replace permanent staff (Horin, 1998; O'Brien, 1997), exacerbated by the renowned high staff turnover rate (Bennett, 1991; Hayden, 1996; Jackson, 1996), increases the number of permutations of staff over the longer term.

Conflicts among staff, which have long been recognised as almost inevitable in child care centres (e.g., Sebastian, 1986; Sorensen, 1997), may also slow or temporarily stall the process of trying to reach consensus. Such conflicts arise from perceptions of unequal workloads or someone not doing their job properly (McLean, 1988), ideological differences about service goals (Anonymous, 1996; Wellisch, 1996), or dissatisfaction with the director or management of the service (Werner, 1996). Ekholm et al. (1995), in their study of child

care centres in Sweden, also identified staff who held "...a more negative view of challenge in work" (p. 103) as an important factor in staff:staff relations.

Singularly, or in combination, these findings background the difficulties faced by staff trying to maintain consistency of programming and discipline within a child care centre. Relevant to the current study are the findings of Hedin et al. (1997) that in centres with strained and negative climates, children "...showed more noncooperative behavior [and] engaged in more conflict..." (p. 187). It appears, however, that the process of reaching consensus, and maintaining a relaxed and positive climate, is enhanced if the staff comprised a relatively small number of members who had been together in a stable working relationship for some time (Ekholm et al., 1995).

2.3.5.3 Staff:child interactional processes

Apart from responding to child behaviours, the main purpose of most staff:child interactions usually relate to the implementation of centre goals. The success of the endeavour, particularly if utilising specific educational approaches, depends on the teaching style of the staff member (Moore, 1986). According to Goodfellow (1994) style "...invites' children to conduct themselves in particular ways" (no page number). Garland and White (1980) provided a general example of teaching style from observations of classroom interactions in their study of British nursery schools. They reported that settings providing opportunities for children to remain with an activity for the duration of the child's interest, "...appeared to include a 'permitting adult' " (p. 55). A little more detail of the effects of style was provided by Scott-Little and Holloway (1992) who contended that in the American centres they had studied, "caregivers who are less authoritarian, less critical, and more democratic seem to promote positive social development" (p. 596). The implications being that staff who are controlling and critical may promote negative behaviours in children.

Ekholm et al., (1995) identified staff interaction with children as engendering a "rearing climate", which could be delineated as "future-focussed", "present-focussed", or "combined" (p. 103). Future-focussed approaches were characterised by staff who wanted the children "...to try many different roles, relations and activities to prepare them for the future" (p. 103). On the other hand, the present-focused approaches were characterised by staff who "...seemed to organize daily activities to run as smoothly as possible for the adults here and now..." (p. 103). The combined group was seen as being between the future and present approaches. A later study found a present-focussed rearing climate to be a clearer indicator of the likelihood of children's problem behaviours

occurring than the strained work climate and negative staff attitudes to challenge mentioned earlier (Hedin et al., 1997).

2.3.5.4 Classroom rules for children

Added to the intra-staff difficulties of formulating and maintaining consistent approaches are issues associated with establishing and enforcing rules for the children. Heins (1996) provided one of the few reviews on the topic relevant to early childhood, which he based on a "...theoretical and very limited research basis" (p. 7). With a focus on children's linguistic and cognitive capacity to understand rules, he emphasised the difficulties involved with applying them to children under the age of five years. In particular, Heins cited the young child's view of morality and difficulties they may have understanding the intent of others, a point noted earlier (e.g., Courtney & Cohen, 1996; Crick, 1995; Crick & Dodge, 1996; Dodge, 1980). Heins also suggested that ambiguous forms of adult non-verbal communication displayed concurrently with the imposition of rules might lead children to misinterpret messages given by staff.

2.3.5.5 Developmentally appropriate practices

To this point, a number of issues have been raised in relation to the child's levels of maturation, which identifies child development as an important consideration. The matter has received widespread recognition in recent years, with much discussion about programs in children's services focussed on the concept of developmentally appropriate practice (DAP)⁴ (Bredekamp, 1986; Bredekamp, 1987; Bredekamp, 1997; Bredekamp & Copple, 1997). The original DAP approach reflected many Piagetian principles (Clyde, 1995; Fleeer, 1995) and required staff to place more emphasis on child-centred readiness for learning than on teacher-directed techniques (Charlesworth, 1998; Corrie, 1999; Lubeck, 1998b). The underlying belief was that children exposed to a variety of stimulating materials and events would be attracted to explore the environment (Fowell & Lawton, 1992). Staff members were required to provide a program structure that allowed the child to engage in self-directed exploration and relationships with adults, peers, materials and equipment. The aim was to facilitate concrete experiences, allowing children to construct knowledge through his or her own actions (Bredekamp, 1987; Charlesworth et al., 1993). Some investigators have noted that, while children need to be

⁴ Comprising program content and implementation guidelines, the strategy was originally conceived as support for a voluntary children's services accreditation scheme in the United States of America. The scheme had been designed to combat the growing trend towards a more teacher-directed academic curriculum in American preschools and child care centres. In particular, DAP sought the elimination of rote learning and the use of worksheets in early childhood settings.

challenged, requirements for skills above the children's level could cause the child to become frustrated, conflictual, defiant, and aggressive (e.g., Dinwiddie, 1994; McKay, 1988; Stephen, 1993).

However, it had been noted that "there is little, if any, research conducted in classrooms with young children documenting the relationship between potential stressors and academic, psychological, and social behaviour" (Burts, Hart, Charlesworth, & Kirk, 1990, p. 410). Burts et al. (1990) undertook an investigation to determine a relationship, using a questionnaire for teachers, based on DAP statements, and two observational checklists. One checklist was used to assess practice and the other for assessing child stress, which included "daydreaming", "complaints of feeling sick", and "physical hostility/fights", although no rationale was provided for linking these descriptors to academic stress.

Based on two days of observation, the investigators claimed to have found significantly more children's stress behaviours in the developmentally inappropriate classroom than in the developmentally appropriate classroom. They did, however, advise caution interpreting the results because of an "...inability to disentangle teacher effects from classroom structure/curriculum effects..." (p. 417), amongst several other points. Nevertheless, in another study, Charlesworth et al. (1993), citing Burts et al. (1990), reiterated the claim that "...inappropriate practices have been observed to be associated with higher levels of student stress behaviors in kindergarten classrooms" (p. 256).

Such research supporting DAP has been criticised in America on methodological grounds (e.g., Lubeck, 1998a; Lubeck 1998b). Other investigators questioned the rigidity of both the content and the process of implementing DAP with children in different situations and from diverse cultures (e.g., Block & Block, 1981; Jipson, 1991; Kessler, 1991).

In Australian literature there appears to have been little research or discussion on the subject until the mid-1990s. Despite the lack of early debate, Fleer (1995) claimed that the concept of DAP had been widely adopted. This was evidenced by the QI&AS, where Part B stipulates that routine activities and programs in general must be developmentally appropriate. It is noted, however, that not all early childhood educators in Australia accepted DAP specifications (e.g., Clyde, 1995; Stonehouse, 1994). The core of the objections had already been raised in the United States by Fowell and Lawton (1992), and was just as applicable to Australian children's services. Of particular relevance was their

observation that “in a society that promotes individualism and diversity, there is rarely one right way to meet one’s objectives. Yet, the current set of criteria for appropriate early childhood practice implies, at the very least, that one perspective is more ‘right’ than others” (p. 71).

On the basis of its Piagetian foundation, DAP has been criticised in Australia for failing to consider alternative theories of child development, or mediating cultural and socio-cultural factors (e.g., Dockett, 1995; Elliott, 1995; Fler, 1995; Lambert, 1995). In addition, DAP has been targeted in feminist post-structuralist analysis as reinforcing the process of gendering because it “...inadequately conceptualised the social and cultural constituents of learning” (MacNaughton, 1995, p. 36). Of particular relevance to the present work, DAP has also been criticised for being too simplistic, and failing to consider the significance of the child’s setting and context (Stonehouse, 1994).

In 1997 a revised edition of DAP was published (Bredekamp & Copple, 1997) to answer some of the earlier criticisms. In a revised position statement on DAP, the National Association for the Education of Young Children (NAEYC), in America, dispelled the notion of having a single right way or wrong way of implementing practice (Bredekamp, 1997). The NAEYC emphasised the likely variations in individual rates and timing of development and addressed socio-cultural factors, including the role of teachers and relationships with families. Agreeing with earlier criticism that it was not possible to specify appropriate practice for every child in every situation (e.g., Block & Block, 1981; Jipson, 1991; Kessler, 1991), Bredekamp (1997) concluded that “...practices are more likely to be appropriate if teachers employ a variety of approaches targeted to individuals’ strengths and needs rather than expect all the children to do the same thing at the same time” (p. 39). Instead of being restricted to DAP, early childhood educators in Australia have suggested broadening the approach to one that is “...humanly, culturally and individually appropriate...” (Stonehouse, 1994, p. 76).

Before the revision, and in contrast to the Burts et al. (1990) and Charlesworth et al. (1993) studies, Hestenes et al. (1993) investigated what they called, “children’s emotional expression in child care centres varying in quality”. They found that “...the appropriateness of the caregiving, not the appropriateness of activities in the child care centre, significantly predicted the proportion of positive affect” (p. 295). Similarly, Dunn (1993), looking at a range of distal and proximal features of child care centres, found that the qualities identified as predictors of children’s development “...were measures describing the caregiver” (p. 189). Connectedly, the importance of staff in relation to child stress was

reinforced by the director of a Sydney-based centre who, when commenting on the effects of high staff turnover, also focussed on staff:child interactions as the key factor, stating

We believe that the highest contributing factor to quality care is the staff. Happy, motivated and energetic staff will provide a high quality program. They will also provide interactions that extend the child's learning without pressure or humiliation and let the child know they are respected for *who* they are, not what they can do. The opposite occurs with staff who are not happy and motivated. They may still plan appropriate experiences, but their interactions are likely to suffer. (Azar & Tansey, 1995, p. 11)

It had been recognised for some time that inappropriate staff expectations of children's behaviour and abilities could be a source of problems in the classroom. In particular, it was noted that too high or too low levels of expectations could cause the children to become bored with the activity (Davidson, 1980; Youcha & Wood, 1997), leading to further problem behaviours (Saifer, 1993). The task for staff has always been to ensure that problem behaviours are minimised by the use of individualised planning for children.

2.3.6 Summary of environmental influences

Most of the research concerned with building design, layout of rooms and definition of activity areas has focussed on the cognitive and social development of children. Similarly, matters associated with structural and cultural factors, particularly DAP, have mainly been investigated from the perspective of appropriate cognition and socialisation. Unlike studies of the concept of out-of-home care, and innate or learned characteristics of children, which frequently focus on the potential for negative child outcomes, few investigations of environmental influences on children have examined the influence of physical, social, structural, and cultural components of the environment on the production of problem behaviours. When child behaviour problems have been mentioned it has most often been as a secondary issue rather than of primary concern, and as a consequence of casual observation rather than data-based conclusions.

It also appears that the need for a number of physical and structural features is consistently mentioned in texts and reports on the basis of adult aesthetic preferences, intuitive worth, or other adult values that have little support from research findings. These include aspects of lighting, noise, soft furnishings, cosy corners, privacy, waiting time and time/space qualities of transitions. Some of these features have attained such a level of acceptance that they have already been accorded the status of lore in checklists for quality care, for example, the ECERS and the QI&AS.

A number of other social, structural, and cultural factors concerned with perceived

aspects of quality care have been well-researched overseas but not in Australia, and findings are not always relevant to Australian conditions. For example, unlike many early childhood services overseas, Australian child care centres have been subject to extensive regulations governing physical facilities and many aspects of structure, including group sizes and adult:child ratios, over many years. Although a few exceptions existed in the mid 1990s (Horin, 1996), these regulations and the advent of the QI&AS helped establish and maintained the provision of comparatively high standard of centre-based child care. At the same time, there have been both regulatory and funding requirements to employ staff trained in early childhood education, care, and nursing. Although many of these regulations and requirements vary from state to state, and, in New South Wales in particular, have been subject to several reviews over the past decade (Ball, 1997; Bryson, 1996; Huntsman, 1989; Wangmann, 1988), they still provide Australian centres with a mix and level of trained staff that is unique across much of the world. The relatively high level of skill and understanding demonstrated by the majority of staff in centres, and the appropriateness of programs for children, is attested to by the high number of centres that have been accredited (Commonwealth Department of Health and Family Services, 1998). Therefore, while overseas investigations highlight a number of critical structural and cultural issues, related to staff training, group size, programs and other organisational issues, the findings may be of limited utility when transposed to Australian centres.

2.4 Conclusions about overview of investigations into UCBs

To review literature relevant to the current investigation, consideration was given to two broad areas of research related to the problem behaviours of young children. The first area included investigations into the behavioural consequences of salient within-child characteristics, representing components of the child's psychological habitat. Despite evidence of considerable disagreement in many areas, about methodologies and the validity of findings, the literature relating to within-child characteristics generally suggested that a range of factors associated with the child's nature and nurture may endow him or her with a propensity to manifest certain behaviours quantitatively and qualitatively different to other children. The range of natural and demographically imposed characteristics, suggested as possible influences on children's behaviour, was found to be extensive. Similarly, the apparent strength of effect of various imposed conditions or states on individual children was also acknowledged to be in a wide range from no effect to deterministic. Although there appears to be broad agreement amongst investigators that the child's behaviour at any point will also be influenced differentially by the setting and situation, few studies specify the mechanics or directionality of that influence at the

child:environment interface.

The second area of literature reviewed included studies of environmental factors, catalogued under physical, social, structural, and cultural components, which are believed to influence the behaviour of children. A large section of the literature was concerned with the impact of out-of-home child care on children's behaviour and development.

Acknowledged as a highly contentious, and sometimes emotive area, it was found that some researchers, and a section of the general community, view the concept of out-of-home child care as being a negative influence on child development and complicit in the subsequent emergence of problem behaviours. In contrast, a variety of studies have disputed the overall negative findings, instead suggesting positive influences for some children. Others investigations have found out-of-home care to have no apparent impact on the behaviour and development of many children. A feature of most contributions to the both sides of the argument has been the treatment of out-of-home care as a concept rather than a physical building with social, structural and cultural components. In general, the debate about the effects of child care on child development has been characterised by almost total omission of consideration of differences in the environments of individual centres or the psychological habitats of individual children.

In contrast, studies that have examined features of settings and situations relevant to child care centres have suggested a wide range of environmental factors that have a capacity to influence the behaviour of young children. These factors include attendance patterns, the structure and developmental appropriateness of programs, open spaces, well-defined activity areas, the characteristics of some activities and objects, staff teaching styles and group-management techniques, and the nature of peer group associations. In most cases, however, the environmental trigger that transforms child propensity and situational capacity into the manifestation of problem behaviour had not been examined. Frequently, it appeared, there has been an assumption that the fusion of within-child and behaviour setting characteristics leads to a reaction in the form of problem behaviour. Consequently, these factors, and matters related to them, were incorporated into the data collection and analysis strategy for special attention in the current study.

CHAPTER THREE

Methodology

3.1 The site of the investigation

The child care centre selected for the current study is situated in a residential suburb not far from a school and small shopping precinct. The area, located approximately twenty kilometres from a large regional city, was developed as a housing estate and an adjacent light industrial park over the preceding fifteen years. The local population is increasing, although many workers commute to the city or nearby towns.

Set on a corner block of land, the single story elongated rectangular building has a fully fenced outside play area at the rear. Figure 3.1 shows the relative position and size of the building to outdoor play areas and surrounds. Balancing the light but steady activity on roads along the front and to the left of the site are little used vacant blocks of land to the right and rear which, at the time the current investigation was undertaken, were both thickly covered with well established trees and undergrowth.

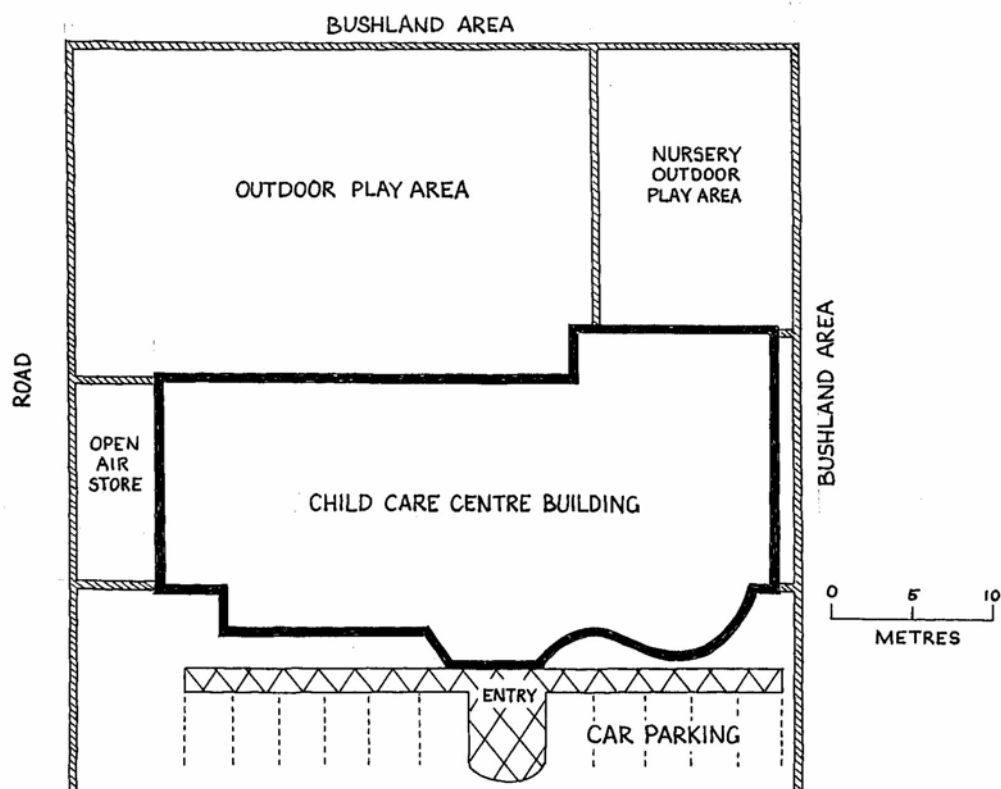


Figure 3.1 Site plan of the child care centre

The centre operates on a “long-day-care” basis, from 7.30am until 5.30pm each weekday, closing down briefly over the Christmas and New Year period. It had originally been designed and constructed for the enrolment of 40 children per day. Later extensions had increased the number of licensed places for children to more than 50 per day organised into three groups: a nursery group for babies under 2 years, 2 year old “toddlers”, and children aged 3-5 years nominated as “preschoolers”. A downturn in demand for child care over 18 months preceding the current investigation had seen enrolments drop to less than 75% of the centre’s capacity.

Although the total number of staff had been reduced with falling enrolments, remaining staff membership and both the philosophy and structure of the care and education programs had remained stable over a number of years. This was an important consideration in determining the selection of the centre for observation of the children.

Written programs of activities together with goals and assessments are produced on a weekly basis. Records of children’s development are maintained and special programs are implemented within the centre when a need is identified. At the time of the current investigation, for example, enrolments included one child diagnosed with autistic spectrum disorder. His regular attendance with the group was facilitated with the help of a special support worker in addition to regular staff.

The normal daily structure for the preschoolers’ group comprises 20 of the 22 major group-based behaviour settings listed in Table 3.1. Free play, or more specifically the free choice of staff-selected and provisioned activities, is accorded the children in six settings. The remaining 14 settings are devoted to specific purposes such as mealtimes, transitions, bathroom routines and circle-time, during which children are under the constant direction of staff. Two settings (#9 and #21) are provided as indoor free play alternatives to outdoor free play during periods of inclement weather.

Day-to-day administration of the programs for all children is the responsibility of the director, who answers to the centre’s management committee, which comprises parents, community members, and representatives of the city council. Staff and management had successfully undertaken the QI&AS process, which was another important consideration in selection of the centre for study.

Among other advantages, accreditation entitles the centre to receive government funding to help offset some operational costs. The greater part of the centre’s income

derives from fees paid by the attending children's parents.

Table 3.1 The 22 major behaviour settings⁵

#	Settings
1	Scheduled nursery free play (am)
2	Scheduled indoor free play (am)
3	Pre-morning tea group activities
4	Pre-morning tea toileting routine
5	Morning tea
6	Transition to outdoor play (am)
7	Scheduled outdoor free play (am)
8	Transition to indoor activities (am)
9	Unscheduled inside free play (am)
10	Pre-lunch group activities
11	Pre-lunch toileting routine
12	Lunchtime
13	Scheduled indoor free play (pm)
14	Children's afternoon sleep
15	Pre-afternoon tea group activities
16	Pre-afternoon tea toileting routine
17	Afternoon tea
18	Transition to outdoor play (pm)
19	Scheduled outdoor free play (pm)
20	Transition to indoor activities (pm)
21	Unscheduled inside free play (pm)
22	Scheduled nursery free play (pm)

Although operating under some financial constraint, the centre is well maintained and equipped, with sufficient materials to support a wide variety of activities for the children. Most of the equipment and materials used with the children is available from commercial suppliers. The program of activities is recognisable as conforming to culturally and developmentally appropriate practices for the age group of children, as evidenced by successful accreditation. Health, safety, care, and education policies are clearly stated and classroom rules are clearly and regularly verbalised to the children.

In addition to the program of activities provided by staff trained in early childhood education, nursery staff members are trained in nursing and administer first-aid, medications and general health care to all children whenever necessary. The centre

⁵ Courtney and Kowalski, (1995) nominated the arrival and departure of children as transitions between situations within the settings. Although the child's arrival certainly marks the time-space location of the beginning of a situation, there is no easily identifiable end point to the transition, except when the child leaves at the end of the day. Therefore, in the current study, arrivals and departures are not treated as transitions but as part of the normal entry and departure processes involving any setting or situation throughout the day.

also employs a cook to prepare morning tea, lunch, and afternoon tea for the children each day. An optional sleep period in a quiet part of the centre is one of the scheduled settings (#14) for those children who need to rest, a decision made by parents at the time of enrolment. Therefore, ill health, hunger, or a lack of sleep, are not expected to be a major confounding factor in the regular manifestation of UCBs.

While the kitchen is centrally located with servery window access to the preschoolers' playroom, other areas for staff use are all situated away from the children. Figure 3.2 illustrates the floor plan of the centre and provides an approximate guide to the relative size and location of rooms and play areas. The siting of rooms provides staff with maximum opportunity for respite from the children during scheduled morning tea, lunch, and afternoon tea breaks.

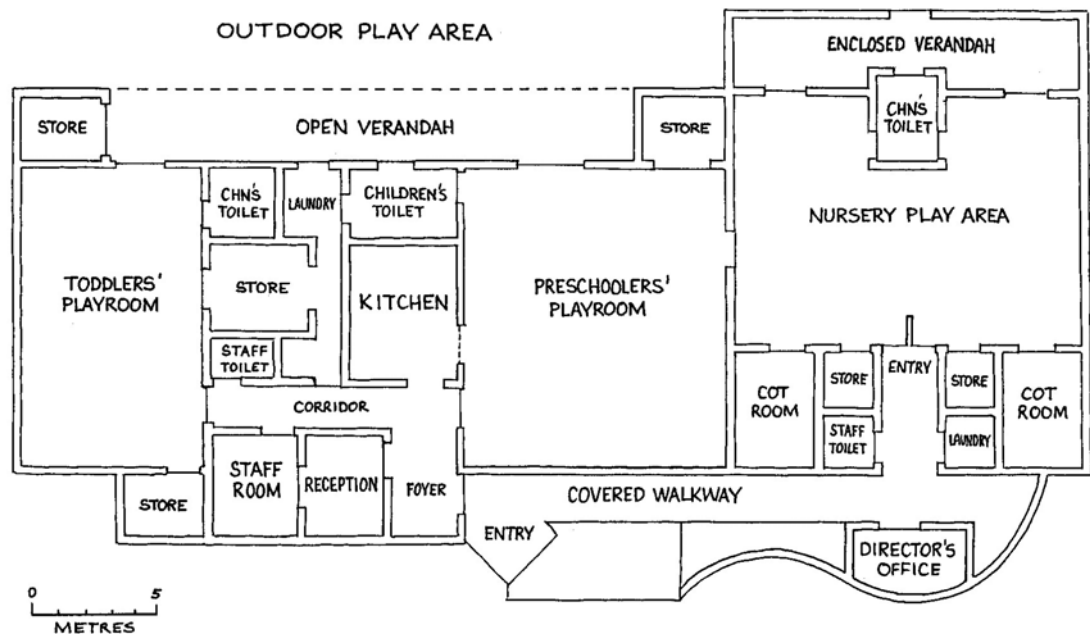


Figure 3.2 Floor plan of the child care centre

Although each classroom is self-contained with children's equipment and toilet facilities, there is easy access to all areas of the centre for adults. Large glass windows and the open plan interior design provide good vision of all internal play spaces, toilets and to the outside area. Unauthorised child access to specific areas or materials is minimised by childproof locks fitted on external doors and gates, as well as kitchen and laundry cupboards. Electric power points are equipped with safety switches and the only electrical equipment accessible to children is the television and video-recorder when it is in use. Demonstrated good work practices ensure that liquid spills are promptly mopped up and associated policies minimise other risks of accidents involving children.

At the start of the day, all children are accommodated in the nursery section. Figure 3.3 shows a floor plan of the nursery that comprises two mirror-image sections that can be divided by a folding partition. In each section a red-flecked grey carpeted area, roughly circular in shape, is fixed to the floor in a manner that eliminated raised edges. The remainder of the floor area is covered in vinyl. Most observations took place in the general play area with the verandah being used on only two occasions. No observations were made in the outdoor nursery area, cot rooms or entry area.

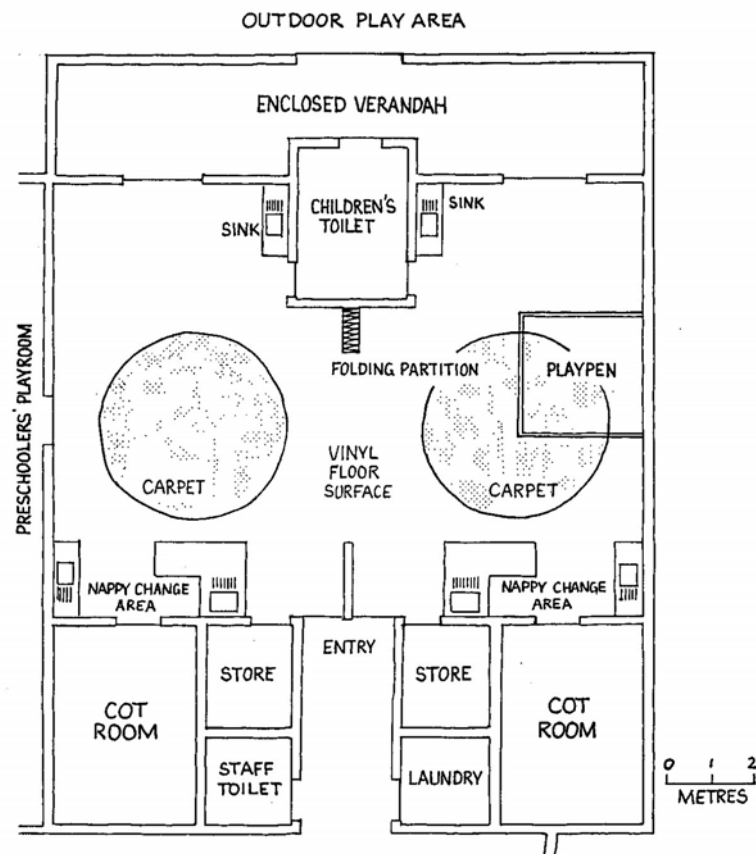


Figure 3.3 Floor plan of the nursery

The preschoolers' playroom, in which most of the indoor observations were made, is a large rectangular room with exposed roof supports, providing a high ceiling. Spaces along the beams, between fluorescent lights and electric bar heaters were used for hanging mobiles and samples of the children's collage artwork. The beams as facilities for display augment the relatively small amount of yellow brick and cream painted plaster board wall area left by the large windows, open shelves, cupboards and doors.

A sketched floor plan of the preschoolers' playroom is illustrated in Figure 3.4. A little over half of the floor area has vinyl covering and is used for paint, chalk, playdough and other activities with potentially "messy" outcomes. At specific times the chairs and

tables are rearranged on the vinyl floor covered section as a dining area for snacks and lunch. Approximately 45% of the floor area is carpeted in three sections. The area nearest the store is red, blue in the centre, and grey/green opposite the entry gate. One carpeted section accommodates the book cupboard, two easy chairs and pillows. A second forms the “home” area, which is equipped with scaled-down kitchen furniture, appliances and plastic utensils, in addition to “dress-up” clothes. The third section is used as the block area, which also accommodates the puzzle table and puzzle storage shelves. The book, home, and construction areas were swapped over during the observation period, and special activities settings, such as a hospital, were occasionally added for a day. The book area was also used for all indoor circle-time activities.

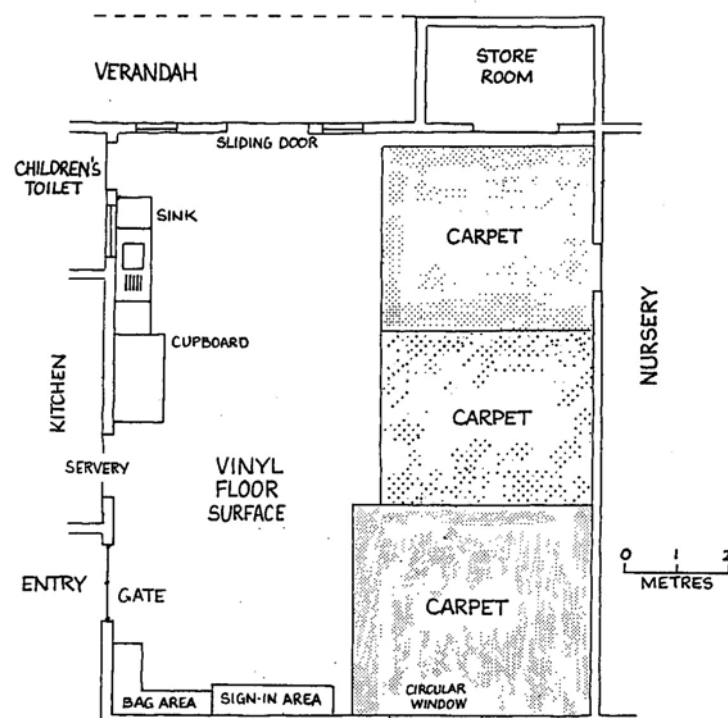


Figure 3.4 Floor plan of the preschoolers' playroom

The layout of the outdoor area, which is accessible to children through doors in the preschoolers' and toddlers' playrooms, is illustrated in Figure 3.5. Separated from the nursery outdoor area by a fence, the main playground measures 31x17 metres and is shared between the preschool and toddler groups for most outdoor play sessions. Ground cover comprises artificial grass on the main activity areas, clearly defined pathways of pavers and concrete, barkchips beneath and around the low log-wall enclosed wooden fort, and areas of bare earth for digging. The 2.4 metre high trellis-walled enclosure had been set aside for future development and was not designated for children's use during the period of the observations. In addition to the screened and roofed sandpit, more than 70 square metres of shading augment shelter from the sun

provided by trees and the verandah. A variety of outdoor play equipment, including large plastic blocks, balance beams, sandplay accessories, hoops and a large one-metre diameter climb-through ball, was made available from the store on a daily basis.

In summary, the centre operates at a nationally recognised accredited level of quality with a stable program structure, staff and management. These characteristics suggest that the environment would not be subject to extremes of variation on a day-to-day basis. As such, the site appears eminently suitable for the investigation of environmental influences on the behaviour of young children.

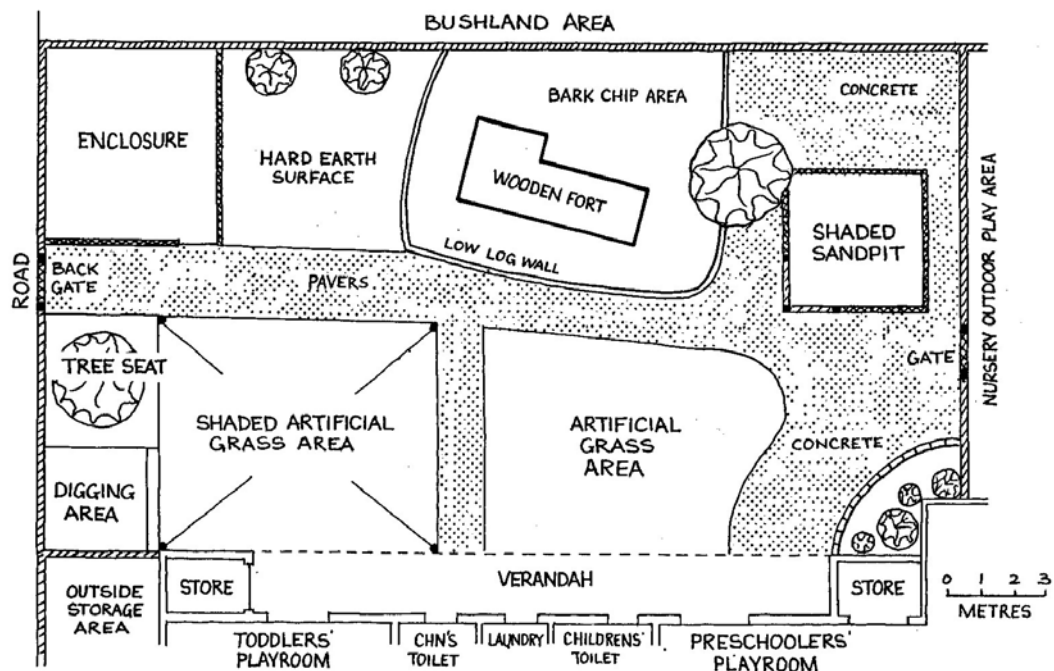


Figure 3.5 The outdoor play area

3.2 Organisation of the data collection

Application was made to the University of Newcastle's Research Ethics Committee for approval to undertake an open-ended interview with staff at the child care centre and observe children in the classroom. Upon receipt of approval, a formal request was delivered to the director of the child care centre, seeking support for participation in the current study. After discussion and consultation with centre staff and members of the management committee, access to the centre for the purpose of undertaking the observations was provided to the author. A letter outlining the study (Appendix 1), together with an "Agreement to Participate" form (Appendix 2), was provided for all staff and parents of children attending the centre. The letters stressed that participation was voluntary and that declining to participate in no way jeopardised employment for staff or enrolment of children. All staff volunteered to participate.

3.2.1 The intended subjects

The data collection strategy required participation of the maximum number of children aged 3-5 years who attended the child care centre on a regular basis between March and September. The age group was selected for four main reasons. First, it comprised the largest homogeneous group in attendance and had the potential to provide the most children who shared similar environmental influences within the centre. Second, children in this age-group could be expected to be moving out of the totally egocentric stage of development, at least to a point where peers, staff, and the general culture as well as structure of the program may be seen to exert some influence on children's behaviour. Thus possibly rendering the children more susceptible to a wider variety of environmental influences within the child care centre and affording more opportunities for observation of any impact on their behaviour. Third, the general level of physical and cognitive development of this age-group could be expected to lead them into a wider range of activities than those undertaken by younger children. Thus providing opportunity for observation of a wider variety of influences from the environment than may be afforded by younger children. Fourth, many of the group would be starting formal schooling the following year and, therefore, should already be exhibiting the adverse behaviours previously assigned by school teachers and researchers to children who have attended child care.

3.2.2 The observation period

The period between March and September was selected to minimise the extremes of seasonal weather variations and to fit between the end of summer daylight saving in autumn and the beginning of daylight saving in the following spring. Although the author found no studies specifying either matter as having a significant environmental influence on young children's behaviour, it appeared prudent to minimise the number of possible global external variables.

At the same time, it was acknowledged that the autumn-winter period could render children more prone to the manifestation of UCBs as a result of greater susceptibility to minor illnesses that disrupt regular attendances. However, the author found no evidence to support the notion of differentiated seasonal attendance patterns of children in child care centres.

Another reason for selecting the March starting point was an expectation that most children would commence enrolments in late January to early February after the traditional summer holiday period. A mid-March start to the study was in agreement

with Del'Homme et al. (1994) and Fox and Field (1989) who proposed that at least six weeks be provided as a period for children to become accustomed to the routine and rules of the centre, and to establish relationships with peers, before data are collected.

3.2.3 Staff members' participation

With two objectives, the author conducted informal open-ended individual interviews with all seven staff in direct and regular contact with the children aged 3-5 years. One objective was to identify any specific requirements or expectations that individual staff had for the observation schedule. It was anticipated that a clear understanding of staff expectations would assist the author with the logistics of data collection in the child care centre.

The other objective was to provide individual staff members with a private opportunity to raise any questions or voice any concerns they may have held about the study.

Investigators as early as the 1960s had recognised that the role of the observer, as perceived by those being observed, may impact on the data (Vidich, 1969).

Specifically, McCall (1969) contended that

The observer may be perceived as a critical outsider, a management spy, or a close friend, and the subjects' conduct may be modified accordingly. Similar effects may result from various personal characteristics of the observer, such as sex, race, education level, or snobbishness. (p. 128)

It was anticipated that an opportunity to voice concerns prior to the investigation would help staff minimise variations in their normal behaviours with children caused by the presence of a non-initiating observer in the classroom. At each interview the author stressed that the current study regarded staff as a part of one of four environmental influences in relation to children's behaviour and that staff were not the primary focus of the observations.

No professional or personal information about themselves or their views about the children in their care was solicited from staff. It was expected that staff would exhibit at least some of the personal and professional characteristics portrayed in the literature and discussed in Chapters One and Two. Further, that any staff behaviours emanating from those characteristics would, in conjunction with other facets of the setting, form part of the centre's structure and culture.

3.2.4 Children's participation

The author did not stipulate any specific qualities or characteristics of children as a

condition of their participation in the current study other than being enrolled in the preschoolers' group. The children were not subjected to examinations or analysis of any sort before, during, or after the observations. It was expected that each child would have unique combinations of personality, temperament, biological functioning, and learned experiences, among other factors, that would contribute to his or her psychological habitat and, subsequently, impact on situations to produce different behaviours. An underlying assumption of this work was that, while such differences are likely to effect the intensity of the child's relationship with the environment, they are less likely to create total immunity or overt sensitivity to influences common to all children. The same approach was applied to individual children's overall developmental level and cognitive development in particular. Therefore, the participating children were not stratified by language, understanding of basic concepts, or other forms of testing.

3.2.5 Parents

Parents volunteered themselves and their children as participants mainly as a result of the letter handed to them (Appendix 1) and their knowledge of staff and centre management support for the study. The author made no contact with parents, and no parent made contact with the author prior to the start of the observations. No demographic, family background or other personal information about their child was solicited from parents.

3.3 The observations

The observation schedule, designed to collect data on the volunteered children, identified as "focus-children" was preceded by 10 days of orientation, practice commentary, and trials of recording equipment in the child care centre.

3.3.1 Trial period

Spread over four weeks, the 10 practice days also provided opportunity for staff and children to become accustomed to the observer's non-initiating presence, as suggested almost 30 years ago by Dean, Eichhorn, and Dean (1969). In addition, the orientation period allowed the observer to familiarise himself with the routines of the centre and to learn to recognise and identify by name all involved children.

Samples of trial data were transcribed, surveyed and analysed in the manner planned for the main data collection period. A number of linguistic and stylistic inconsistencies and ambiguities were identified and rectified before the full schedule began. In addition, the inclusion of regular verbalised time-checks with the recorded narrative was found to

be useful in verifying the timing and duration of events. All data collected during the period was discarded and none included in the final results.

3.3.2 The observation schedule

Observations were scheduled for every second day, providing a “Monday-Wednesday-Friday-Tuesday-Thursday” pattern every fortnight. Alternate days were planned to minimise the impact of temporary external environmental influences that may extend over 48 hour periods, such as mild childhood illnesses. The pattern also provided the observer with an alternate rest-day on which to review recorded audio-tapes and maintain equipment.

Those children who were enrolled for one day each week were scheduled to be observed for the one day, those who attended for two days were scheduled for two, and so on. As children differed from each other in the days and number of days attended each week, the peer group was composed of different children each day. Consequently, implementing proportional representation of children in the data collection process ensured that no focus-child was observed more than once with exactly the same social group. Thus each child would be seen in the full range of environmental conditions that he or she normally experienced rather than being observed in only a part of the range or within the same condition more than once.

On the morning of each scheduled observation day, three children were selected from the list of eligible participants. The first to arrive was nominated as the focus-child for that day and the names of the other two were returned to the eligibility list to be included in the next appropriate observation session. To maximise the range of observational opportunities, data were collected on the focus-child by the same observer from the time of the child’s arrival until he or she left the centre at the end of the day. This was similar to the strategy used by Carta, Greenwood, and Robinson (1987), however, the observer in the current investigation observed the child in all behavioural situations, except sleeptime, and took no scheduled breaks.

3.3.3 Recording the data

In a further departure from the study by Carta et al. (1987), which used time-sampling, data in the current investigation were chronicled by a continuous commentary on all the focus-child’s activities. Continuous verbal recording of observations on audio-tape has been a recognised data collection strategy for some years (e.g., Jordan, 1963; King, 1978; Laursen & Hartup, 1989). Powell, Martindale, and Kulp (1975) contended that a

continuous measure "...represents the 'true' state of nature" (p. 466) as it contains all examples of the behaviour, unlike interval time sampling which, they suggested, leads to under- or over-estimations of what actually takes place. Similarly, Barker (1963b) had earlier argued that "a verbal narrative has great technical advantages as a recording system for stream of behavior phenomena....narrative is continuous, as behavior is continuous..." (p. 20).

The commentary was recorded on a concealed Radio Shack N26 cassette tape-recorder using an electronic "lapel" mini-microphone worn by the observer. The purpose of concealing the recorder and microphone was to minimise its potential for distracting children from their normal course of activities. Staff and children's parents were made aware of the tape-recording. Whether adults told any children of the recorder is not known, but as the observer's strategy was not to initiate contact, he did not inform any children directly.

The advantages and disadvantages of using a tape-recorder in research, discussed by Thompson (1996), were acknowledged. None of the informal interviews with staff was tape-recorded, which eliminated the foregrounding of the recorder as "...a mediating factor of particular significance" (p. 1). There was no reliance on recording verbal exchanges between staff and/or children in the play areas, which eliminated the need to interpret the impact of external stimuli on adult and/or child activities from a tape-recording of the event. The only voice deliberately recorded was that of the observer.

Similar to data collection in the study by Lamb, Easterbrooks, and Holden (1980), the observer described not only all the activities of the focus-child but also the initiating actions and responses of peers as well as the responses of staff relating to the focus-child. The current investigation used a narrative technique akin to that employed by Laursen and Hartup (1989), in that "...observers were trained to dictate narrative accounts of the children's social interactions into cassette tape recorders.... Observers were instructed to minimize inferences and focus upon overt actions. All social contacts were described continuously..." (p. 285).

The approach was comparable to that used in King's (1978) classroom study, as well as that by observers in the Garland and White (1980) study of children and staff in nursery schools. Where expressions of emotion were judged to be an integral part of an exchange, the continuous narrative style allowed the observer to record comments or notes specifically as impressions rather than fact.

The use of plain English language narrative to describe events as they occurred also allowed easier compilation of thick description (Gall, Borg, & Gall, 1996; Stake, 1995) and the post-observation construction of vignettes (Erickson, 1986), which facilitated analysis and interpretation of the data. As mentioned in Chapter One, it also freed the observer from the need to memorise codes and the task of allocating behaviours into predetermined categories concurrent with ongoing activities, thus increasing the accuracy of data (Berk, 1971). Where necessary, sketches of equipment layout supplemented the information recorded on the audio-tapes.

While the sensitivity of the mini-microphone was able to record the observer's subdued voice and whispers, recorded background noise was kept to a minimum. By holding a hand or notebook over his mouth, the observer in the current investigation was able to maintain a relatively unobtrusive, or consistently intrusive, presence. Without the need to write regular notes or complete checklists at set intervals, the observer was able to watch the entire stream of the focus-child's activities without forced breaks. Therefore, none of the focus-child's actions or interactions was omitted.

3.3.4 The observer

Stokols (1990), from the perspective of instrumental investigations, which he associated with examination of the controlling aspects of physical environments by architects, noted that "research activities are assumed to be value-neutral and separate from the social dynamics observed and recorded within particular settings" (p. 642). In reality, however, neutrality of the observer's influence on the activities of children aged 3-5 years could not be assumed. Consequently, the current study acknowledged that the observer would become part of the environment of the child care centre. The author agreed with Repp, Nieminen, Olinger, and Brusca (1988) and Schwartz and Schwartz (1969) that the observer's presence would probably influence the creation of situations and/or could detract from the creation of situations for both staff and children. Rather than try to identify and assess the magnitude of the influence, the observer concentrated on maintaining a consistency of influence through a consistency of presence, characterised by his relationship to both children and staff, the space he occupied in the classroom, and even his mode of dress.

A number of studies have reported the observer's role as being that of a non-participant, to the extent of remaining completely apart from all activity even when addressed by others (Bay-Hinitz et al., 1994). The apparent belief underlying the strategy supposed that child and staff behaviours would be unaffected by an observer

who appeared completely detached from the activity. However, as pointed out 30 years ago by Vidich (1969), when commenting on the observation of conflicts:

Neutrality even to the point of total silence is a form of reaction and not only will be considered as such by all parties to the conflict but also implies a specific attitude towards the issue - being above it, outside it, more important than it, not interested in it. Whatever meaning respondents attach to neutrality will, henceforth, be used as a further basis for response. (p. 84)

In general, the approach adopted by the observer in the present study was that of a non-initiator of relationships. This position was modeled on what Hatch (1989) described as reactive entry, meaning “he made himself available for interactions with children without actively initiating contacts himself” (p. 260). When children initiated contact, the observer responded as briefly as possible and minimised eye contact during exchanges in the manner advocated by King (1978). Requests by children for help, including those involving clothes or activities, were immediately referred to the nearest staff member.

3.3.5 Validating observations

Validating observational data in open classrooms and the outdoor play area of a child care centre presents particular difficulties in relation to maintaining naturalistic characteristics of settings. Stake (1995) suggested the usefulness of a second observer but, given the understanding that the single observer’s presence would influence the activities both of children and staff, it can be assumed that two observers would have greater impact. Further, it could be assumed that two people acting in the same way in the confines of a playroom would be disproportionately noticeable to both children and staff. Additionally, in relation to the data, Erickson (1986) contended that, unless observers shared the same orientations towards the investigation, accounts of the same events could vary as a result of their “...choosing differing kinds of verbs, nouns, adverbs, and adjectives to characterize the actions that were described” (p. 120). Also using observations recorded onto audio-tape in a playroom, Smith and Connolly (1980) contended that “it was not possible to obtain a realistic measure of inter-observer agreement for this, since only the principal observer was both well-acquainted with the children and virtually ignored by them” (p. 215). In the current study, therefore, an alternative validation strategy was adopted to provide a reliability check on the recording of children’s activities and staff responses.

Every month a 30-minute sample of a focus-child’s indoor activity was recorded by a concealed fixed-position video-camera. The following day, the observer viewed the

video-film and recorded a commentary of the action. Comparison of narrative from the video-sourced commentary was made with the “live” recording of the same scene from the previous day. Results of the comparison provided an opportunity to check for variations in detail that may have resulted from observer drift (Repp et al., 1988) or loss of sensitivity to detail (McCall, 1969).

The limitations on the use of a fixed position camera compared to mobile equipment are acknowledged, however, the preference was given to concealing the camera. Previous work with children using video-film, undertaken by the author, had demonstrated that children’s knowledge of the presence of a camera could have a profound influence on their behaviour and undermine the naturalistic validity of the study.

3.4 Interpretation and analysis of data

As stated in Chapter One, the emphasis of the study was to press for an understanding of the complex interrelationships between UCBs and environmental factors within a child care centre. To facilitate interpretation of the interactions of individual children and to account for different definitions of situations by the study population, the data were transcribed into text for detailed examination.

3.4.1 Transcription of the data

The observer’s recorded commentaries of focus-children’s activities were transcribed using a Sanyo Memo-Scribe TRC 8800. The Memo-Scribe’s tape counter, in conjunction with time-checks recorded as part of the commentary, was used to calculate the timing of events and the duration of behaviour sequences. Although not intended to be precise, the procedure allowed the starting point of most interactions to be specified to the nearest minute. The transcription was typed into a word processing program and augmented with hand-written notes and information contained in sketches of floor plans relating to daily activities.

To ensure anonymity of children and staff during the validation process and in the production of this thesis, all staff members and children were provided with identities comprising a combination of letters and numbers. Staff members were given “S” prefixes to randomly assigned numbers from 01 to 19. Thus, the three staff members who worked most frequently in the preschoolers’ playroom were identified as S01, S05, and S10. Children enrolled in the preschooler’s group were assigned the prefix “PF” (preschooler female) followed by a randomly selected number from 01 to 14, or “PM” (preschooler male) followed by a randomly selected number from 01 to 25. Similarly,

children from the toddlers' group were assigned the prefix "TF" or "TM", and babies in the nursery group assigned "BF" or "BM". Other members of the children's families were also assigned letters to identify them, for example, mothers (M), fathers (F), grandmothers (GM), and older sisters (OS), which were placed as suffixes to the child's identification code. Thus, the grandmother who nearly always collected PM21 in the afternoon was identified as PM21GM.

3.4.2 Identification of UCBs

From the transcripts, identification of UCBs was based on staff responses to children's behaviour at the time it occurred. That is, the behaviour was classified as an UCB if it was apparent that the staff member had been forced to interrupt another activity in order to attend to the UCB. In the event that any staff member's action appeared ambiguous to the observer, the staff member could be asked to clarify their intervention as proactive or reactive without the need to justify or explain the action itself. The strategy also ensured that only child behaviours deemed by staff as unwanted were identified. Thus, to a very large extent, observer bias was eliminated from the initial identification process.

To validate the process of identifying teacher actions as being in response to UCBs, another earlier technique, as used by Fawl (1963), was applied in modified form. In the current study, two experienced teachers, independent of the child care centre, were each given identical transcripts of more than 22 hours of observations. They were asked to identify and label what they thought were examples of child care centre staff responding to UCBs. The two independent survey results were then compared to the observer's survey of the same transcripts. In addition, involved staff of the child care centre were provided with a complete transcript of almost eight hours of observations of one child over one day and invited to comment on the accuracy of the event statements including teacher responses. Both strategies incorporated some characteristics of the protocol involving discussion of interpretations by a panel of experts, suggested by Stake (1995) and described as valuable but underused in triangulation.

3.4.3 Surveying the data

UCBs were identified by the nature of staff interventions and verified in the manner described above. Two approaches were then taken to organise the data to facilitate examination of environmental influences on children's unwanted behaviours. The first involved counting the number of occurrences of UCBs and assessing their frequencies in various settings and situations. This process also considered relationships between

UCBs and days of observation, individual children, and gender of children. The second approach used UCBs as a guide to the identification of streams of behaviour and antecedent events that were examined to determine the influence of other environmental factors. Details of the relationships contained in these sequences can be studied and compared for patterning of environmental influences on children's unwanted behaviours across different observation days.

3.4.3.1 Time and duration of children's attendances

To provide some relativity to comparison of the number of UCBs across children and days of observation, and as a necessary preliminary to establishing rates of frequency for UCBs in different settings and situations, data on children's attendance times were examined and tabulated.

3.4.3.2 Counts and frequencies of UCBs

A simple count of UCBs was undertaken for each day of observation and each focus-child. Total numbers of UCBs were calculated for each of the 22 major settings. In addition, the 22 major behaviour settings were compounded into seven broader groups with common locations or purpose, as shown in Table 3.2. The compounding provided opportunity to aggregate data as an aid to facilitating the initial identification of trends or patterns of UCBs over the 54 days of observation. Counts were also undertaken to identify initiators of UCBs, the targets of the behaviours, and any other peers who may have been involved. In combination with attendance time data, frequency rates were calculated for each of the days, settings, and children. The process of relating counts and frequencies to environmental influences was enhanced by describing UCBs and categorising them by type as well as identifying the locations in which they occurred.

Table 3.2 Components of major behaviour settings within compound settings

Compound groups	Components from 22 regular behaviour settings
Indoor free play	AM nursery (#1), preschoolers' playroom (#2), and unscheduled (#9) PM nursery (#22), preschoolers' playroom (#13), and unscheduled (#21)
Outdoor free play	AM (#7) & PM (#9)
Formal groups	Pre-morning tea (#3), pre-lunch (#10), pre-afternoon tea (#15)
Bathroom routines	Pre-morning tea (#4), pre-lunch (#11), pre-afternoon tea (#16)
Mealtimes	Morning tea (#5), lunch (#12), and afternoon tea (#17)
Transitions	AM indoor to outdoor (#6) and outdoor to indoor (#8) PM indoor to outdoor (#18) and outdoor to indoor (#20)
Sleep time	Afternoon sleep time (#14)

3.4.3.3 Describing UCBs

In the current study, three separate but related forms of categorisation were used to describe UCBs, each based on examination of relevant behaviour streams. The three-part strategy was implemented for three main reasons. First, to minimise the occurrence of ambiguities which have confounded the findings of some earlier studies of child behaviour, as discussed in Chapter One. Second, to more easily relate the occurrences of UCBs with common characteristics to specific environmental factors. Third, to preserve sufficient detail of occurrences to facilitate comparisons between settings and participants without maintaining an excessively long list of UCBs.

The first form used time-space locations and/or associated equipment and/or material to indicate the sub-setting or situation in which the UCB occurred. The aim was to provide information about the relative importance of setting and situational factors to the occurrence of UCBs. These ranged from descriptions of general locations, such as the bathroom or the preschoolers' playroom, to more specific areas, such as those used for block building, dining, or sandplay. Greater specificity was provided by allocating the UCB to particular pieces of equipment or types of materials, including the woodwork bench, hoops, and the collage materials trolley, which appeared to elicit similar types of behaviour regardless of their physical location. Alternatively, the activity was nominated as the identifier when the behaviour appeared independent of physical location and equipment or materials. Examples included formal group- or circle-time and "time-out".

The second form of categorisation described the focus-child's physical and verbal actions that had prompted staff intervention. These included hits, kicks, pushes, complaints, making a noise, being defiant, and running within the nursery or the preschoolers' playroom.

The third form of categorisation relied on identifying types of peer associations accompanying UCBs. As listed in Table 3.3, this approach separated physically and verbally hostile, friendly, and accidental relationships between dyads, triads and groups, as well as events involving no peers, into 11 sub-groups.

The peer association sub-categories were also combined with the data on initiators, co-conspirators, and the target of UCBs, as well as other peers who may have been involved in the action. Thus, the behaviour of a child who initiated a physically hostile dyadic exchange by pulling a peer out of the nursery boat, for example, could at once be categorised by facets of the physical, social, and structural environment. The staff

response to that behaviour supplied information about some of the cultural factors operating at that particular time.

Table 3.3 Descriptions of peer relationships during occurrences of UCBs

Peer associations & UCBs
No association
Accidental contact
Friendly dyads
Friendly triads
Friendly groups
Verbally hostile dyads
Physically hostile dyads
Verbally hostile triads
Physically hostile triads
Verbally hostile groups
Physically hostile groups

3.5 Streams of behaviour

Analysis and interpretation of relationships between environmental factors and the occurrence of UCBs was undertaken using a modified technique for identifying streams of behaviour, as originally described by Barker (1963b). Expanding the example provided in Chapter One (Figure 1.1), Figure 3.6 illustrates the behaviour stream analysis for PF03 in the time-space location of easel painting during the morning preschoolers' playroom indoor free play setting.

Although PF03 was in the easel setting for approximately eight minutes, she was painting for less than a quarter of the time. The remainder was taken up with preparation, a confrontation with TF02, onlooker activity, talking with friends, going to the bathroom with friends, and putting her painting out to dry. The period produced two UCBs. The first, which emanated from dripping paint, was related to isolated onlooker behaviour which, in turn, was related to PF03 checking the location of TF02. The second, prompted by PF03 leaving the easel and taking the paintbrush out-of-area, was also related to peer-initiated activity. On this latter occasion, however, the UCB resulted from a friendly encounter. Noticeably, the one hostile and apparently unprovoked encounter with the toddler female did not elicit a response from a staff member and, therefore, was not registered as an UCB. Nevertheless, examination of a larger portion of the behaviour stream showed that the incident with TF02 was almost certainly a continuation of an earlier confrontation between the two girls at the playdough table, which provided a different perspective to the apparent lack of

provocation at the easel. Both incidents became relevant when a later confrontation between the two did prompt staff intervention.

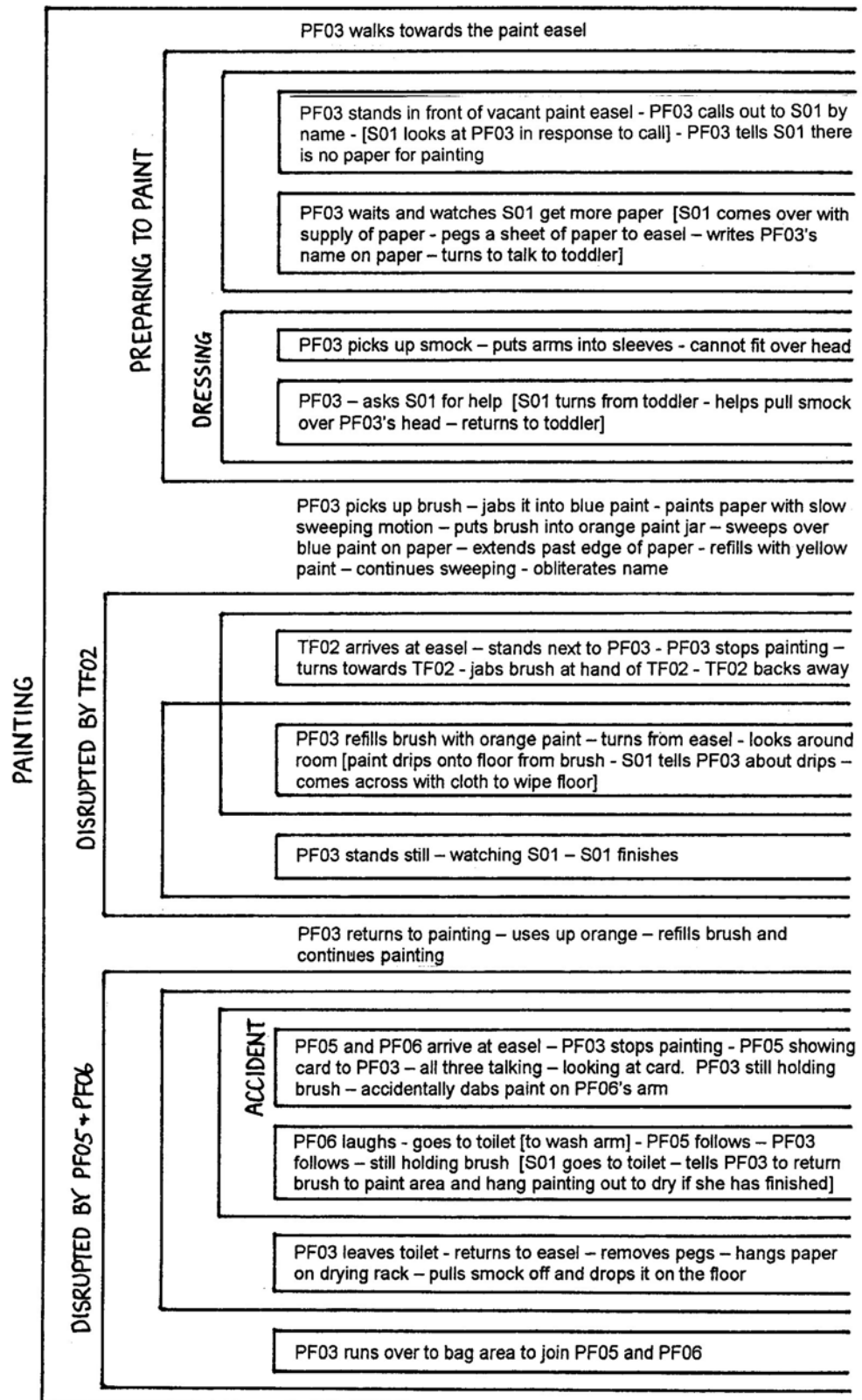


Figure 3.6 The behaviour stream for PF03 at easel painting

In general, all UCBs provided the starting point from which sequences of antecedent events could be traced back to specific originating points in time and space. The complete streams were identified as sequences of unwanted child behaviours (SUCBs) and helped establish connections between facets of the environment and child behaviours over and across related behaviour episodes.

3.6 Summary and conclusions about the methodology

To facilitate the investigation of environmental influences on the manifestation of unwanted child behaviours in a child care centre, a setting for study was selected on the basis of its relatively stable environment. Full details of the purpose of the study and the data collection process were provided to individual staff members and each family with children enrolled in the preschoolers' room. All staff agreed to participate in the study and more than 90% of parents using the setting agreed to their children being observed. Therefore, neither the setting nor the subjects could be considered random samples. However, neither the setting nor the subjects exhibited any specific traits that would render any of the four main environmental factors particularly remarkable compared to those likely to be found in other child care centres, or among the staff and children attending them.

No experimental conditions were utilised in the current study. To maximise preservation of the naturalistic setting during the data collection period the observer adopted a non-initiating relationship with the children in the playrooms and outside play area. In addition, an orientation period was implemented prior to commencement of full-day observations of the children to provide all participants with an opportunity to familiarise themselves with the process of data collection. In particular, the orientation period was designed to help staff overcome any initial apprehension at being observed, and permitted the children to satisfy much of their curiosity about the presence of the observer and his role in the centre.

The observation process involved the selection of one child, known only to the observer, to be observed from his or her time of arrival in the morning until he or she left in the afternoon. The data collection strategy required the observer to record all details of the child's actions, and the related actions of others, concurrently and continuously in plain English narrative on a concealed tape recorder. The strategy did not require the observer to select specific activities for recording or to generalise actions into broad and/or predetermined categories of behaviour. The use of continuous narrative was intended to provide a thick description of all events for analysis and interpretation at a

later date. It was anticipated that unwanted child behaviours could be identified from transcripts of the narrative, and antecedent events tracked across time and space within the child care centre through examination of focus-children's streams of behaviour. Processes for maintaining the consistency and quality of the narrative were implemented and strategies for validating the identification of UCBs were put in place.

Overall, the methodology adopted for the current study was designed to maximise the collection of data on unwanted child behaviours exhibited by different children over an extended period within the same setting, and concurrent environmental conditions. The goal was to accumulate data that would facilitate the identification of shared patterns of environmental influences on those behaviours. The outcome of the data collection process provided a considerable amount of evidence to substantiate the unambiguous identification of UCBs and the situations in which they developed. Salient physical, cultural, social, and structural components of those situations, as well as temporal influences, are evidenced in the following chapter.

CHAPTER FOUR

Evidence of unwanted child behaviours

4.1 Introduction

The data were surveyed to describe temporal, spatial and structural characteristics of each day's observations, as well as the details of observations across time and space for each focus-child and focus-children grouped by gender. Transcripts of the observation commentary were examined for evidence of UCBs and the results listed under headings representing re-occurring features of the social, physical, structural, and cultural components of the environment. Particular attention was given to specific environmental factors identified in the literature as potentially influential in the production of UCBs. Attention was also given to the sequences of behaviours within behaviour streams of focus-children to provide a broader perspective of occurrences of UCBs both temporally and spatially.

The graphs and tables presented in the current chapter provide raw figures on the duration of observations and the number of UCBs across days, focus-children, settings, and staff. Where relevant for further discussion, the raw figures have been augmented with percentage and frequency calculations. Frequency rates are presented as an average number of minutes between each occurrence of UCBs. Greater detail, particularly in relation to individual focus-children, is contained in Appendices 3 to 7. As a starting point, however, a brief assessment of the strategy for collecting data and influence on the production of evidence for occurrences of UCBs is provided.

4.2 The study schedule

The investigation commenced in March 1998 as planned. After the 10 days of trials the observation schedule was implemented, and during the following five months data were collected on 30 different children over 54 days.

4.3 Stability of the setting

The overall structural framework of the centre's operation remained consistent over the period of investigation. Opening and closing times, and both the program and sequence of major behaviour settings, were unchanged. Similarly, the culture of the centre expressed through the philosophical approach to programming, child care and

education, including the implementation of rules, was maintained. Neither staffing changes nor the occasional disputes between staff appeared to have any lasting effect on the centre's climate or specific impact on occurrences of UCBs.

4.3.1 Physical factors

Apart from some repairs to both the preschoolers' playroom door to the outdoor play area and a leaking section of roof, there were no changes to the child care centre building during the observation period. Although plans were in hand to develop the enclosure in the outdoor play area and to extend the area covered by bark chips, from the fort to the enclosure, no work was carried out until after data collection was completed.

During the period of observations, no new major pieces of equipment or greater variety of supplies were introduced. Some new puppets, books and other smaller activity items replenished and augmented existing stock, but these did not substantially alter the level or type of resources available to children. One particular puppet and some model dinosaurs were seen to influence some of the behaviours of some children over several days but did not have any lasting effect during the observation period. Therefore, the physical aspects of the environment could be said to have remained reasonably stable throughout the investigation and had no apparent inconsistent influence on the occurrences of UCBs overall.

4.3.2 Social factors

The majority of focus-children were enrolled for the duration of the observations, as were a majority of the few peers who did not participate as focus children. Most permanent departures from the centre occurred in the earlier part of the year, with a number of new enrolments commencing (and leaving) at regular intervals. Overall, however, a substantial core of preschoolers remained and established regular peer group associates and membership of small groups that remained largely unchanged throughout the period of observations. Therefore, the social environment could be considered reasonably stable most of the time for most of the focus-children and no inconsistencies could be identified as responsible for specific occurrences of UCBs.

4.3.3 Structural factors

The 22 major settings and the accompanying schedules were not subject to any permanent change between March and September. There were no significant events causing disruptions to programming over whole days and no excursions outside the

centre on any observation day. The ratio of boys to girls remained relatively stable and although enrolments frequently increased and decreased group numbers stayed within a narrow range from the beginning to the end of the observation period. Therefore, no inconsistencies in the structural component of the environment could be identified as exerting an influence on the occurrence of UCBs.

4.3.4 Cultural factors

Approximately half-way through the observation period the director resigned and the senior teacher was appointed to take charge of the day-to-day operation of the centre in his place. The resignation of the director was not due to any conflict with staff or management, and the appointment of the senior teacher as the new director did not appear to generate any opposition amongst other staff. Separately, a few tensions between some staff members did arise in the latter half of the observation period but these appeared to be within the range of relatively “normal” and inevitable staff:staff relationship problems in a child care centre, as referred to by McLean (1988), Sebastian (1986), Sorensen (1997), and Wellisch (1996).

As staff:staff relationships were not the direct focus of observation, no specific examples of the problems can be cited. On one observation day, however, there was an evident lack of communication and program co-ordination, indicating an absence of joint planning or agreement between two particular staff members, which resulted in a few minor delays to activity implementation. The shortcoming did not re-occur and the impact on work climate appeared to be of short duration, with subsequent extra-curricular team-building efforts said to have resolved many of the initial problems.

The change of leadership did not lead to any alteration in programming philosophy, including expectations for and approaches to early childhood education and care, or classroom rules. There was no discernible change to organisational climate, or relationships between parents and staff, or staff and children.

The centre also maintained a long standing and regular involvement in teacher training practicums and work experience programs by making the facilities available to tertiary education institutions and the local high school. Thus the children were accustomed to different “staff members”, performing a variety of practical and record keeping tasks, being in the room along with their regular teachers.

Overall, there were no apparent inconsistencies in the culture of the centre that could

account for specific occurrences of UCBs at a particular time or in a particular place.

4.3.5 Conclusions about stability of the setting

Although there were a number of events that impacted on staff and programming, none was seen to have any lasting effect on the physical, social, structural, or cultural, components of the child care centre's environment. Overall, therefore, the setting provided the consistency required for the observation of children, as multiple cases in a relatively stable environment, over a period of five months.

4.4 Data collection

Data collection was achieved with the use of plain English language narrative recorded onto audio-tape concurrently with observations of the focus-child's actions. Maintaining a continuous commentary in the playrooms and outdoor play area presented no specific difficulties for the observer. The utilisation of verbal comments within the narrative, specifically denoting opinion in addition to a description of actions, provided considerable support in contextualising some of the narrative in later transcriptions of the audio-taped data. Further support was provided by sketch plans of daily layouts of furniture and equipment.

From the observer's point of view, the orientation period was an absolute necessity and 10 days probably represented the minimum time required for the observer to become familiar with the centre's routines and children's names. Not having to select specific behaviours for reporting, recall predetermined behaviour identification codes or be cognisant of time periods, in the recording of data, allowed the observer to concentrate fully on sequences of the focus-child's actions, as well as those of peers and staff during periods of contact with the focus-child.

The observer's presence in the play areas attracted little overt attention from focus-children after the orientation period. Acceptance by the children may have been influenced by their regular exposure to trainee teachers and senior school students on work experience programs. The observer's practice of not initiating contact appeared to be accepted by children very quickly as part of his role. Staff also commented that they had ceased to notice the observer in the room and that he had become "part of the furniture". While not claiming that remarks by staff and the shortage of child interest indicated a lack of observer influence in the environment, it would appear to suggest that the influence was reasonably consistent and, to a large extent, became part of the background to play area activities.

Exceptions to the consistent practice of not initiating contact occurred with children on two occasions and with staff on five occasions. The observer made each of these initiations in the interest of child safety. Ethical issues associated with an adult's duty of care to, or moral responsibility for young children, and the dilemma sometimes created in respect to the ecological validity of observing children at play over long periods, is discussed in Chapter Six. At the present time, however, it is believed that the interventions by the observer had no substantial impact on findings relating to influences of environmental factors on UCBs.

The consistency of the narrative over the observation period, and reliability in relation to recording all events as they happened, was verified by comparing the number of events, comments or opinions, and UCBs recorded on audio-tape with five concurrent sessions that were video-filmed by a concealed fixed-position camera. The duration of the video-filmed sequences and results of event comparisons are presented in Table 4.1.

Table 4.1 Comparisons of audio-tape and video-film records of event numbers

Observation day	Duration of useable video film	Number of events recorded	Number of comments recorded	Number of UCBs recorded
Day #3	9 minutes			
Audio		25	1	1
Video		17	0	1
Day #14	26 minutes			
Audio		56	3	1
Video		42	0	1
Day #21	36 minutes			
Audio		37	4	0
Video		24	0	0
Day #29	12 minutes			
Audio		18	3	0
Video		15	0	0
Day #50	21 minutes			
Audio		41	4	2
Video		27	0	2

Overall, the use of a fixed-position camera to provide a video-film recording of a focus-child's actions concurrent with the observer's commentary on the child demonstrated limitations as a reliability check for observer consistency. Although there was total agreement on the number of UCBs and a high level of agreement between the "live" narrative and the action that could be described from the video-film for all five sessions, the camera provided considerably less information, as can be seen from Table 4.1. For

example, on days #3, #21, and #50, the video-film captured only two-thirds of the number of events recorded by the observer on audio-tape. Part of the limited usefulness was due to the rapid mobility of children in the age-group 3-5 years that frequently took them out of camera range. Another limitation was the fixed-positioned camera's inability to capture environmentally important stimuli which were "out-of-frame", such as distractions to the focus-child caused by arrivals and departures of other children and staff, and adjacent child:child or child:staff conflicts. The problem is evidenced by the lack of comments or opinions that could be made from the video-film compared to those made on audio-tape. Although the video-film data did support the accuracy of the audio-taped narrative, the various limitations rendered data collected by the fixed-position camera as less useful in the reconstruction of streams of behaviour.

4.5 Focus-children

At the time when letters were provided for parents, there were 36 children enrolled in the preschoolers' room: 14 girls representing 39% of total enrolments and 22 boys representing 61%. Initial parental approval allowed the participation of 34 focus-children, although seven left the centre before data was collected on them. Parents of nine children who were enrolled after March also agreed to participate, but only three completed the six-week settling-in period before the September finish to the observation schedule. Parents of three children declined to participate. By the end of the observation period, 30 children had been observed: 12 girls representing 40% of the total number of focus-children, and 18 boys representing 60%. Thus the gender balance of the focus-child population of the current study reflected the gender population of the preschoolers' group as a whole.

4.5.1 Changes in numbers of enrolled children and enrolment days

Over the five months of observations at the child care centre the number of enrolled children varied from week to week, as did the days on which they were booked to attend. Table 4.2 summarises details from the centre's roll-book and shows the variation in numbers of enrolled children, and the number of days for which they were enrolled, at the beginning of April, June and August.

Table 4.2 Variations in children's enrolments over the observation period

Month	Enrolled children	Enrolled 1 day	Enrolled 2 days	Enrolled 3 days	Enrolled 4 days	Enrolled 5 days
April	37	13	14	6	3	1
June	39	13	15	8	2	1
August	36	15	10	7	2	1

By August, 30 of the original 37 children who were enrolled at the beginning of April were still attending the centre. Of these 30, only 21 had retained the same booked enrolment days over the period. However, the attendance days of individual children frequently varied from the numbers of days they were booked to attend each week. In any week, for example, the parents of a child scheduled to attend on Tuesday and Thursday may have added, swapped, or missed a day altogether.

4.5.2 Attendance patterns of focus-children and days observed

The lack of consistency in enrolments and attendance by focus-children posed a considerable barrier to the maintenance of the original observation schedule. On three days none of the pre-selected focus-children arrived at the centre and no observations were recorded. By June, the variations in attendance patterns forced the abandonment of strict adherence to the proportional representation basis for the observation schedule. Therefore, the final number of days each focus-child was observed only approximated their individual attendance patterns. Table 4.3 shows the number of full-day observations made on each of the 30 focus-children.

Table 4.3 Number of observations made on each of 30 focus-children

Female focus-children	Number of observation days	Male focus-children	Number of observation days
PF01	1	PM01	2
PF02	1	PM02	1
PF03	3	PM03	2
PF04	1	PM04	1
PF05	3	PM05	2
PF06	4	PM06	2
PF07	3	PM08	1
PF08	1	PM09	3
PF09	1	PM12	2
PF11	1	PM13	2
PF13	1	PM14	1
PF14	2	PM15	1
Total	22	PM18	1
		PM19	2
		PM20	1
		PM21	4
		PM22	3
		PM25	1
		Total	32

At the end of the observation period, 36 enrolled children in the preschoolers' room attended for a total of 69 days each week. Of these, girls were enrolled for 27 days

(39% of the total) and boys were enrolled for 42 days (61%). Over the previous five months, female focus-children had been observed for 22 days (41% of total observation days) and boys observed for 32 days (59%). Thus the number of days girls and boys were observed closely resembled the attendance pattern of the preschoolers' group as a whole.

4.6 Observation times

The duration of each day's observations was dependent on the time parents brought the focus-child to the centre in the morning and collected him or her in the afternoon. The outcome yielded data samples with wide variation in start and finish times within the centre's operating hours of 7:30am to 5:30pm. The comparative differences for each observation day are depicted in Figure 4.1; the precise times are listed in Appendix 3.

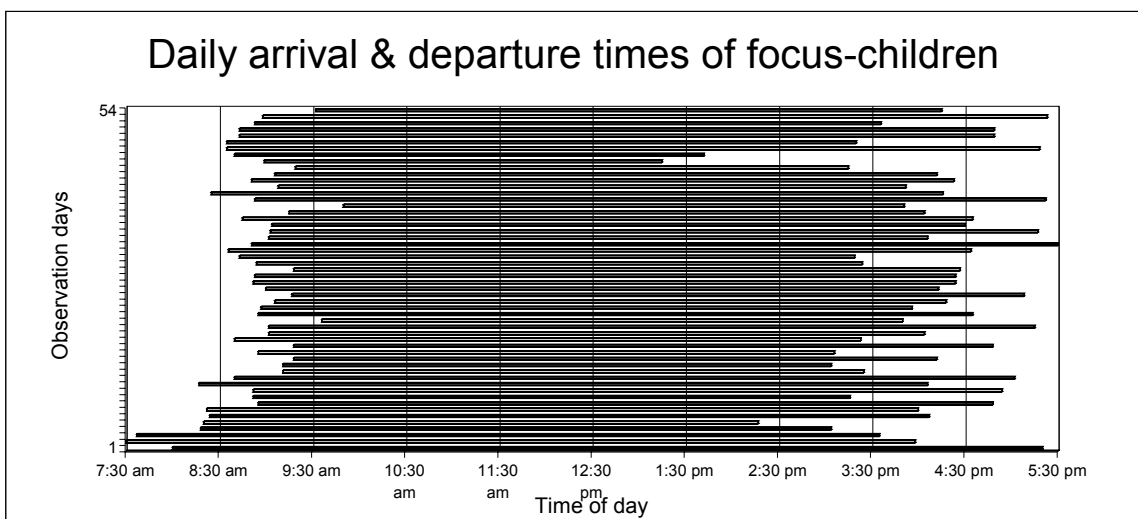


Figure 4.1 Arrival and departure times of focus-child for each of the 54 days

Each parent delivered and collected their child within approximately 20 minutes of the same time on most days, although parents differed from each other by up to two hours or more. Being at the earlier or later end of the range for each individual, however, resulted in variations of 40 minutes or more for the same child over different observation days. For example, PM13 stayed 7 hours 58 minutes on one observation day and 6 hours 45 minutes on the other. The duration for all children ranged from a minimum of 4 hours 16 minutes to a maximum of 9 hours 20 minutes, with an average of 7 hour 15 minutes. The variation in attendance duration between each observation day is graphically represented in Figure 4.2. Total recording time for all observations over the 54 days was 391 hours and 55 minutes.

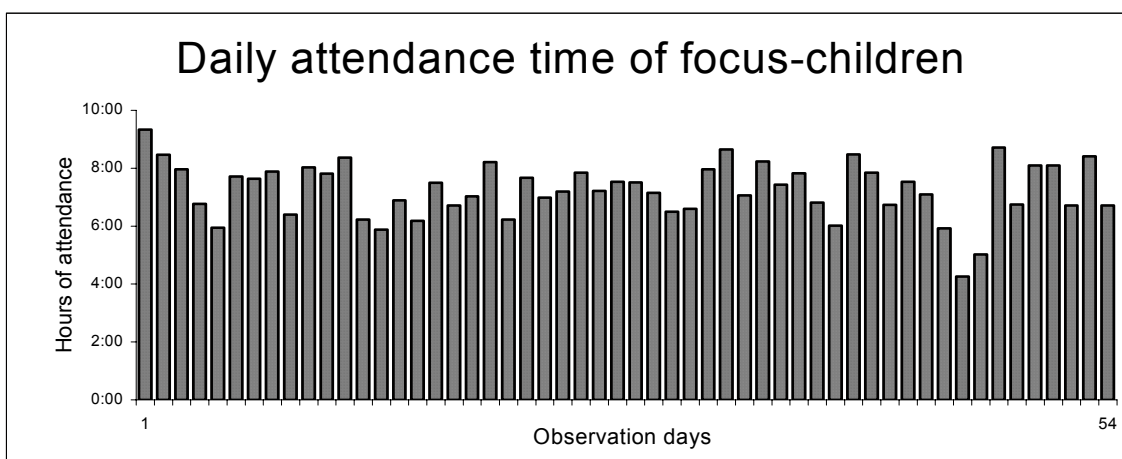


Figure 4.2 Variations in duration of observations across the 54 days of recording

4.6.1 Observation times and gender

The practice of selecting three children for each day and observing the first to arrive led to an imbalance of observation time in favour of boys. Therefore, in the final month of data collection, individual children were selected for observation in order to preserve an appropriate gender balance of subjects. As a result, female focus-children were observed for a total of 160 hours 22 minutes and male focus-children were observed for 231 hours 33 minutes, representing 41:59 female:male ratio. The range for the 22 individual observations of females was 4 hours 16 minutes to 8 hours 43 minutes, with an average of 7 hours 17 minutes. For males, the 32 individual observations ranged from 5 hours 02 minutes to 9 hours 20 minutes, with an average of 7 hours 14 minutes. The details for percentages of males and females are presented in Table 4.4, which shows that an approximately 60% male, 40% female ratio was preserved between the gender of focus-children, the number of days each gender was observed, and the amount of time each gender was observed.

Table 4.4 Gender balance in number and observations of enrolled and observed children

Gender	Focus-children	% of total	Obs days	% of total	Obs Hours	% of total
Female	12	40%	22	41%	160	41%
Male	18	60%	32	59%	231	59%
Totals	30	100%	54	100%	391	100%

Together with the earlier stated comparisons of enrolments by gender and attendance days by gender (sections 4.5 & 4.5.2), the observation schedule reflected the attendance patterns of girls and boys from the preschoolers' room as a whole. Therefore, the total number of UCBs observed, and their percentages and frequency

rates, should have represented a rate that would normally occur within the preschoolers' group.

4.6.2 Observation times across behaviour settings

The sub-total duration of all observations made in each of the 22 regular behaviour settings over 54 days ranged from 31 minutes for afternoon transitions from outdoor to indoor activities (#20), to 91 hours and 41 minutes for the after lunch preschoolers' playroom inside free play period (#13). The variations in total observation time for all 22 regular behaviour settings are illustrated in Figure 4.3. Details of times for each day are listed in Appendix 4.

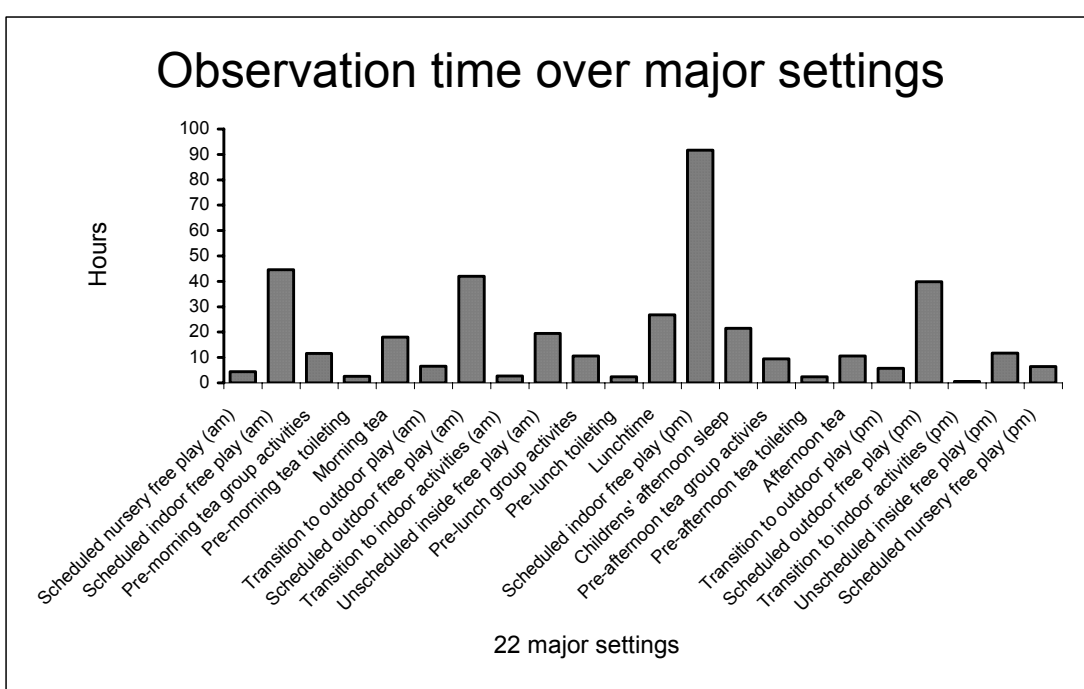


Figure 4.3 Distribution of observation time across the 22 major behaviour settings

Maximum observation time in any of the 22 major settings was dictated by the time allocated to each setting as a result of staff's program organisation and schedules. Focus-children's attendance patterns, in relation to arrival and departure time, also had a significant impact on the duration of observations in any single setting, particularly up to 10.00am and after 3.00pm. Therefore, the distribution of observation time is particularly uneven not only in total (Figure 4.2) but also across individual settings from day-to-day (Figure 4.3).

4.6.3 Observations of children in the centre

In addition to variations across settings, the attendance time of individual focus-

children varied widely within each regular behaviour setting as a result of their different arrival and departure times. For example, the duration of focus-children's experience in the preschoolers' playroom morning free play setting (setting #2) ranged from 97 minutes (PM21 on day 6) to 7 minutes (PF07 on day 54). Figure 4.4 illustrates the differences between the length of time each focus-child spent in the morning free play session in the preschool room over the 54 days of observation. Details of the number of minutes individual children were observed in each behaviour setting are listed in Appendix 4.



Figure 4.4 Variations in the duration of morning indoor free play observations

4.6.4 Observation times and days for individual children

While the overall program remained relatively stable during the observation period, the time spent by the observer in each of the 22 major settings, and the number of children observed in those settings, varied considerably (Table 4.5). The variations had two causes: the previously mentioned impact of children's arrival and departure times; and changes to the duration of settings made by staff in response to unplanned events. For example, on a child's birthdays his or her parent(s) might bring a cake, the lighting and eating of which prolonged morning tea on a number of occasions during the data collection period. On numerous other occasions, staff responded to the special interests of children in particular free play activities, which sometimes led to the shortening or omission of group periods. Adjustments to schedules also occurred as a result of inclement weather, which prevented the usual amount of outside free play on 20 mornings and 17 afternoons during the 54 days of observation.

As a result of individual attendance patterns and changes to the program schedule, all 30 children were observed in only six settings, as shown in Table 4.5. These were the preschooler's playroom morning indoor free play (#2), pre-morning tea toilet routine

(#4), morning tea (#5), the pre-lunch toilet routine (#11), lunch (#12), and the afternoon scheduled preschoolers' playroom indoor free play period (#13). At the other end of the range, data were gathered on only six children in the afternoon transition from outside to inside (#20) and the afternoon nursery free play setting (#22).

Table 4.5 Number of children observed and total time in each major setting

Code	Setting	# chn	% chn	hh.mm	% time
1	Scheduled nursery free play (am)	7	23.33%	4.24	1.12%
2	Scheduled indoor free play (am)	30	100.00%	44.36	11.38%
3	Pre-morning tea group activities	27	90.00%	11.34	2.95%
4	Pre-morning tea toileting	30	100.00%	2.31	0.64%
5	Morning tea	30	100.00%	18.02	4.60%
6	Transition to outdoor play (am)	29	96.67%	6.38	1.69%
7	Scheduled outdoor free play (am)	24	80.00%	41.57	10.70%
8	Transition to indoor activities (am)	23	76.67%	2.45	0.70%
9	Unscheduled inside free play (am)	16	53.33%	19.27	4.96%
10	Pre-lunch group activities	25	83.33%	10.33	2.69%
11	Pre-lunch toileting	30	100.00%	2.28	0.63%
12	Lunchtime	30	100.00%	26.45	6.83%
13	Scheduled indoor free play (pm)	30	100.00%	91.43	23.40%
14	Children's afternoon sleep	5	16.67%	21.28	5.52%
15	Pre-afternoon tea group activities	22	73.33%	9.29	2.42%
16	Pre-afternoon tea toileting	29	96.67%	2.29	0.60%
17	Afternoon tea	29	96.67%	10.40	2.72%
18	Transition to outdoor play (pm)	26	86.67%	5.47	1.48%
19	Scheduled outdoor free play (pm)	25	83.33%	39.52	10.17%
20	Transition to indoor activities (pm)	6	20.00%	0.31	0.13%
21	Unscheduled inside free play (pm)	12	40.00%	11.45	3.00%
22	Scheduled nursery free play (pm)	6	20.00%	6.31	1.66%
	Total			391.55	100.00%

Table 4.5 also shows the range of total observation time of focus-children across the 22 settings. Almost a quarter of all observation time was spent collecting data on all 30 focus-children during the afternoon inside free play settings (#13). The total observation time in afternoon indoor free play setting #13 (91 hours 43 minutes) was more than twice that of the morning indoor free play settings (#2), which accumulated the second highest total (44 hours 36 minutes). However, the morning free play setting also comprised the collection of data on all 30 focus-children, while the third highest total of observation hours, the morning outdoor free play settings (#7), collected data on only 24 children. Individually, therefore, each focus-child was observed for an average of approximately 1 hour 30 minutes in setting #2, while 24 focus-children were observed for an average of 1 hour 45 minutes each, and six were not observed at all, in setting #7.

The different arrival and departure times are reflected in considerable variation between the hours each focus-child was observed, even when the number of observation days was the same. Comparisons between focus-children are graphically illustrated by Figure 4.5. Column figures represent the number of days each focus-child was observed. Thus, PF03 can be seen to have been observed for a longer total period on her three days than were either PF05 or PF07 on the total of their three days, which were not much greater than PF14 on her two days. Similarly, the total time PF14 was observed was far greater than the two days on which PM01 was observed.

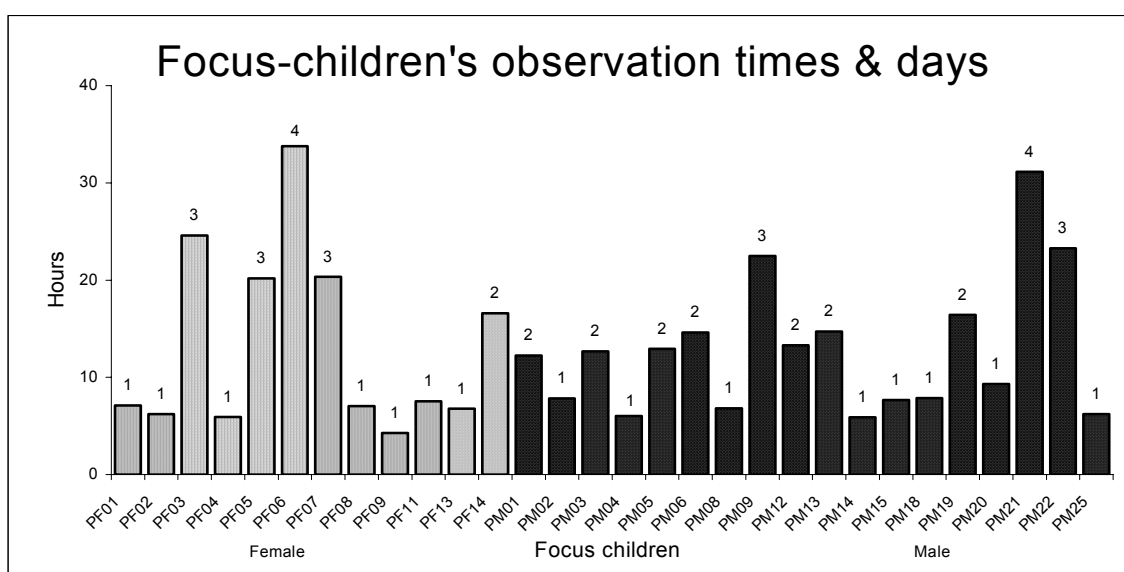


Figure 4.5 Comparative duration of all observations for each focus-child

The total observation time for each of the 30 focus-children ranged from 33 hours 45 minutes (PF06) to 4 hours 16 minutes (PF09), with an average of 13 hours and 04 minutes. The total number of days each focus-child was observed ranged from one to four. Full details of the time each child spent in each of the 22 major behaviour settings are presented in Appendix 4.

4.6.4.1 Compounded behaviour settings

Although the limitations of generalisation and the potential for distortions of data are acknowledged, the 22 major settings were compounded into seven groups that provided an opportunity to compare times and occurrences of UCBs across a number of temporally and spatially separated periods with shared activity characteristics.

The comparative sub-totals of the duration of all observations across the seven compounded settings over 54 days are illustrated in Figure 4.6. Column labels, in hours and minutes, show that focus-children were observed during indoor free play

considerably more than in any other compounded setting. The combined indoor and outdoor free play settings accounted for two-thirds of the observation time, with structured activities, including routines, transitions, and formal group or circle-time, accounting for the remaining one-third.

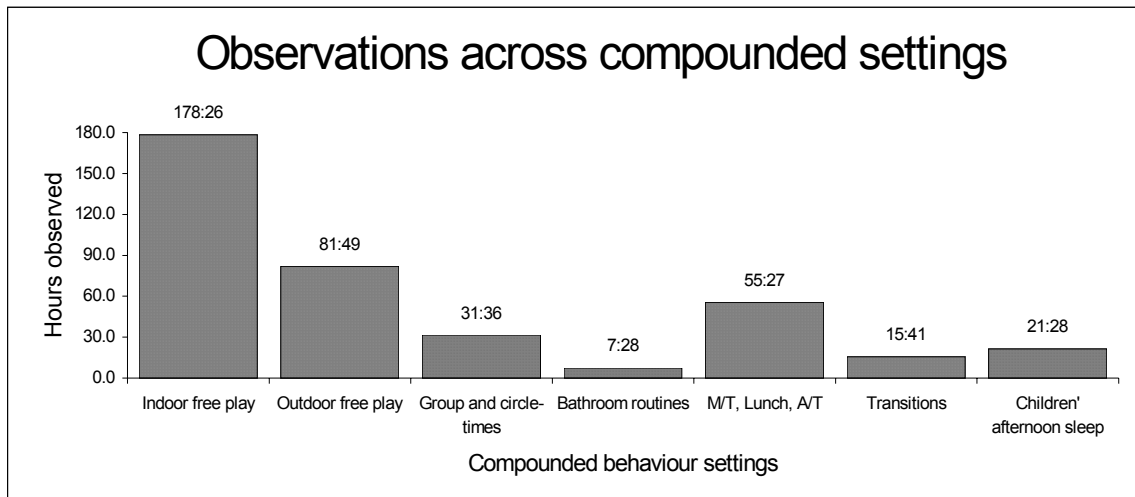


Figure 4.6 Duration of observations across compounded behaviour settings

4.6.5 Observation times, gender and behaviour settings

Table 4.6 Percentages of time female and male focus-children were observed in the major behaviour settings

Major behaviour settings	Females	Males
Scheduled nursery free play (am)	3.41%	96.59%
Scheduled indoor free play (am)	37.18%	62.82%
Pre-morning tea group activities	40.63%	59.37%
Pre-morning tea toileting	39.74%	60.26%
Morning tea	40.48%	59.52%
Transition to outdoor play (am)	34.17%	65.83%
Scheduled outdoor free play (am)	37.15%	62.85%
Transition to indoor activities (am)	39.39%	60.61%
Unscheduled inside free play (am)	50.90%	49.10%
Pre-lunch group activities	44.87%	55.13%
Pre-lunch toileting	43.92%	56.08%
Lunchtime	39.56%	60.44%
Scheduled indoor free play (pm)	44.39%	55.61%
Children's afternoon sleep	22.52%	77.48%
Pre-afternoon tea group activities	51.85%	48.15%
Pre-afternoon tea toileting	58.39%	41.61%
Afternoon tea	36.09%	63.91%
Transition to outdoor play (pm)	50.14%	49.86%
Scheduled outdoor free play (pm)	34.57%	65.43%
Transition to indoor activities (pm)	67.74%	32.26%
Unscheduled inside free play (pm)	63.69%	36.31%
Scheduled nursery free play (pm)	78.52%	21.48%

The proportion of time that male and female children were observed in each of the 22 major behaviour settings was calculated over the 54 days as percentages of the total observation time for each setting (Table 4.6). Table 4.6 shows that the time female focus-children were observed in any one setting, as a percentage of the total time all focus-children were observed in the setting, ranged from a low 3.41% in the morning nursery free play setting to a high of 78.52% in the afternoon nursery free play setting. Boys ranged from a low of 21.48% to a high of 96.59%.

4.7 Identifying unwanted child behaviours

Identification of UCBs from staff responses proved remarkably uncomplicated. Over the 54 days of data collection staff were asked to confirm observations, that they had been interrupted by children's activities, on only two occasions. In both situations the observer had doubts as to whether the staff members were responding to an UCB or had initiated contact with children in anticipation of an UCB occurring. The latter was deemed to be part of normal planning and pro-active supervision of staff and, therefore, not a disruption. The remaining 1382 teacher responses, identified as emanating from UCBs, appeared unambiguous to the author.

The simplicity and accuracy of the strategy was supported by the reports from the two experienced teachers who surveyed three transcripts which, according to the author, provided a total of 137 UCBs, or a little under 10% of the total. Teacher "A" identified 133 of the 137 UCBs, and added a further 8 that were not included by the author. Teacher "B" specified 131 of the 137 UCBs and selected a further 11. Discussion between the author and the teachers eliminated all but one of the additions and found consensus on all but two of the original 137 UCBs. In the current study, the 1384 UCBs identified by the author have been used for the purpose of presenting raw figures and discussion.

4.7.1 UCBs across the 54 observation days

One of the most striking features of the data on occurrences of UCBs was the extent of variations in their number across, and timing within, the observation days. As the data shows (summarised in Figure 4.7, and expanded in Appendix 5), the number of UCBs observed in relation to a focus-child on any single day ranged from 141 (day 25) to 2 (days 38 & 46), with a 54 day average of a little under 26.

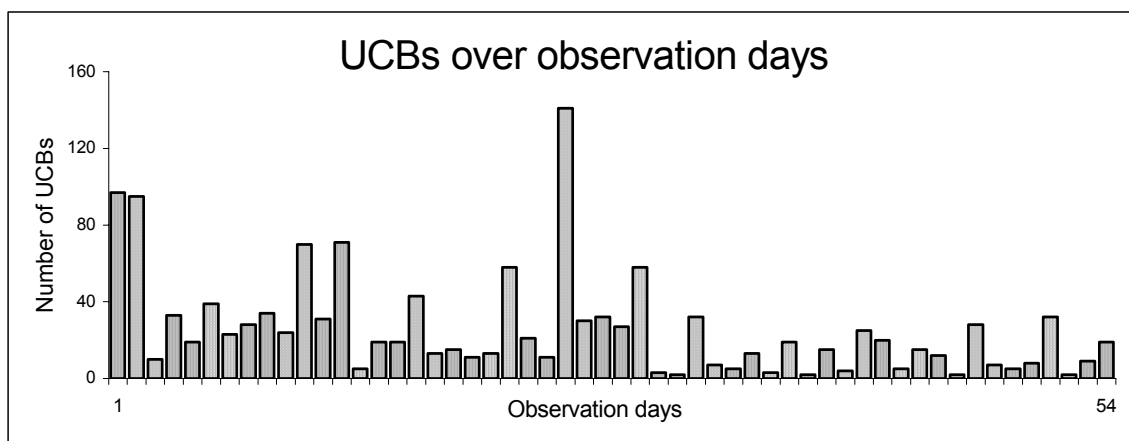


Figure 4.7 The number of UCBs recorded on each of the 54 observation days

The frequency of UCBs involving a focus-child on any single observation day ranged from every 5 minutes (day 13) to every 3 hours 25 minutes (day 40), with a 54 day average of every 17 minutes. Within each day, however, the patterns were quite different, with some focus-children exhibiting greater numbers of UCBs in the morning compared to the afternoon, and others demonstrating the reverse (Appendix 5).

4.7.2 UCBs and time-of-day

The time of occurrences of all 1384 UCBs observed over the 54 days was plotted across each minute of the full operating day of the child care centre and against the number of days on which the times were observed. The results are shown in Figure 4.8 with the UCBs represented by vertical bars and the number of days on which each minute of the day was observed represented by the line graph.

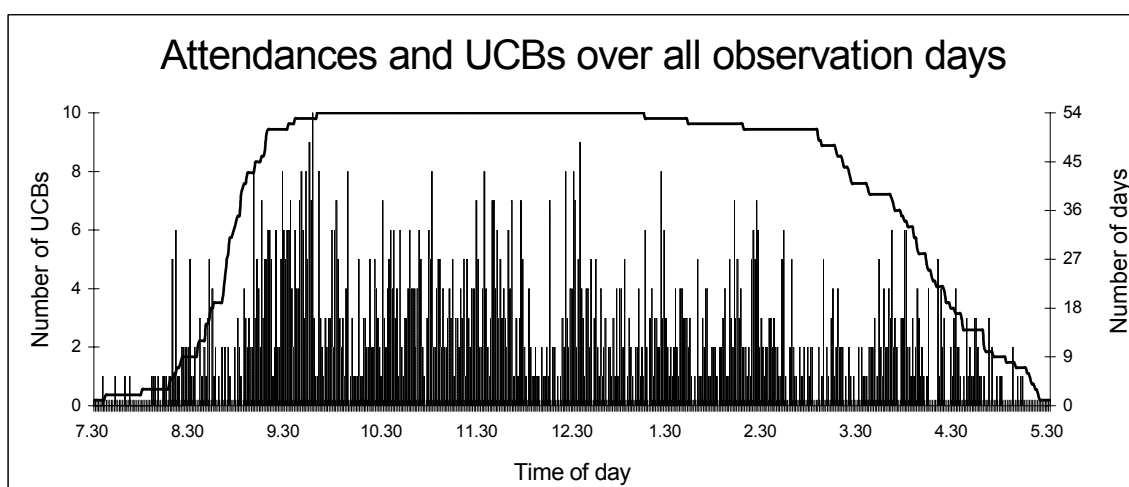


Figure 4.8 Occurrences of UCBs at different times of the day and the number of days on which the times were observed

Averaged over the 54 observation days, UCBs peaked just before morning tea, at

10.00am, with a secondary peak just after lunch at 12.30pm. Proportionate to the number of days on which observations were made, the early morning and late afternoon periods produced large numbers of UCBs.

4.7.3 UCBs across the 22 major settings

The 1384 UCBs were tabulated across the 22 major settings and against the number of focus-children involved with them. Frequencies were also calculated by aggregating the total observation time for each major setting and dividing the sub-total by the total number of UCBs that occurred in that setting. The raw figures are listed in Table 4.7.

Table 4.7 Number of focus-children and frequencies of UCBs across settings

Code	Major settings	Number of focus-children involved in UCBs	Number of UCBs initiated	Frequency of UCBs in minutes
1	Scheduled nursery free play (am)	5	52	5
2	Scheduled indoor free play (am)	21	217	12
3	Pre-morning tea group activities	14	55	13
4	Pre-morning tea toileting	8	12	13
5	Morning tea	18	49	22
6	Transition to outdoor play (am)	11	23	17
7	Scheduled outdoor free play (am)	23	177	14
8	Transition to indoor activities (am)	5	14	12
9	Unscheduled inside free play (am)	10	82	14
10	Pre-lunch group activities	13	43	15
11	Pre-lunch toileting	5	8	18
12	Lunchtime	20	56	29
13	Scheduled indoor free play (pm)	28	339	16
14	Children's afternoon sleep	0	0	0
15	Pre-afternoon tea group activities	10	34	17
16	Pre-afternoon tea toileting	4	6	25
17	Afternoon tea	6	16	40
18	Transition to outdoor play (pm)	6	18	19
19	Scheduled outdoor free play (pm)	19	124	19
20	Transition to indoor activities (pm)	2	6	5
21	Unscheduled inside free play (pm)	5	19	37
22	Scheduled nursery free play (pm)	5	34	11
	Total		1384	

Averaged over the 54 observation days, UCBs in the morning setting (#2) occurred with 20% more frequency than in the early afternoon setting (#13). A similar trend towards less frequent UCBs, from morning to afternoon, is reflected in the outdoor free play sessions. Similarly, group sessions followed by toileting routines and a snack or meal formed a trilogy of settings that were repeated three times on most days. As Table 4.7 shows, the three-part morning routine created aggregate frequency counts of one UCB every 13, 13 and 22 minutes respectively. The frequency rates decreased to one UCB

every 15, 18 and 29 minutes respectively by lunch, and by the afternoon they were down to one UCB every 17, 25 and 40 minutes. In terms of frequencies, the pattern of diminishing frequencies of UCBs from morning to afternoon is unmistakable.

An apparent exception to the overall trend was the final nursery free play setting that yielded a frequency rate of one UCB every 11 minutes, although closer inspection of the data indicates a significant anomaly. On day 25, during a period of almost continuous confrontation lasting 36 minutes, PM09 initiated 19 UCBs with three different members of staff. His singular contribution represented 56% of the total number of 34 UCBs recorded in the afternoon nursery setting over the entire observation period, and demonstrates the impact one child can have on grouped data. Details of UCBs exhibited by other individual focus-children within each of the 22 major settings are listed in Appendix 5.

4.7.3.1 UCBs across compounded settings

Indoor free play sessions were observed for more than 178 hours, or 45.4% of the total observation time, and gave rise to 743 UCBs representing 53.7% of the overall total. Although high, the frequency rates indicate that the setting was no more prone to UCBs than most of the others. There were, however, distinctions between the frequencies of UCBs aggregated across each of the six major indoor free play settings. In particular, as Table 4.8 shows, the frequency decreased during the day, from a high of one UCB every five minutes in setting #1 to one UCB every 37 minutes in setting #21.

Table 4.8 Frequency of UCBs across genders and compounded settings

Compounded behaviour settings	Total Number of UCBs	Number of female UCBs	% of females	Frequency (minutes)	Number of male UCBs	% of males	Frequency (minutes)
Indoor free play	743	155	20.86%	31	588	79.14%	10
Outdoor free play	301	64	21.26%	28	237	78.74%	13
Formal groups	132	50	37.88%	17	82	62.12%	13
Bathroom routines	26	9	34.62%	24	17	65.38%	14
Mealtimes	121	32	26.45%	41	89	73.55%	23
Transitions	61	15	24.59%	26	46	75.41%	12
Afternoon sleep	0	0	0.00%	0	0	0.00%	0
Totals	1384	325	23.48%	30	1059	76.52%	13

Frequency rates for occurrences of UCBs were also calculated across the compounded settings and are presented in Table 4.8 to show the variations between the female and male focus-children. Thus, in indoor free play, 743 UCBs were observed of which 155 occurred on days when girls were focus-children and 588 occurred on days when boys

were focus-children. On average, the female focus-children produced one UCB every 31 minutes, while boys produced one every 10 minutes in these settings. Only during the formal group times and bathroom routines did girls exhibit UCBs at a rate close to their average ratio of 40% membership of the focus-child population. In all other settings the boys produced UCBs at a rate of three to each one produced by the girls.

A total of 1044 UCBs were recorded in the combined inside and outside free play settings during 260 hours and 15 minutes of observations, providing a frequency rate of one UCB every 15 minutes. Over the remaining five compounded settings, which were all teacher-directed, 340 UCBs were recorded during 131 hours and 40 minutes of observations, providing a frequency rate of one UCB every 23 minutes.

4.7.4 Number and frequency of UCBs for each focus-child

The number of UCBs in which each focus-child was involved on their observation day(s) is presented in Tables 4.9 & 4.10. Frequency rates have been aggregated across all settings and were calculated by dividing the total time the child was observed by the number of UCBs the child produced.

Table 4.9 UCBs and females

Focus-child	Number of UCBs	Minutes of observation	Frequency (minutes)
PF01	15	426	28
PF02	13	374	29
PF03	56	1476	26
PF04	12	356	30
PF05	41	1211	30
PF06	31	2026	65
PF07	58	1221	21
PF08	15	422	28
PF09	2	256	128
PF11	5	452	90
PF13	33	406	12
PF14	44	996	23

Table 4.10 UCBs and males

Focus-child	Number of UCBs	Minutes of observation	Frequency (minutes)
PM01	58	735	13
PM02	19	470	25
PM03	22	761	35
PM04	15	361	24
PM05	40	776	19
PM06	14	878	63
PM08	2	409	205
PM09	242	1350	6
PM12	15	799	53
PM13	15	883	59
PM14	5	353	71
PM15	58	460	8
PM18	28	473	17
PM19	127	986	8
PM20	97	560	6
PM21	168	1869	11
PM22	63	1396	22
PM25	71	374	5

The range of UCB frequency for female focus-children was from every 12 minutes (PF13) to every 128 minutes (PF09). For male focus-children the range was from one every five minutes (PM25) to one every 205 minutes (PM08). The female exhibiting

UCBs most frequently was ranked 7th overall, with only two other girls (PF07 & PF14) in the top 50% of all 30 focus-children.

In cases where individual children were observed on more than one day, the intra-child variations was almost as great as inter-child differences (Appendix 5). For example, observation of PF03 over three days recorded daily totals of 24, 8, and 24 UCBs respectively, while the three days for PF05 recorded 34, 5, and 2 UCBs. The seemingly chaotic pattern of daily UCB production was similar for male focus-children observed for three days, for example, PM09 (58, 141, & 43) and PM22 (23, 32, & 8). While UCBs were seen as more evenly distributed across observation days for some children (PF07), others observed for two days demonstrated considerable contrast, for example PF14 (31, 13), PM03 (19, 3), PM06 (3, 11), PM12 (13, 2), and PM19 (95, 32).

4.7.5 Initiators and targets of UCBs

The identification of an UCB during the observations on any day required that the focus-child be involved as the initiator or target, or associated as a group member. At the same time as these events were being recorded, data were also collected on the identity of the focus-child's target, when he or she was the initiator, and on the identity of the initiator when the focus-child was the target. The role played by the focus-child, aggregated across all 54 observation days is presented in Tables 4.11 and 4.12. For example, PF01 was observed to be involved in 16 UCBs, or 1.16% of all 1384 UCBs, over the 54 days. Of the 16, she initiated 12, was a target of three initiated by others, and was part of a group, but not the initiator or target, in one other UCB.

Table 4.11 Preschool female initiators and targets of UCBs over 54 days

Focus-child	UCBs initiated	As a target of others' UCBs	Associated with UCBs of others	Total number of UCBs for each child	% of all 1384 UCBs
PF01	12	3	1	16	1.16%
PF02	10	3	1	14	1.01%
PF03	63	29	16	108	7.80%
PF04	15	2	4	21	1.52%
PF05	37	14	11	62	4.48%
PF06	27	10	12	49	3.54%
PF07	55	2	8	65	4.70%
PF08	14	8	3	25	1.81%
PF09	3	0	3	6	0.43%
PF11	4	5	2	11	0.79%
PF13	29	7	4	40	2.89%
PF14	33	14	3	50	3.61%
Total	302	97	68		

Table 4.12 Preschool male initiators and targets of UCBs over 54 days

Focus-child	UCBs initiated	As a target of others' UCBs	Associated with UCBs of others	Total number of UCBs for each child	% of all 1384 UCBs
PM01	55	26	3	84	6.07%
PM02	19	6	1	26	1.88%
PM03	25	4	4	33	2.38%
PM04	15	16	5	36	2.60%
PM05	42	25	18	85	6.14%
PM06	20	21	28	69	4.99%
PM08	2	2	2	6	0.43%
PM09	219	63	7	289	20.88%
PM12	12	4	5	21	1.52%
PM13	11	9	9	29	2.10%
PM14	5	7	7	19	1.37%
PM15	53	11	1	65	4.70%
PM18	45	20	19	84	6.07%
PM19	132	49	19	200	14.45%
PM20	76	40	26	142	10.26%
PM21	165	28	12	205	14.81%
PM22	65	17	11	93	6.72%
PM25	50	18	5	73	5.27%
Total	1011	366	182		

A further 24 UCBs were initiated by seven preschoolers, who were not classified as focus-children. The remaining 47 UCBs, to make the total of 1384, were initiated by toddlers and babies during various mixed-age grouped sessions. Details of relationships between focus-children, as initiators or members of groups, and their targets, are provided in Appendix 6.

Of the 1313 UCBs initiated by the 30 focus-children, 316 were directed at 11 staff members by 24 focus-children, as shown in Table 4.13.

Table 4.13 Staff targets of UCBs initiated by focus-children

Staff member	Number of UCBs	Number of initiators
S01	27	9
S02	2	2
S04	10	5
S05	98	14
S06	20	8
S08	8	3
S10	130	18
S11	3	3
S13	14	7
S17	2	1
S19	2	2
Total	316	

The number of times each staff member was a target of focus-children reflects, to a large extent, the time each staff member spent with the group. S01 was with the class for several days each week until the third month of the observation period. S05 and S10 were the regular staff members who spent most time with the group. S13 was a support staff member with the group for three half days each week, working with the child who had an autistic spectrum disorder. S04 and S06 worked mainly with the toddlers and joined the preschoolers' group during the mixed-age sessions. S02 and S08 worked mainly in the nursery, S11 in the kitchen, and S17 and S19 were casual staff. Three other members of the centre's staff, two casual staff members, two education students, and two work experience students were not observed to have been targeted by focus-children.

Together, the 11 staff listed in Table 4.13 were the targets of 68 UCBs initiated by female focus-children and 248 initiated by male focus-children. Three girls (PF03, PF07, and PF13) initiated 51 UCBs (75% of the female total), with the remaining 17 UCBs initiated by eight girls, with one female focus-child initiating none. Of the 248 all male UCBs, one boy (PM09) initiated 86 UCBs (35% of the male total), mainly aimed at S10. Five other boys (PM15, PM19, PM20, PM21 and PM22) were responsible for a further 123 UCBs (a little under 50% of the male total), with seven boys accounting for the remaining 39 UCBs and five male focus-children initiating none. Apart from PM09's relationship with S10, no other staff member was the specific target of a particular focus-child.

4.7.6 Peer associations and UCBs

The nature of peer group associations were delineated into 11 sub-groups on the basis of the initiator acting alone, targeting another accidentally, or being in a dyadic, triadic or group relationship with peers. From examination of the behaviour streams, aided by observer comments, a judgement was also made as to whether the intent of the UCB was friendly, verbally hostile or physically hostile. The outcome of these divisions is listed, along with UCB totals, sub-totals, and percentages of production by male and female focus-children, in Table 4.14. Analyses of the behaviour streams of the focus-children allowed unambiguous interpretations of all UCBs in relation to these sub-categories. Almost 68% of the total number of UCBs involving male focus-children and 54% of the total number of UCBs involving female focus-children were classified as involving predominantly physical activity. Further examination determined that UCBs involving physical hostility described 21% of the total number of UCBs involving boys, and 18% of the total number of UCBs involving girls.

Table 4.14 UCBs and 11 categories of peer associations

Code #	Peer associations	Total UCBs	Female UCBs	Female % of total UCBs	Males UCBs	Male % of total UCBs
0	No association	629	155	24.64%	474	75.36%
1	Accidental contact	35	7	20.00%	28	80.00%
2	Friendly dyads	178	38	21.35%	140	78.65%
3	Friendly triads	67	6	8.96%	61	91.04%
4	Friendly groups	28	4	14.29%	24	85.71%
5	Verbally hostile	160	54	33.75%	106	66.25%
6	Physically hostile	257	56	21.79%	201	78.21%
7	Verbally hostile	8	2	25.00%	6	75.00%
8	Physically hostile	16	2	12.50%	14	87.50%
9	Verbally hostile	1	0	0.00%	1	100.00%
99	Physically hostile	5	1	20.00%	4	80.00%
	Totals	1384	325	23.48%	1059	76.52%

4.7.7 Instrumental or object-related actions

In addition to the nature of peer associations, the 1384 UCBs were examined to determine the role played by objects in child:child relationships. A summary of results is illustrated in Tables 4.15 and 4.16.

Table 4.15 Females and objects

Female focus-child	Object-related UCBs
PF02	1
PF03	10
PF05	3
PF06	2
PF07	1
PF08	2
PF09	1
PF10	1
*PF12	1
PF13	4
PF14	8
Total	34

* not a focus-child

Table 4.16 Males and objects

Male focus-child	Object-related UCBs
PM01	3
PM03	3
PM04	2
PM05	3
PM06	2
PM09	19
PM15	1
*PM17	1
PM18	3
PM19	14
PM20	4
PM21	5
PM22	1
PM25	3
Total	64

* not a focus-child

Some focus-children were more likely to be involved with objects than others with two girls (PF03 & PF14) and two boys (PM09 & PM19) accounting for almost half the total number. A number of these involved focus-children in isolated play or incidents and, overall, objects appeared to play a minor role in UCBs between peers. A further seven object-related UCBs were initiated by toddlers with focus-children as targets. The total

number of object-related UCBs involving focus-children was 105, representing 7.59% of the total number of UCBs recorded. Details of UCBs involving objects for each focus-child are listed in Appendix 7.

4.7.8 Categories of UCBs

UCBs were categorised according to the type of actions performed by focus-children that attracted staff intervention and the physical location or activities in which the UCBs occurred.

4.7.8.1 Focus-child actions and UCBs

Almost 500 separate types of actions were identified as ways of describing particular UCBs. Most of these were listed under 13 generalised headings (Table 4.17) for the purpose of preliminary organisation and discussion. Further analysis and interpretation of some UCBs in Chapter Five indicated sub-categories of heading-actions. For example, pushing was found to be exhibited in five different forms (see section 5.7.3.1), and 27 different forms of children's defiance were identified in 103 confrontations with staff, while running inside was associated on a number of occasions with mitigating circumstances. Although UCBs frequently manifested as one of the *types* listed below, examination of the momentary situations and the behaviour stream clearly indicate that no one UCB could be described in detail to be exactly like another.

Table 4.17 Major headings for describing activities attracting staff intervention

Child actions	Number of UCBs
Climbing or standing on furniture	54
Complaining or reporting	121
Defying staff directives	103
Hits, kicks, pushes	133
Ignoring staff directives	131
Misusing facilities and resources	120
Making too much noise	29
Out-of-area/out-of-bounds	26
Out-of-seat/not sitting properly	80
Rough & tumble play	67
Running inside playrooms	34
Taking objects from others	35
Throwing objects	48

4.7.8.2 Physical locations and activities

The occurrences of UCBs were examined and categorised by the most predominant feature of their location or activity. Under the three main headings of the nursery, the preschoolers' playroom, and outdoor play area, more than 100 different behaviour settings and situations were identified as sites of UCBs. Those areas and activities associated with more than 10 UCBs are listed in Table 4.18, with more details provided in Appendix 7.

Table 4.18 Physical locations and activity settings for UCBs

Nursery	UCBs	Preschoolers' room	UCBs	Outdoor play area	UCBs
Blocks	23	Backdoor (transition)	26	Blue ball (climb-in)	15
General play area	24	Bag area	10	Hoops	17
		Bathroom/toilet	40	Outdoor block area	11
		Block area	79	Outdoor grassed area	65
		Book area	14	Plastic fort	10
		Carpet	60	Sandpit	46
		Circular window	10	Tree seat	10
		Collage trolley	17	Tree seat dig area	10
		Dining tables	111	Verandah	16
		Easy chair	30	Wooden fort	32
		Gate	15		
		General play area	57		
		Group-time	109		
		Home	146		
		Painting table	13		
		Playdough	10		
		Puppets	11		
		Puzzle table	22		
		Story-reading	18		
		Time-out	14		
		TV	24		

Although location provided a convenient label to categorise UCBs it did not imply an influence on production of unwanted behaviours on every occasion. Frequently, the site and materials were incidental to the apparent intent and obvious activity of the UCB. In particular, the blocks and the home areas, dining tables, backdoor, and bathroom, all provided a backdrop for numerous UCBs having no aetiology in the physical properties of the settings. These phenomena are discussed more fully in Chapter Five.

4.8 Sequences of unwanted child behaviours

As noted in Chapter Three, the identification of physical locations and activities as a source of influence was approached through the analysis of sequences of unwanted child behaviours (SUCBs) rather than simple occurrences of UCBs. Typically, a SUCB was composed of the UCB and events consequent to staff intervention, which usually consisted of the focus-child complying with a verbal directive issued by a staff-member

in response to the child's action that initiated intervention. On 220 occasions, however, the focus-child ignored or defied a directive. Periodically, further staff intervention to enforce the child's adherence to the original directive created another UCB that was sequential to the first but not necessarily related to the antecedents of the first. For example, on a number of occasions a focus-child's defiance became the issue for further staff intervention rather than the cause of the original UCB. When the child continued to confront the staff-member with open defiance then further UCBs were produced until the confrontation was resolved.

The 1384 recorded UCBs were contained in 1028 SUCBs, comprising 808 SUCBs involving a single UCB, and 220 SUCBs with multiple UCBs, in a range of two to nine. The number of UCBs in each of the 1028 identified SUCBs is listed in Table 4.19.

Table 4.19 Number of UCBs within SUCBs

Number of UCBs	Number of SUCBs
1	808
2	143
3	45
4	19
5	6
6	4
7	1
8	1
9	1
Total	1028

In some cases antecedent events comprised a stream of related interactions and transactions with objects or other children, the majority of which occurred over periods of a minute or less. However, streams of related behaviours were also observed to be only temporarily interrupted or to run concurrently with other streams. In a number of instances relevant antecedent events could be traced back for more than an hour before erupting in the observed UCB at a particular time and place that had little relevance to its history.

4.9 Conclusions about the evidence for unwanted child behaviours

The stability of the setting was seen as a definite aid in the observer's attempt to become a consistent influence in the environment of the child care centre. The strategy was assisted by the regular involvement in the playrooms and outdoor area of students and other people who were not members of the permanent or casual staff. The

recorded commentary provided thick description of behaviour sequences in “real time” which facilitated the calculation of relative observation times and the easy identification of UCBs. These combined to assist the analysis and interpretation of events, a point supported by the level of agreement reached by a panel two independent analysts.

Calculations utilising the temporal data provided sub-totals for the duration of observations across days, settings, and individual children. Among the most prominent features to emerge was the variability in the attendance times of the focus-children. It was shown that these times varied not only between children but also varied between the same children on different days, which impacted on the length of time children spent in particular settings and the social component of the environment they encountered. The data clearly shows that, as a consequence of variable attendance patterns, among the focus-children in the current study there was little uniformity of experience of the child care centre. The variability in children’s arrival and departure times, days attended, different staffing of rooms on different days, staff shift work, and a flexible approach to scheduling of settings on a day-to-day basis, also limited opportunities to identify a typical or average experience for attending children. This point is explored further in Chapter Five.

For the most part, the identification of UCBs was achieved with little incertitude. Behaviour streams were clearly discernible and in the majority of cases provided an unambiguous exposition of behaviour units, from which momentary situations were partitioned. Examination of momentary situations at the point when UCBs were identified by staff intervention provided a basis for categorising the behaviours according to specific types of peer group conditions, locations, and activities. Counts, percentages and frequencies of occurrences of UCBs, under a variety of environmental conditions suggested in the literature as being influential on child behaviour, are presented in graphs and tables as a basis for analysis and interpretation in the following chapter.

CHAPTER FIVE

Analysis and interpretation of environmental factors related to occurrences of unwanted child behaviours

5.1 Introduction

During the process of both the recording and analysis of data, the author was consistently reminded that UCBs were not necessarily the same behaviours as those classified as child behaviour problems in many other studies. Before continuing with a detailed interpretation of the findings of the current investigation, it may be appropriate to reiterate the phenomenological nature of the identity of UCBs. The observer made no value judgements on the legitimacy of staff intervention in children's activities and did not compare the actions of children that prompted staff intervention to any standard definition of problem behaviours. Therefore, UCBs could be characterised as constructs of the staff as much as representing the behaviours of children. Consequently, variations in numbers, frequencies, locations, and times of UCBs could be seen to reflect variations in staff behaviour as much as that of children. However, examination of the children's behaviour streams suggested otherwise, and interpretation of the data demonstrated relationships between UCBs and a range of environmental factors, including some correspondences, which are presented below.

5.2 Primary findings

The relationship between children's displays of unwanted behaviour and factors within the environment of a child care centre were found to be complex. The current study did not identify any one environmental factor within the child care centre that influenced manifestations of unwanted behaviour in all attending children. As a general summary, it was found that some aspects of the environment influenced the occurrence of some UCBs some of the time. However, these influences were rarely seen to be in isolation from other environmental factors, and child reactions appeared dependent on the psychological habitat of the child at the time. The findings reinforce the notion that situations are defined by the individual (Fuhrer, 1990; Stebbins, 1973) and that child behaviours are context dependent. Each of the focus-children responded to the context of the situation (as defined in Chapter One) as it appears to him or her, with time playing a pivotal role. The temporal factor helped explain shifts in the relative strength of influence of related within-child and environmental factors to account for apparent

inconsistencies in a child's behaviour within similar situations located across time.

5.2.1 The process of explicating the finding

While examining the data for evidence of environmental influences on the behaviour of children within a child care centre, a number of related issues were raised. One of the most salient points was the demonstrated differences in the experiences of child care between children attending the same centre, created by exo-system factors, and which were seen as contributing to the child's psychological habitat. The extent of differences in children's experiences appeared to have implications for explaining differences in behaviour. Therefore, the current interpretation of environmental influences on UCBs started with temporal matters associated with each child's physical presence in the child care centre setting, sub-settings, and his or her access to situations. In conjunction with temporal matters, the general occurrence of UCBs was analysed in relation to time-of-day, different days and months, individual children, and children grouped by gender. These were followed by consideration of the influence on the production of UCBs exerted by physical, social, structural, and cultural components of the environment of the child care centre.

Although temporal matters, child characteristics, and the physical, social, structural, and cultural components of the environment were addressed under separate headings, these six constituent parts of the influence on UCBs were found to be interrelated, and involved interactional and transactional forms of relationships. As such, there is extensive overlap of constituencies in much of the discussion. Nevertheless, the findings both build on and extend existing knowledge, offering further understanding of manifestations of children's unwanted behaviours in a child care centre.

5.3 Children's experiences of the child care centre

A number of investigations into the influence of child care centres on children's behaviour have considered the importance of a child's attendance history (e.g., Derscheid, 1997; Hagekull & Bohlin, 1995; Haskins, 1985; Hennessy et al., 1992; Podmore, 1993; Schindler et al., 1987; Thornburg et al., 1990). While distinctions have been made between the quality of care in different centres, the majority of studies assumed that children in the same child care centre experience the same environment. However, findings from the current study suggested that each child had different experiences of the same centre-based care as a result of his or her day-to-day attendance pattern, and that this variation could be more confounding than length of enrolment. Although time in settings has been recognised as a mitigating factor in

some situations (Maxwell, 1996), researchers rarely address the possibility that attending children may construct different views of shared situations because of dissimilar temporal exposure to common physical, structural, and social aspects of environments.

The data collected in the current study clearly demonstrated that the 30 focus-children each experienced the child care centre differently. The bases for the differences lie in three particular features of the child care centre's operation that are shared by most other centres but not preschools or schools. These features relate to the flexible arrival and departure times of children on each day, additional flexibility in the specific days and number of days that children attend, and the structural flexibility inherent in most child care centre programs. These points are also important in the light of research on early childhood behaviour and development that attempts to generalise findings across children attending different types of institutional settings.

5.3.1 Consequences for children of different arrival and departure times

Although the centre in the current study regularly opened at 7.30am and closed at 5.30pm, individual children arrived and departed at various times between those hours. The data shows that some children arrived more than two hours after the first child arrived in the morning, and some children left more than two hours before the last child departed in the afternoon (Appendix 3). The variable patterns not only provided children with different duration of child care centre experience, but also exposed them to different temporal and spatial settings and situations at the start and end of the day, as illustrated in the previous chapter (4.6.2; 4.6.3; 4.6.4).

In the current study, only seven focus-children experienced the relatively quiet and small mixed-age-group start to the day that characterised the morning free-play session in the nursery (Appendix 4). On 45 of the 54 observation days, the focus-child arrived after 8.30am and on 20 of these days, did not arrive until after 9.00am (Appendix 3). The majority of focus-children walked into the preschoolers' playroom when it was already occupied by children who had arrived earlier, had established their territory and peer group associates for the session, and were working their way through the activities made available by staff. The earlier arrivals were able to settle in slowly and organise themselves and their friendships. Later arrivals were always confronted with a room full of activity and the challenge of entering established groups and games, with all the difficulties the task entails (e.g., Hartup & Laursen, 1993; Puttalaz & Wasserman, 1990; Sims, 1997).

The early arrivals also had opportunity for more intimate involvement with staff and to help prepare activities, which was not always available in the same quiet way to those who arrived later. The points were illustrated by the different experiences of PM19 and PF03. In Vignette 5.1 the centre had just opened and S05 was on her own in the preschoolers' playroom, setting up activities for the 8.30am session prior to co-supervising the mixed-age group in the nursery.

Vignette 5.1 The earlier arrival

- 7.30am Focus-child PM19 arrives with PM19M. One of the toddlers also enters the room. S05 stops setting up the table activities for a moment to greet them both - PM19 hugs S05.
- 7.31am PM19 says goodbye to PM19M and she leaves.
- 7.32am PM19 walks over to S05 and, talking, goes into the storeroom with her as she collects materials for the table activities.
- 7.33am Out of storeroom, S05 explains to the children that she needs more paint - takes PM19 and the toddler down to the store in the toddlers' playroom.
- 7.34am S05, PM19 and toddler return to the preschoolers' playroom - PM19 puts some additional paint-pots near the easel - then all three go through to the nursery.

In Vignette 5.2 the majority of the children had already arrived and the preschoolers and toddlers had moved from the nursery to the preschoolers' playroom. S01, S06, S14 and S15 were present - S01 was talking to a parent and each of the other three staff were involved with one or more of the 16 toddlers and preschool-age children in the playroom or in the adjacent children's toilet.

Vignette 5.2 The later arrival

- 8.52am PF03 arrives with PF03M – PF03M goes to sign-in book - PF03 goes straight to painting table - joins PM19 and PM21 - PM21 immediately pushes PF03 away.
- 8.53am PF03 does not retaliate - stands still, says nothing - looks to PF03M – PF03M comes over and stands with PF03 while she sits down unhindered by PM21 and starts to paint
- 8.54am PF03M starts to leave - PF03 gets up - follows her to the preschoolers' playroom gate - waves goodbye
- 8.55am PF03 walks away from gate - talks to toddler - moves on past playdough table - goes over to the puzzle table to talk to S06.

Unlike the less flexible programs of preschools and schools, the days in child care centres generally have no communal starts, such as an assembly or early morning circle-time to welcome everyone before the routines and activities begin. The centre in the current study did not implement the first formal group setting until approximately 9.45am, 2 hours and 15 minutes after opening time. On most observation days staff manage to greet each child on arrival and settle him or her into an activity. By 9.00am,

however, with toddlers and preschoolers combined in the one room, as well as parents who wanted to talk to staff, new arrivals sometimes received only a welcoming word and brief hug. Thus earlier starting children experience a totally different type of beginning to each day in child care compared to later starting children.

Similarly, there were no ritualised endings to the day, such as the ringing of a “home-time” bell, or a circle-time “farewell” for the attending group as a whole. Children left at anytime, with the first regularly departing at approximately 1.45pm. Only six focus-children experienced the slowing of activities and the smaller group in the nursery setting at late afternoon. The majority exited the program in the middle of ongoing events during the afternoon outdoor session, leaving games unfinished and, frequently, friends devoid of partners. It is doubtful whether the 12 focus-children who regularly departed the centre before 3.30pm had much experience of being left by their friends. Consequently, children could be seen to have had different social and cultural experiences of the child care centre as a result of their parents’ schedules.

5.3.1.1 The additional impact of sleeptime on selected children

While the practice of walking away from ongoing situations in the afternoon was in all probability for most children more than compensated by their parent’s arrival, the situation for the five children designated for an afternoon sleep was different again. On each day of their attendance, they experienced having to leave friends and activities after lunch to be taken to the toddlers’ playroom, which was used as the sleep room. Frequently, these children returned to the preschoolers’ playroom either just before or after the end of the indoor free play session and, sometimes, not until after the start of outdoor free play. They not only had to leave their after-lunch activities on account of “sleeptime”, but also had to negotiate entry to established situations after waking later in the afternoon. The resultant additional experiences with peers and structure were not part of the day for the other 25 participants in the study.

5.3.1.2 Unequal access to complex play

Apart from different experiences with staff and peers, the data also demonstrated that as a result of their late arrival in the morning and/or interruptions for sleep periods and/or early departure in the afternoon, some children regularly experienced less time in specific settings, particularly free play structures, compared to other enrolled children. Previous investigations have found that play period duration impacts on the complexity of play (e.g., Boisen, 1992; Christie et al., 1988; Christie & Wardle, 1992), and that access to opportunities for complex play is important for optimal child development and

associated behaviours (e.g., Dockett, 1995; Howes, 1980; Prescott, 1994). In the current study, as detailed in Appendix 4, four focus-children experienced less than 15 minutes in the morning indoor free-play session, and another three experienced less than 25 minutes in morning free play before the start of routine group activities. On a number of occasions, the children scheduled for an afternoon sleep experienced less than 15 minutes play before being led away to bed. Thus, there were fewer opportunities for these children to gain the benefits of complex play that were available to the earlier arriving children, those not scheduled for an afternoon sleep, and peers who departed later in the afternoon.

5.3.2 Days of attendance each week

Another feature of child care is that children enrolled in centres do not have to attend in common patterns of days or times as is required by schools and some preschools. Parents using centre-based child care arrange for their children to attend from one to five days each week. This practice creates a number of differences in the lives of attending children. For example, children enrolled for one day each week have patterns of attending the centre every seventh day of their lives, while for others enrolled more than one day each week it may be every second and third day and may include consecutive days. In addition to differences in the day-to-day patterning of their lives, children attending four to five days each week accumulate more child care related experiences in three months than those attending one day each week would accumulate in a year. However, this generalisation is subject to the child's arrival and departure times on each day, which can impact on the total length of experience, as seen in Figure 4.5.

Apart from the differences in the daily patterning of children's lives, and the long-term temporal experiences of children in child care, the variable attendance days of children means that group compositions and peer group associations are likely to vary on each day. Generally popular, dominant, or unpopular children, as well as the particular friends or adversaries of individual children, may not attend every day. Therefore, a child who is dominant among a group on one day may be subordinate to a more dominant child in the different group on another day. As discussed later in this chapter, the presence of particular children on certain days created combinations in dyads and triads, leading to the production of behaviours that were not exhibited by the individuals in different groups on different days.

The day-to-day experiences of individual children, as well as apparent regular

associations of peers on specific days, was subject to further disruption caused by uncharacteristic later arrival or earlier departure; missed, extra, or swapped days; and/or longer-term changes to the number of days enrolled each week, as reported in the previous chapter (4.5.1; 4.5.2). The combination of variable days and hours of attendance could be seen to considerably reduce the number of occasions when a child attending child care experienced the same social and sequence of structural components of the environment.

5.3.3 Differential experiences of structure

The third feature of child care centre operations, which makes attendance different to that of schools and preschools, is the flexibility of the program. In the current study, spasmodic variations to routines and structure on specific days combined with differences in children's attendance patterns to create unequal child:environment experiences among the focus-children. The program variations were sometimes forced on staff by weather conditions or special events, such children's birthdays. At other times, variations to the program resulted from spontaneous extensions to activities that were judged popular or beneficial to the children. Regardless of reasons, however, the outcome of these changes was that not all focus-children had the same opportunity to experience the range of settings nominated by staff as the standard program of the centre (see Appendix 4 for details of times each child spent in each setting). In particular, formal group sessions, or circle-times, were particularly prone to being omitted from the mid-morning and afternoon periods.

5.3.4 Conclusions about children's experience of child care centres

In summary, the evidence from attendance-times data clearly indicates that the 30 focus-children each experienced considerable variation in their exposure to both settings and situations. The patterns of arrival and departure times also suggests that those variations may position individual children in different relationships with physical, social, structural, and cultural factors within the environment of a child care centre. In addition, family schedules that dictated late morning arrival and/or early afternoon departure, and the requirement of some parents that their children should sleep in the afternoon, resulted in these children experiencing consistently short play periods with limited opportunities for complex play at various times throughout the day.

Apart from the immediate impact on child behaviours, the findings have implications for research that focuses on the behaviour of children in child care centres generally. Taken together, it appears difficult to assume that the supposed effect of any particular

child care centre experience can be considered equal for all attending children, or equal for any child from one day to the next. Consequently, the current findings suggest that caution needs to be exercised in generalising effects of child care centre enrolment on young children without consideration of their individual attendance patterns. In particular, arrival and departure times of individual children need to be examined in relation to a centre's program structure, with specific reference to the impact of problems associated with group entry and short play periods.

5.4 Time and occurrences of UCBs

At first sight, the pattern of occurrences of UCBs appears completely random, with contrasting counts across days, settings, and children (Appendix 5). Although some individuals and minor patterns of dyads and triads accounted for the production of UCBs in similar situations, none were consistent over the period of investigation. To some extent, this pattern was in accord with variations in child care experience discussed in the previous section. To identify any specific factors in accounting for differences, further analysis was undertaken to interpret the occurrence of UCBs in relation to time-of-day, day, month and season.

5.4.1 Timing of UCBs on different observation days

Although there is some suggestion in the literature that time-of-day impacts on behaviours (e.g., Holloway, 1991; Smith & Connolly, 1980; Touchette et al., 1985), data in the current study offered little support. Proportionate to the time-of-day when observations were made, the early morning and late afternoon periods produced larger numbers of UCBs than the middle of the day. On most days, UCBs peaked just before morning tea at 10.00am, or just after lunch at 12.30pm (Figure 4.8). There was no indication that activity built up slowly and reached a "vortex" in the middle of the day as described by Holloway (1991). The majority of UCBs occurring on any day were recorded before lunch on 27 days, after lunch on 18 days, with the morning and afternoon sub-totals equal on 9 days (Appendix 5). Overall, frequency rates were higher in the early morning with a trend towards lower levels in the late afternoon. It is apparent that despite allowing for the sleep times of selected focus-children and the variable delivery and collection times by parents, time-of-day did not overtly influence the manifestation of UCBs by all focus-children.

5.4.2 Days, months and seasons as influences on UCBs

Data in the current study provided no evidence to suggest that any particular day or month, during the period in which observations took place in the current study,

influenced the production of UCBs. Children experienced different environmental conditions on each day, as observed by Touchette et al. (1985), but these differences were related to variations in experiences of the program and peer group rather than the ordinal position in the week of any particular day. The social, structural and cultural characteristics of any day was dependent on the children and staff present in the centre, as well as weather conditions and the influence of special events, such as the previously mentioned birthday celebrations, rather than the day's proximity to a weekend.

Over the five months of data collection, no single month appeared to influence the production of UCBs more than others. Although the observations were made in autumn and winter, few children were seen to be suffering colds or other minor illnesses while in attendance, which had been suggested as a potential influence on behaviour (O'Keefe, 1995). None of the children appeared to undergo any prolonged or significant mood change, such as that indicating seasonal affective disorder in older children (Cooke & Thompson, 1998; Giedd et al., 1998; Meesters, 1998; Swedo et al., 1997). Although a greater number of UCBs were recorded in the first half of the observation schedule (Figure 4.7), the pattern may have been related to the larger proportion of boys observed during that period, and the higher level of UCBs exhibited by boys, rather than implicating particular days, months, or the season as an influence.

5.4.3 Conclusions about variations in UCBs across days and times

Although confounded by variations in children's hours of attendance and attendance days, over weeks and months, there appears to be no specific pattern in occurrences of UCBs that would suggest an influence of time-of-day, day, month, or season. Anecdotally, the observer was unable to identify any differences in daily or monthly occurrences of UCBs that were not also confounded by within-child characteristics, differences in the composition of peer groups, or variations in activities and program structure.

5.5 Variations in UCBs of the same child on different days

Although taken over small samples of days for each focus-child, the data indicated a considerable range of variations in numbers of UCBs exhibited by the same child on different days (Appendix 5). The lack of consistency in production of UCBs suggested that within-child propensities, based on the wide range of attributes derived from nature and nurture, could not account for the behaviour of children alone. The variations also provided evidence that staff did not consistently target particular children for high levels

of response to UCBs, either as a result of intolerance or the implementation of a specific behaviour management plan for an individual child. Rather, it appeared that a different combination of peers, occasioned by variable attendance patterns of children, reacted in concert with other environmental variables to create different situations on each day. It is possible that perceptions of the context of these different situations, derived from the child's psychological habitat, played a major role in the production of UCBs.

5.5.1 Inconsistent innate behaviour of individual focus-children

That the child's contextualisation of situations may have been important was evidenced by the capacity of most focus-children to change, at almost any time, an apparently established pattern of reactive and proactive responses to settings. Although frequently short-term, these sudden inversions of relationships not only within settings but also with objects, peers and staff introduced a level of unpredictability that was seen to impact on the number and frequencies of UCBs. In the following accounts of UCBs in relation to individual children, there has been an unavoidable overlap of some physical, social, structural, and cultural factors in the environment, although each component is considered in greater detail later in this chapter.

An example of change in a pattern of behaviour was provided by PM09, who was recorded as being involved in 289 UCBs or more than 20% of the entire total recorded over 54 days. He was nominated as having instigated 219 of the events, with physical hostility being used in 64. At the same time he was observed to have been the target of UCBs instigated by 21 different children on 63 occasions, with 26 instances of physical violence being used against him. By almost any standard form of assessment, the data indicated that PM09 was a highly active and aggressive child. However, there were times when he declined to be incited into a hostile interaction, even by PM21 who could be described as one of his regular combatants and an established antagonist. The following example was observed during an indoor free play session.

Vignette 5.3 Ignoring the challenge

PM09 is sitting alone at the round table in the home area working on a small Mobilo construction. Although he is "out-of-area" no staff have commented. PM21 comes over to the table and climbs onto the edge, on his knees in front of the Mobilo pieces. PM09 takes no notice, continues trying to fit two sections together. PM21 grins and shuffles closer, using his knees to push the pieces towards PM09. PM09 says nothing - gathers the Mobilo pieces and moves away from the table.

PM09's reaction almost indicated subservience to the supposed dominance of PM21

and, if true, would have complied with models of dominance status observed to be present within preschool age children (Hatch, 1987; La Freniere & Charlesworth, 1987; Maynard, 1985; Pettit et al., 1990). However, PM09 rarely showed any signs of being dominated by anyone and his response to PM21 on this occasion was quite different (and unexpected) when compared with the more usual outcome of contact between the boys. For example, the following episode that took place in the tree-seat digging area during outside free play was more typical of PM09's relationship with PM21 and a number of other children.

Vignette 5.4 Responding to challenge

PM09 is standing on his own, prodding the earth with his spade when PM21 comes over and stands next to him. PM21 says something to PM09 and PM09 quietly replies (I cannot hear what is said but PM21 evidently does not like the response). PM21 steps back, turns, and punches PM09 in the face. With both hands PM09 swings the spade into PM21's face, knocking him to the ground. PM21 gets up, crying, and runs to S06.

The differences in PM09's reaction to PM21's provocation on both occasions cannot be easily explained in relation to environmental factors. While one incident took place outdoors and the other indoors, both involved PM09 playing alone during a free play session when he was targeted by PM21. PM09's different behaviour could be explained as general and long recognised differences in reactions to the overt aggression of physical attack compared to non-verbal incitement or instrumental aggression, such as that described in the first incident (Bandura, 1973; Hartup, 1974). However, acceptance of such a rationale is dependent on consideration of consequences of the interaction without taking account of the full behaviour stream, the omission of which is likely to distort meaning (Barker, 1963b). As the vignettes show, PM21's overt aggression that elicited PM09's violent retaliation came after PM09's verbal response to PM21's initial (and apparent) verbal provocation, whereas, PM09 did not respond to PM21's earlier non-verbal provocation at the table. Although body language and facial expression clearly indicated that PM21 was deliberately trying to incite PM09, which more than likely would have been understood by him (Camras, 1977; Hestenes et al., 1993; Keating & Bai, 1986), PM09 chose not to respond.

In the absence of any findings comparing children's reactions to verbal versus non-verbal aggression, it must be concluded that PM09's decision to ignore PM21 in the first vignette was probably due to transient mood or other within-child characteristics that were subject to change over a short period. An influence on his decision may also have included a desire for solitude, which is discussed further later in this chapter (5.7.11).

Most children at various times in different settings exhibited similar contrasts in the way they responded to peers, although actions took different forms. For example, PM18, who ranked second among all focus-children for involvement in R&T play and seldom passed by an opportunity to indulge, had been wrestling with three boys on the carpeted area. Staff intervention had curtailed the interaction and all four combatants had been guided to other activity areas that were not directly supervised. In the past, this method of behaviour management in relation to curtailing group R&T play had been observed as ineffective in subduing the boys for long. However, when PM13 not unexpectedly tried to re-start R&T play at the playdough table a few minutes later, PM18 responded by reporting his “misbehaviour” to S10. Although PM18 had not previously exhibited any particular interest in playdough modeling, the reporting appeared to be a strategy PM18 used to discourage PM13’s advances rather than get his wrestling partner into trouble. Similar to PM09’s unanticipated response to PM21, noted earlier, PM18 could have been seeking rest and solitude by using the playdough activity, a strategy Sylva et al. (1980) had observed being used by other children. Nevertheless, declining an invitation to R&T play was out of character for PM18 and the consequences added an unexpected UCB to the observed total.

In other situations, reporting of a friend’s misbehaviour to staff also added an aspect of unpredictability to the behaviours of other children in the group and cast doubts on the stability of dyadic relationships. At times, however, reporting appeared to be motivated by factors other than simply curtailing the immediate actions of a peer, or maintaining solitude, as exemplified by the following episode.

Vignette 5.5 Eating lollies

PF05 walks over to her bag in the locker area, followed by PF03 and PF06 (with whom she has been playing matching cards). PF05 gets a tube of lollies out of her bag, crouches down in the corner of the locker area, out of sight of staff, and shares the lollies with the other two girls. PF03 also crouches down and PF06 stands in front of them - all are shielded from staff view and have not been noticed. After eating for approximately two minutes, PF06 walks over to S05 and reports PF05 having lollies.

S05 immediately called out to PF05 to put the lollies away. PF05 complied and ran off laughing with PF03. Both were then joined by PF06 and the three continued friendly play in other activities without any apparent animosity attached to the reporting.

The above example, of a friend reporting the misdeeds of others without apparent damage to the overall amity, was not an isolated one. These types of actions may

reflect several aspects of within-child propensities and other attitudes characterised as temperament. As discussed in Chapter Two, however, a number of studies have urged a cautious approach to linking temperament to early childhood behaviours (Greenberg et al., 1993; Hemphill, 1996; Robins, 1991). The reporting could be connected to matters of security and conflicts among friends (Dunn & McGuire, 1992; Isaacs, 1933), or attempts to exert control over partners (La Freniere & Charlesworth, 1987). Notwithstanding this or other explanations, the main issues for the current study were the amount of unpredictability such reporting introduced into the behaviours of individual children, their relationships with peers, and the subsequent variations in the number of UCBs it generated.

5.5.2 Conclusions about within-child characteristics

It appears evident from the above accounts that within-child characteristics played an important role in the manifestation of UCBs. It appeared equally evident, however, that expression of propensities for specific behaviours, emanating from both nature and nurture, may not have been entirely stable or consistent and that situational factors also exerted a major influence on child behaviours. Utilising the concept of the child's psychological habitat as a mediating factor in children's reactions to situations helps explain why expected child responses to familiar situations may have been subordinated, at times, by unexpected responses that appear out of character. It also helps to view the wide variations in UCBs across time and places as less chaotic and more likely to have been dependent on child:environment relationships not yet fully understood. Therefore, further analysis was undertaken and interpretation focussed on group characteristics identified in the literature as gender-based.

5.6 Gender and UCBs

In addition to variations in occurrences of UCBs across time-of-day, days, and individual children, the data also indicated differences in the overall proportions of UCBs attributed to males compared to females. Similar to the interpretation of data in relation to individual children, there has been an unavoidable overlap of some physical, social, structural, and cultural factors, although the discussion focuses on gender.

The raw figures for numbers of children, times of attendance, and duration of observations indicate a consistent proportional representation of approximately 40% females to 60% males (Tables 4.2 and 4.3). However, the findings show that compared to girls, boys were credited with UCBs at the higher overall ratio of 23:77 and an average frequency rate 2.5 times greater than that for girls (section 4.7.4). Overall, the

data on UCBs in the current study shares some similarities with the literature that, for some time, has portrayed boys as more prone to problem behaviours than are girls (e.g., Bandura, 1973; Charlesworth & Dzur, 1987; Hartup, 1974; Hinde et al., 1983; Ochiltree & Edgar, 1995; Rutter et al., 1979; Sanson, Prior, et al., 1993; Zahn-Waxler, 1993).

Although the 38:62 girl:boy ratio of UCBs produced during formal groups was closer to the 40:60 ratio of girl:boy focus-child population, it extended to 21:79 UCBs during both the indoor and outdoor free play compounded settings. The greater number of UCBs attributed to boys could be accounted for by implicating aspects of both the structure and culture of the centre. For example, it is generally accepted in the literature that boys exhibit more active behaviours than girls (e.g., Biddulph, 1997; Moir & Jessel, 1991; Roopnarine, 1984). At the same time, outside free play sessions, in particular, provide opportunities for more physical activities compared to sessions under greater staff direction. Add to these two points that the literature has also contended that highly visible motoric activity tends to attract more staff attention (e.g., Schachar et al., 1986; Tieger, 1980; Vlietstra, 1981), and it is not surprising that figures for male UCBs would be higher than those for girls in outdoor free play sessions.

However, the observational records showed that the boys produced more than twice the number of UCBs during the less active indoor free play, with a higher frequency rate, than they did in the potentially highly active outdoor sessions (Table 4.8). Therefore, the data were examined further to identify the types of behaviours exhibited by girls and boys, and the relationship between those behaviours and environmental factors.

5.6.1 Gender-based behaviours

Apart from higher levels of activity, the literature has consistently labeled boys as noisier and more aggressive than girls (e.g., Bandura, 1973; Charlesworth & Dzur, 1987; Hartup, 1974; Hinde et al., 1983; Ochiltree & Edgar, 1995; Rutter et al., 1979; Zahn-Waxler, 1993), which could be expected to produce greater numbers of UCBs. On the other hand, as discussed in Chapter One, defining aggression invites considerable difficulties. Consequently, the 1384 UCBs were categorised as involving either verbal only or physical interactions. At the same time, behaviour streams were examined for evidence of instrumental and relational forms of aggression, which researchers have found to occur more frequently in the problem behaviour of females (Björkqvist et al., 1992; Crick, 1995; Crick & Grotpeter, 1995; Rutter et al., 1979). The outcome of the examination is discussed below.

5.6.1.1 Physically active versus verbal-only UCBs

The data clearly showed that boys exhibited a greater number of UCBs with a predominantly physical component than did the girls (Table 4.14). However, the greatest differences were in friendly encounters, in which boys prompted 193 staff interventions or nearly 18% of their total number of UCBs. The percentage was almost twice that of the girls, who produced 33 UCBs involving physical interaction within friendly encounters, representing 9.7% of their total. The data for R&T play clearly illustrates the variation in play styles or preferences between the genders. Boys were involved in a total of 59 (5.6%) UCBs involving R&T play, while girls were involved in three (<1%) of their total number of UCBs.

The difference in UCBs between the genders was less in the category of physically hostile encounters. While boys were involved in 220 physically hostile UCBs in dyads, triads, and groups of more than three, the number represented 21% of the total number of UCBs involving male focus-children. Girls, on the other hand, were involved in only 58 physically hostile UCBs with others, but this number represented 18% of all UCBs involving female focus-children. In terms of physical aggression as a percentage of all UCBs, therefore, the differences between the aggressive behaviour of boys and girls were not great.

To a limited extent, these findings appear to be in agreement with earlier studies that contended little differences between male and female aggression before the age of five years (Maccoby & Jacklin, 1980; Rutter & Garmezy, 1983; Tieger, 1980). However, the classification of R&T play as non-hostile in the current study, and the reliance on staff interventions to identify UCBs, confound direct comparisons with many other studies on children's physical aggression.

5.6.1.2 Verbal and relational forms of aggression

In contrast to physical aggression, the current study also categorised peer associated UCBs into verbally hostile encounters (Table 4.14). The percentage of female UCBs entailing verbal hostility in dyads (33.75%) and triads (25%) was higher than the overall percentage of female accredited UCBs (23.48%). However, no verbally hostile UCBs involving a female focus-child within groups of more than three children were observed and there was no evidence of groups of children "ganging up" on one child. Although the data appeared to lend some support to the notion of differential female aggression, the overall female UCB rate is well below their 40% proportion of focus-child population and observation time. It does not appear, therefore, that the female focus-children in

the current study were any more verbally hostile in their relationships with peers and toddlers than were the males. It was observed, for example, that a large amount of verbal aggression exhibited by boys and girls was related to protests and complaints about peer behaviour. At the same time, a quantity was directed at peers in efforts to maintain social order in games and to preserve dramatic play scenarios from destruction by others. The defences often involved attempts to exclude others from groups or play areas which could, under some circumstances, be interpreted as a form of relational aggression (Crick, 1995). At the same time, it is acknowledged that the data collection strategy did not facilitate the detailed recording of conversations between children. Therefore, it is possible that UCBs with a component of relational aggression may have gone unrecorded.

Only three clear instances of child:child relational aggression were registered, twice between the same two girls (PF05 and PF06) and the other between two boys (PM03 and PM20). A single instance involving the girls resulted in teacher attention to PF06 who was visibly upset. Neither of the other incidents led to teacher intervention and the events were not classified as UCBs. As a consequence of the low rate of evidence for its occurrence, relational aggression cannot be accorded any significance in the current study.

5.6.1.3 Instrumental aggression

Studies reviewed in Chapter Two found that object-related, or instrumental, aggression was likely to be equally exhibited by girls and boys (Berkowitz, 1993; Hegland & Rix, 1990; Howes et al., 1994). Although the assumption appeared to be that encounters were about ownership or control of objects, Sims (1997) suggested that objects were frequently used instrumentally by children as a means of attempting group entry. Data for the current study evidenced that in 105 verbally and physically hostile UCBs characterised by instrumental aggression, all were concerned with taking or maintaining possession of objects (Tables 4.15 & 4.16). There was no evidence of objects being used as part of a group entry strategy.

Preschoolers initiated 98 object-related UCBs, while toddlers and babies initiated the remaining seven, with preschool females being targeted in two and boys being the targets in five. Female preschoolers initiated 34 object-related UCBs compared to 64 initiated by preschool boys, which was closer to the 40:60 proportions of the genders than the much higher 23:77 female:male ratio of overall UCBs. Therefore, findings in the current study indicated that the wide variation in UCBs between the genders may be

less marked in those identified as involving instrumental or object-related aggression, which is in some agreement with Hartup (1974).

It should be noted, however, that two females (PF03 and PF14) were responsible for initiating more than half the total of all instrumental UCBs exhibited by females. Similarly, two males (PM09 and PM19) were responsible for more than half of all object-related UCBs exhibited by males. The residue of 47 instrumental UCBs were exhibited by 19 different focus- and two nonfocus-children in a range of one to five UCBs each, with six focus-children initiating none. The skewed distribution suggested that individual within-child characteristics apart from gender, may play a defining role in children's involvement in object-related UCBs.

5.6.2 Conclusions about gender and UCBs

Overall, the data indicated that boys were involved in more UCBs than girls, even when specific types of behaviours thought more predominant in females were considered. However, the differences were not as prevalent in some areas as they were in others, with the role of friendly encounters and the previously discussed ambiguity of R&T play being a confounding factor. The possibility that staff targeted boys' UCBs to a greater extent than they targeted females, particularly on account of higher activity levels of boys' play, is considered later in this chapter (5.10).

5.7 Physical factors in the environment and UCBs

Overall, the design of the centre and layout of activities appeared to have little direct influence on the manifestation of unwanted child behaviours of most children. Although specific areas could be identified as settings for numbers of UCBs, there were few similarities in the characteristics of the UCBs and the location appeared often to be secondary to the activities taking place in that location, a point highlighted in the survey undertaken by Gruss et al. (1998). As the current investigation did not incorporate any experimental manipulation of settings, however, this conclusion can only be made with reference to general expectation for relationships between behaviour and buildings raised in the literature. As a consequence of this limitation, the present discussion focuses mainly on the indoor open areas of the nursery and preschoolers' playroom, with further comment about the children's toilet. At the same time, a number of related issues are raised about the identification of behaviours and the impact the process had on the analysis of location data.

5.7.1 The nursery and preschoolers' playroom

Figure 3.3 depicting a floor plan of the nursery, and Figure 3.4, depicting a floor plan of the preschoolers' playroom, both indicate the extent of open space available to children. Although part of the nursery and preschoolers' playroom floor was covered with carpets, which provided a contrast in colours and texture with the vinyl covered sections of the floor area, there were no permanent constructions dividing activity areas.

5.7.2 Open spaces and running

Over a lengthy period, a number of authors have suggested that open spaces encourage running in young children (e.g., Gump, 1971; Neill, 1982; Watkins & Durant, 1992). In the current study, however, only 15 of the 30 focus-children attracted staff intervention for running in the playrooms, for a total of 34 UCBs or a little over 3% of all the 1067 UCBs exhibited indoors. Although no studies have suggested a standard that determines an average amount of running indoors, the number in the present findings is less than many other categories of unwanted activities observed over the period of investigation. This suggests that the number was not relatively excessive and, therefore, did not portray the limited amount of open space in the nursery and preschoolers' playrooms as being a particularly powerful influence over child behaviours involving running.

However, another issue raised by examination of the behaviour streams in relation to running indoors, was the limitation on assessing environmental influence on children's behaviour imposed by describing only a child's actions. Gump's (1971) proposal for physiognomic perceptions, mentioned in Chapter Two, suggests that children run for the sake of running. No particular importance appears to be ascribed to the possibility of other purposes. In the current study, for example, eight instances of running inside were by solitary children who may well have been running for running's sake, although three of the eight were running towards the children's toilet, which suggests another reason. Of the remaining 26 UCBs involving running, four resulted from children running away from physically hostile encounters and 22 were components of friendly and exuberant games in 19 dyads and three triads.

Although open space may have facilitated running for the majority of children, the extent of environmental influence of the physical setting on their activity may have been confounded by the excitement of friendly games, fear of physical harm, or the need to use the toilet.

5.7.3 Open spaces and hitting, kicking, and pushing

Other writers have contended that open indoor spaces encourage aggressive behaviours (Balcombe & Tansey, 1996; Neill & Denham, 1982). Representing aggressive behaviours in the current study, hitting, kicking and pushing accounted for some of the action in 101 or just over 9% of all indoor UCBs, yielding a frequency rate of one every 48 minutes. Again, there are difficulties in assessing the extent of “encouragement” without reference to any indication of a normative value. As a comparison, however, outdoor free play yielded 32 UCBs with similar violent actions initiated by focus-children, which provided a frequency rate of one every 39 minutes. No studies have been found that compare indoor occurrences of aggressive behaviours with similar behaviours exhibited by the same groups of children outdoors. There appears to be little evidence, therefore, that the indoor rate is comparatively excessive, as a result of encouragement accorded by open planning, or anything else.

Additionally, more detailed examination of the locations show that only nine of the 101 indoor UCBs involving aggressive acts were sited in the more open vinyl surfaced area of the preschoolers’ playroom. The majority occurred in activity areas or at activity tables, although only seven were judged to be concerned with gaining or maintaining possession of objects, which is in some contrast to the findings of some earlier studies (e.g., Parke & Slaby, 1983; Sanson & Di Muccio, 1993; Sherburne et al., 1988). In the current study, the data indicated that most violent conflicts were concerned with dominance and social control, which is in some agreement with Hartup and Laursen (1993). However, it was observed that these encounters were more likely to take place in defined areas where the setting and activity provided a backdrop to, or a cover for, child:child aggressive exchanges.

A more defining feature of the manifestation of aggressive behaviours may be that 69 UCBs, or 52% of the sub-total for hitting, kicking, and pushing, both indoors and outdoors, were initiated by the same three boys (PM09, PM19, and PM21). These numbers may indicate greater significance for within-child propensities for aggressive behaviours rather than an overall effect of space. More probable, however, is that these three boys asserted more dominance and social manipulation behaviours and, therefore, not only the setting but peers also contributed to expressions of aggressive behaviours. At the same time, the meaning or intent of apparently violent actions may also have to be considered.

5.7.3.1 The meaning of hits, kicks and pushes

As discussed in Chapter One, categorising any behaviour described as aggressive is imbued with possibilities for misinterpretation, which has the potential to distort understandings of environmental influences on child behaviours. It was noted in the current study, for example, that at least five categories of “pushing” could be differentiated in form and function. These included: (a) pushing as a form of attack, often with both hands; (b) pushing to discourage group entry, usually one handed; (c) pushing as a form of social control (similar to “herding”) which also used closer body contact; (d) pushing as a means of fending off attack, interference, or over-friendly body contact, which usually involved a sideways or sweeping action; and (e) pushing as a form of friendly greeting or prelude to R&T play, often using both hands but bent at the elbows to allow close body contact. Thus, the pushing category contains several pushing acts that took place within friendly encounters or produced accidental outcomes.

While fewer in number, differences in forms of hitting, similar to those noted by Shantz (1987), and kicking were also observed to result in UCBs. These included “mock” fighting (2 UCBs), role plays of fight scenes from cartoons (2 UCBs), and “friendly” kicks (2 UCBs), which were all recognised by the targets as non-hostile. The following vignette exemplifies a number of these issues in a double episode of R&T play.

Vignette 5.6 Pretend fighting

PM18 walks across to the carpeted area near home, grabs PM13 by the arms and without a word being spoken pushes him over onto floor. PM05 comes across windmilling his arms at PM18. PM18 turns and hits PM05 with his hat then stands in a threatening pose ready to hit him again. PM05 turns away and goes to get his hat from his bag, returns and starts hitting PM18 with it. PM13 is looking on. No words have been exchanged to this point. S05 comes over and tells both to put their hats in their bags. Both boys go to the bag area and put their hats away. PM18 returns to the carpet. PM16 pulls him to the ground and kicks him (role play) - PM18 roles over and plays “dead”. PM05 returns to the carpet, PM18 gets up and a general R&T play ensues between PM18, PM16 and PM05, with PM13 looking on.

Clearly, the players all understood the non-hostile intent of the pushing, pulling, hitting with caps, and the kick. Despite intervention by S05 the game continued once she had left the scene. It was curtailed a few moments later by the return of S05 and the directing of participants to other activities.

5.7.3.2 Variations in the intent of peer association

Vignette 5.6 illustrates the well documented problems encountered in trying to determine the meaning of ambiguous exchanges and distinguishing R&T or play fighting from real fighting (e.g., Feshbach, 1955; Goldstein, 1992; Porter, 1994; Sanson, Smart et al., 1993; Shantz, 1987; Turner, 1991; Zoccolillo, 1993). In the current study, it was also observed that the supposed intent of participants can change rapidly with children in the preschool-age group, as demonstrated by the related Vignettes 5.7 and 5.8, concerned with the relationship between two boys in the morning nursery free play setting. Figure 5.1 illustrates the positions of relevant play items and furniture in the nursery playroom.

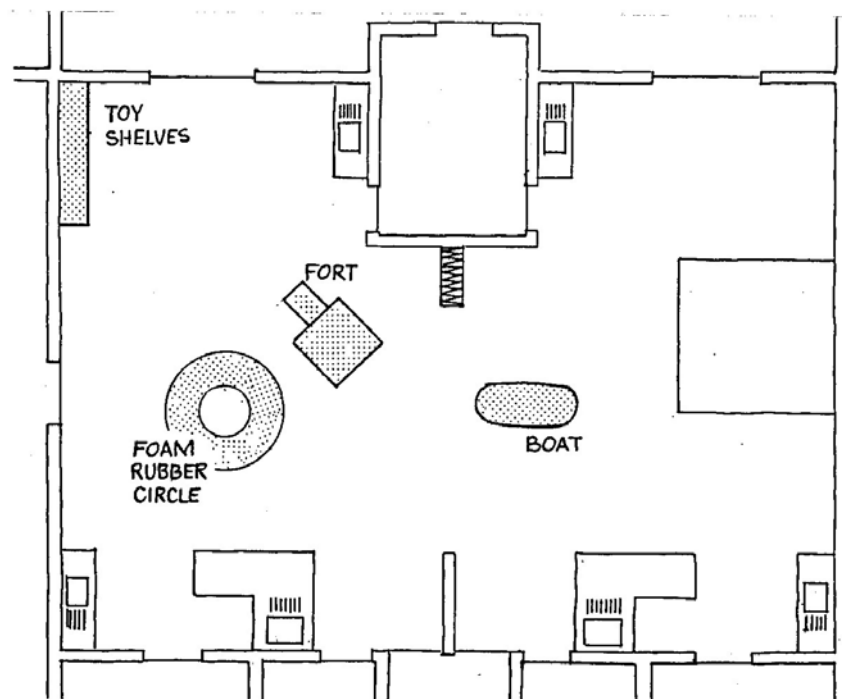


Figure 5.1 Typical early morning nursery playroom activity and equipment layout

Vignette 5.7 Rocking the boat

PM20 is sitting on his own in the boat. PM07 comes over and starts to rock the boat. PM20 makes gurgling noises with the motion then pushes PM07 away (with one hand) and starts to rock the boat on his own. PM07 steps aside, picks up a baby's rattle from the floor and gives it to PM20. PM20 tosses the rattle to one side and hits PM07 in the face with his hand. PM07 says nothing - walks away.

To the observer it appeared that PM07 had made two attempts to initiate friendly play and twice had been rejected by PM20 who had used increasing violence. PM07 had then left the boat and walked over to the toy shelves while PM20 remained sitting for approximately two minutes before getting up and playing his part in the following episode.

Vignette 5.8 Throwing the baby's rattle

PM20 gets out of the boat and walks across to the fort, climbs in, looks around, climbs out, goes across to the toy shelf, picks up a baby's rattle and, without facial expression or saying anything, throws it at PM07, hitting him on the leg. PM07 says nothing and also without expression picks up the rattle and throws it at PM20, hitting him on the body. PM20 is still without expression and still says nothing, but he picks up the rattle and almost ritualistically throws it again, hitting PM07 on the head. This time PM07 laughs and, with a little more hurry, throws the rattle back at PM20, hitting him on the head - both laugh. TF04 comes over to join in - PM20 pushes her away (with one hand - to prevent group entry), picks up a soft rubber ball, throws it at PM07 and hits him in the face. PM07 returns the throw and hits PM20 on the head. TF04 runs in and picks up the ball - PM20 and PM07 try to wrestle the ball from her - all laughing.

Despite staff interventions on four separate occasions, the sequence continued for almost four minutes with PM20 and PM07 hitting each other over the head with a plastic bin, throwing the ball, and chasing each other with a hoopla-stand. From what appeared to be a hostile relationship in the beginning, PM20 and PM07 were involved in a variety of friendly events encompassing R&T play, shooting guns, and throwing books at each other, for most of the day. In between these events, however, there were also moments of antagonism and physical hostility, resulting in harm to PM07 and complaints by him to staff about PM20's rough behaviour.

The changeable nature of the dyadic exchanges required each point of contact to be judged on its own merits as either friendly or hostile, with little guidance being provided by supposed friendships or prior relationships. In Vignette 5.7, for example, the author initially rated PM20's responses to PM07's friendly approaches as hostile and violent. In the light of events a few minutes later, however, it is possible to interpret PM20's pushing and hitting as an attempt to initiate R&T play, albeit relatively unskilled and harmful to PM07. The possibility is supported by the fact that PM20 was credited with initiating more UCBs involving R&T play than anyone else over the entire 54 day observation period.

Previous research has examined the relationship between children's aggression and deficient cognitive processing (e.g., Courtney & Cohen, 1996; Crick & Dodge, 1996; McKeough et al., 1994). The main focus has been on the inability of the receiver of messages to recognise the intent of others, particularly in ambiguous situations. The potential problems associated with children's lack of skills in sending or coding messages of intent has been addressed far less often. Gruss et al. (1998) reported teachers as blaming poor language skills for aggressive behaviours, but these suggestions are more frequently based on the notion of physical actions being used as

a substitute for words. The observations in the current study suggest that some children may not have mastered sufficient non-verbal communication skills to deliver unambiguous messages, leaving the receiver confused through no fault of his or her own.

Similar alternate friendly/conflictual relationships were observed for a number of focus-children in various dyads with babies, toddlers and other preschoolers in a variety of situations. Because these ambiguous exchanges have, primarily, social intent, they tend to occur separate from specific activities. Consequently, there is the possibility that they will be seen as emanating from open spaces or specific activity areas such as “home”.

5.7.4 The home area

The data showed that more than 10% of all observed UCBs took place in the home area. Staff intervened in 146 events initiated by 26 of the 30 focus-children, and three toddlers, during 30 of the 54 observation days. These figures appear sufficiently widespread across the population to support the findings of other studies that have identified home area as one of the more conflict prone areas (e.g., Gruss et al., 1998; Hartup & Laursen, 1993). Closer examination of the current data, however, suggests that for a number of UCBs the location was not necessarily a major factor in its own right.

R&T play, for example, was nominated as a reason for staff intervention in six of the UCBs located in the home area. To some extent the data is in accord with Pellegrini (1984) who suggested that older boys used the home area infrequently and when they did it was more likely to be for R&T play. In most cases observed in the current study, the home area activities were incidental to R&T play (for example, see Vignette 5.17). The data provided support for this interpretation in that over the entire observation period, 62 UCBs were attributed to R&T play in 20 different indoor locations. All but seven incidents took place on the carpeted areas, which suggested that the softer floor covering might have been a greater influence on children’s instigation of R&T play in the observed locations than other components of the home, block or book areas.

Adding further support to the contention that the intended activity in the home behaviour setting had little to do with UCBs involving R&T play, were the observations that the area was the site for several other types of UCBs that were similarly unrelated to home-area imaginative play. These included shooting guns (2), running inside (4), construction materials being out-of-area (5), throwing objects (5), using furniture for

climbing on or hiding within that was unconnected to any home area play at the time (13), and defying staff directives (7), which were distinct from ignoring staff directives on account of being engrossed in appropriate play. Together, these extraneous activities account for almost 30% of the UCBs recorded as being located in the home area.

Part of the cause of home area being used for other purposes, apart from the soft floor covering, may have been related to its position between the block and book area on a large carpeted area, as illustrated by Figure 5.2.

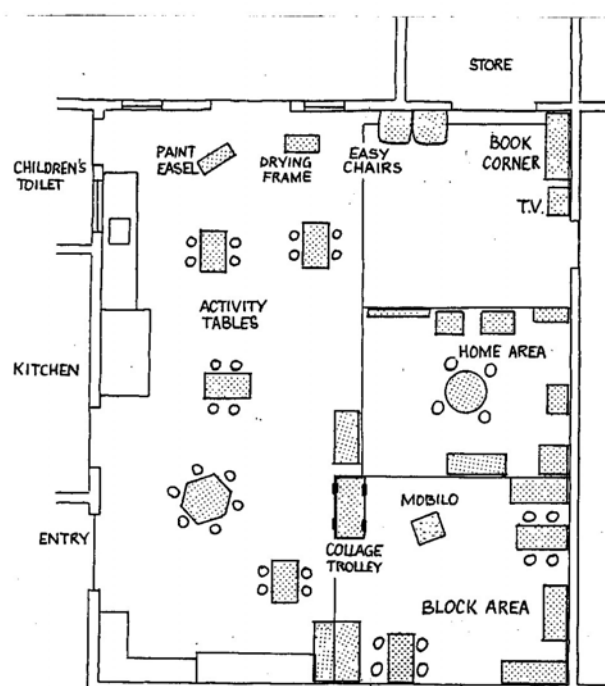


Figure 5.2 Typical preschoolers' playroom activity and equipment layout

Despite the use of different coloured carpets, augmented by placement of home furniture and storage shelves as space dividers to help separate the functions of the three areas, the unity of the entire back area of the room as a "soft area" suitable for floor-based activities was still apparent. Consequently, the regular movement of children across and through all three supposedly dedicated spaces was frequently observed, leading to play objects being taken "out-of-area", children transferring activities across areas, and the misuse of equipment, materials and furniture.

It is possible, therefore, to cite poorly defined activity areas as the reason for some UCBs, particularly those that involved children misusing an area as a site for R&T play or a passage for running, and those involving conflicts between these children and others using the particular facilities and resources for appropriate play. On the other

hand, it is less easy to blame poor definition of areas when a child deliberately set out to disrupt the play of others. The data provided numerous clear cases of children's attempts to exert dominance over others and one example is illustrated in Vignette 5.9. For some time PF13 had been in the home area with two toddlers and was preparing "milkshakes" with containers on the wooden sink unit. PM19 had just completed a floor puzzle he had been working on in the book area adjacent to the home area.

Vignette 5.9 Spilling the milkshake

PM19 gets up from the floor, turns and stands behind the sink unit. He watches PF13 for a few moments then starts rocking the sink backwards and forwards until the containers fall onto the floor. PF13 screams at PM19 - S10 comes over and PF13 tells S10 that PM19 has upset her (make-believe) banana milkshake. S10 guides PM19 away from home area. PF13 retrieves the containers and hands out milkshakes to the toddlers.

The deliberate use of home area for alternative activities, involving the transfer of equipment of materials from other areas, was also observed. While most appeared to be spontaneous extensions of play, others were planned and carefully executed to avoid detection by staff, as seen in the following vignette.

Vignette 5.10 Deliberately out-of-area

PF05 and PF06 are standing at the Lego bin in the block area. PF05 walks over to home corner with a handful of Lego pieces and puts them in the wooden oven - S10 is scanning children and activities in the playroom but does not see what PF05 has done. PF06 is still standing by the Lego storage bin with a handful of pieces, watching S10. When S10 turns away PF06 follows PF05 across to the home area and also puts the pieces into the oven.

The girls then enacted imaginative play in which the Lego pieces were used as cakes. A little later, one of the boys grabbed a handful of the pieces and ran off, with PF06 in pursuit, leading to an UCB and discovery of the misplaced Lego.

5.7.5 Block area

The same variable pattern of unrelated UCBs was observed among the 79 staff interventions in the block area. While shooting guns could have been expected, since the "weapons" were constructed from blocks (4), other activities, such as running (7), games with sheets (3), R&T play (3), and climbing (3), appeared to have little connection with the location or the staff-designated function of the block play area.

A number of studies have suggested that the block area is particularly conflict prone (Gruss et al., 1998; Hartup & Laursen, 1993; Moore, 1997b). However, data from the

current investigation shows that only 34 UCBs, or 43% of the sub-total credited to the block area in the preschoolers' playroom, had an aetiology in hostile conflict. At least four of these incidents were not related to block play and another two were extensions of on-going conflicts that started outside the block area. Nevertheless, disputes over ownership of particular types of blocks (9), and deliberate damage to constructions (5), were directly implicated in most of the hostile encounters, but not necessarily the cause.

In common with all conflicts, however, they occurred only if both children participated in the hostility, and the data shows that this was not always the case. Similar to the earlier example of PM09's response to PM21's incitement in the home area (Vignette 5.3), PF01 declined to respond in kind to PM09's attack, as the following vignette shows.

Vignette 5.11 Does not retaliate

PF01 is sitting on the floor of the block area constructing a building with some large wooden blocks. PM09 walks over and swings his dinosaur model at the building, knocking part of it down. PF01, who is probably 30 cm taller than PM09 and does not appear to be intimidated, stares at him but does not retaliate. PM09 returns the stare then deliberately completes the destruction. PF01 ignores PM09 completely, turns 180 degrees and restarts construction. PM09 stands looking at PF01's back for a moment, then walks away.

The example illustrates that while activity areas may provide the setting for potential conflicts, confrontations developed and enriched the setting with expectations for further conflicts only if the participants were predisposed to confront each other. Clearly, the psychological habitat of the child, including within-child characteristics, which give rise to certain attitudes towards particular peers and beliefs in the efficacy of specific strategies for dealing with interference, all play a role in determining children's response behaviours. Therefore, block corner and block activities will be the scene for aggressive behaviours only if children who are predisposed to aggression are confronted by others equally predisposed, under circumstances where the psychological habitats of both are amenable to an aggressive encounter, and the structure of the setting provides the opportunity for both children to give vent to their aggression. The need for all conditions to be satisfied prior to an aggressive incident occurring helps explain the apparent inconsistencies in the production of UCBs across time and space.

In addition, it was noted that many UCBs did not involve aggression by any participants. For example, it was also observed that a further 15 UCBs allocated to the block area resulted from friendly interactions involving dyads and triads, and were composed of

shootings, running, and R&T play cited earlier, all of which had little to do with block play. The area also contributed to three accidents: one case of a child being stepped upon while working on the floor and two resulting from hits by blocks being mishandled. More surprisingly, perhaps, 27 UCBs, or more than one-third, emanated from 12 children working alone at various times in the block area. Throwing blocks on the ground or otherwise misusing equipment accounted for 11 UCBs. Most of the throwing incidents involved boys working on their own and appeared to reflect the child's frustration as a result of building collapses caused, mainly, by an inability to efficiently balance blocks on top of each other. Another seven UCBs occurred as a result of ignoring or defying staff directives, mainly in relation to packing blocks away. The latter category appeared more closely related to the aversion of some children to be involved in clean up routines than being attributable to the blocks as an activity.

5.7.6 The children's toilet

The children's toilet was a site for 40 UCBs exhibited by 16 different focus-children, and appears to be a good example of a specific physical location influencing the manifestations of UCBs. While playing with water in the washbowls was cited as a reason for staff intervention on nine occasions involving six children, the remaining UCBs covered a range of solitary and peer group activities. These included using too much soap or wasting towels, queue jumping or standing in front of the mirrors too long, as well as numerous minor conflicts, R&T play, and making too much noise. Many of these episodes appeared to be aided by the relative physical seclusion of the toilet area from other indoor and outdoor activities.

Alternatively, the influence of the children's toilet on a number of UCBs may have been related to the access it provided to mirrors and for water play. The preschoolers' playroom provided little opportunity for children to use mirrors. Similarly, no provision was made for water play at any time during the observation period, although cool autumn and winter seasonal factors may have been responsible. Nevertheless, the omission of both activities from the normal program may have contributed to children's interest in the toilet area.

5.7.7 Social and spatial density

The relatively confined space within the children's toilet also gave rise to crowding for brief periods during some routines. Similarly, crowding occurred in home and block areas on occasions, and in the sandpit as well as on the wooden fort at various times. However, the data provided no evidence to suggest that either social or spatial density

was more than a passing influence on the production of UCBs in short-lived situations surrounding the transient popularity of a specific activity. The data appeared to confirm the view expressed by a number of investigators that neither form of density on its own is necessarily perceived by children as a particular problem (e.g., Endler, 1981; Greenman, 1988; Hartup & Laursen, 1993; Larson et al., 1990). Observations also supported the contention of Maxwell (1996) that the impact of crowding may be mitigated by opportunities to withdraw from crowds. In addition, it was observed that when crowding appeared evident, children's behaviours were clearly concerned with subsidiary matters such as maintaining the leadership role or possession of objects.

5.7.8 Resource availability

A number of studies have associated resource scarcity as a likely stimulus for problem behaviours (e.g., Brown, 1996; Rohe & Patterson, 1974; Smith & Connolly, 1980). As previously mentioned, however, the centre in the current study was reasonably well equipped and able to sustain a wide range of indoor and outdoor activities. Temporary resource shortages were observed only during periods when staff were delayed replenishing paint or paper supplies to specific table activities, as illustrated in Figure 3.6. Therefore, resource scarcity could not be linked to the regular production of UCBs.

5.7.9 Climbing and standing on objects

Five girls and 10 boys on a total of 54 occasions initiated climbing or standing on 18 different types of objects. Inside the preschoolers' playroom, the favourite climb was onto the windowsill of the circular window overlooking the front carpark (5 UCBs), followed by the easy chairs (4 UCBs) and tables (4 UCBs). Outdoors, the woodwork bench (4 UCBs) and stored metal climbing frames (4 UCBs), both of which were kept on the verandah, were the most popular targets for climbing. In most cases, the act of climbing was an end in itself, with 48 climbs made by children acting alone. Many children appeared to climb and sit or stand until noticed by staff. The following vignette provides a typical example of a climbing event.

Vignette 5.12 Climbing the chair stack

PF13 helping with packing away the outside equipment before lunch, wheels her barrow into the store. Comes away from the store and walks along the verandah to a stack of 8-9 chairs, approximately 150 cm high. PF13 climbs the stack and sits on the top chair. S10 comes out of the store and notices PF13, tells her to get down. PF13 replies that she cannot get down and remains sitting. S10 asks her how she got to the top, and starts to walk over to her. PF13 immediately jumps down from chair stack.

While PF13 could have been seeking attention, on other occasions there appeared to be a more easily identifiable motive for climbing, such as impressing a parent. For example, until her father arrived to collect her in the afternoon, PF02 had initiated only seven UCBs on the day she was observed. In the space of little more than a minute she added a further two (nearly three) UCBs to her total, as follows.

Vignette 5.13 Impressing father

PF02's father enters the preschoolers' playroom and PF02 instantly involves PF06 in animated R&T play on the easy chair. S10 walks over to the girls and parts them and talks to PF06. PF02 gets up and cuddles PM17 who falls back onto the chair and initiates animated R&T play again. Before S10 intervenes to stop the action PF02 gets off the chair, walks over to a stack of chairs approximately a metre high and climbs to the top. S04 comes over and lifts her down. PF02 runs over to her father who has been watching and waiting by the sign-out book.

Only seven instances were observed of climbing being used to reach another object, and all but one were aimed at reaching a particular puppet on a shelf. Attempts to reach the puppet appeared to be generated by its status as a desirable toy, an attribute proposed as a source of UCBs by Brown (1996). Taken together, however, neither the act of climbing nor the object being climbed upon assumed any great significance in the majority of cases. Attracting the attention of staff or demonstrating climbing skills appeared to be a major motivation, and the influence of the physical environment played only an instrumental and supporting role.

5.7.10 Cosy corners and places to rest

The literature frequently mentions the need for cosy corners and places to rest (e.g., Bunnett & Davis, 1997; Clarke & Gray, 1997; Greenman, 1988; Harms et al., 1998; Koralek et al., 1993; Olds, 1997; Shepherd & Eaton, 1997). Apart from the five children for whom sleeptime was requested by their parents, the child care centre did not enforce any other scheduled quiet periods. Individual children made use of two easy chairs in the relative isolation of the book corner, but only one child (PM06) made any formal use of the chairs to rest for any length of time. As a result of a request from her mother, PF06 reposed in one of the chairs for a short period each afternoon. Ironically, the blanket she brought from home to cover herself during the quiet periods was the subject of several UCB episodes including one tug-o-war and one hostile conflict which resulted in PF03, while trying to help PF06, suffering physical harm at the hands of a blanket-stealing toddler. Although many children used the book corner and chairs for solitary "reading", few children were observed to use the easy chairs or available pillows for rest outside the television or video-tape viewing periods.

5.7.10.1 UCBs and television

Video-film sessions were made available on most afternoons, either in the preschoolers' playroom during inside free time or in the late afternoon nursery setting, as a restful alternative to other activities. The television in the preschoolers' playroom was normally set up near the easy chairs in the book area and additional cushions were made available for children sitting on the floor. Focus-children rarely stayed to watch a film from beginning to end. Overall, television appeared to be used for temporary respite by a few children at various times, but no pattern of regular video-film use by any focus-children was evident.

Children were not allowed to operate the television or video and all were required to sit back from the screen, both as a safety matter and to prevent blocking the view of others. Playing with the controls, sitting too close, and playing under and around the TV cabinet gave rise to 18 UCBs. Various children brought films from home and disputes with other children, who wanted to look at the packaging, created a further two UCBs.

5.7.10.2 Soft places

Although there was no shortage of cushions to supplement the easy chairs, there appeared to be little demand for "soft" places or quiet times to go with them, outside viewing periods. Occasional competition for sole occupancy of an easy chair did take place among five or six children, mainly girls. Rather than as an accessory to quiet rest, the sometimes violent interactions appeared aimed at securing and maintaining possession of the chair as a matter of status. The main antagonists were usually PF03, PF05 and PF07. The following vignette relates a typical episode involving the first two girls and two others.

Vignette 5.14 Possessing the easy chair

PF06 is sitting in the easy chair talking to PF04 who is sitting next to her. PF05 comes over and says something to PF06 (I cannot hear), PF06 appears to back away. PF05 pulls PF04 off the chair and climbs up next to PF06. PF04 tries to climb back on but is prevented by PF05 – PF04 complains. S05 hears shouting, comes across to the chair and tells the girls they should not be pushing, then moves away. PF03 comes over and climbs onto the chair. PF05 gets up, grips PF03 around the head and pulls her to the ground. PF03 is upset - tries to get back onto the chair. PF05 hits her on the back - turns and pulls PF06 off the chair. PF06 complains. S10 comes over to the chair to talk to the girls.

All four girls moved away from the chair, with PF03 and PF06 going to separate activities and PF04 and PF05 spasmodically continuing the conflict in the home area.

None returned to dispute the chair or to rest in it.

Taking a wider view, almost half the preschoolers' playroom floor was carpeted, which provided an extensive soft area. As previously mentioned, the soft floor area was the site for most of the indoor R&T play. It was also used for a variety of floor activities, including circle time, dancing, looking at books, block building, floor puzzles, railway track construction, and play with model cars on road mats. No children were observed to use the floor for rest without being involved in one of the planned activities.

5.7.10.3 Conclusion about quiet and cosy areas

Although the literature frequently mentions the need for cosy and soft areas, as well as quiet places, little evidence has been provided to indicate the behavioural consequences of not providing them. The centre studied in the current investigation had few formal or permanent cosy, soft, or quiet areas. However, both the indoor and outdoor extended free play periods incorporated passive pursuits and opportunities for isolated play. In some cases these included manipulative activities, which have been observed elsewhere to be used by children as an escape from active peer involvement (Sylva et al., 1980). On numerous occasions during the current study, even the most active children were sometimes observed to engage in solitary undertakings such as painting, drawing, puzzles and sandplay, as well as other relatively passive activities. In addition, apart from looking at books, children were frequently seen working alone with big blocks in the block area, or at a table with smaller construction materials (e.g., Vignette 5.3), or just watching others.

It appeared that these activities provided the comfort and solitude that the children needed at the time, and there was no evidence that UCBs were produced as a consequence of insufficient soft and quiet areas. Despite the efforts to escape, however, UCBs did occur in these situations, usually as a result of children misusing materials or equipment, or peers deliberately interfering with the solitude of the focus-child.

5.7.11 Private spaces

A number of writers have attached some importance to the provision of private places for young children (e.g., Alexander et al., 1977; Bunnett & Davis, 1997; Clarke & Gray, 1997; McCrea & Piscitelli, 1991; Moore, 1996c; Trancik & Evans, 1995; Youcha & Wood, 1997), although at what age private places have meaning to children has been the subject of some discussion (e.g., Langeveld, 1983; Zeegers et al., 1994). The

preschoolers' playroom in the current study was not equipped with specific private places for children, but two items of furniture were used frequently as hide-a-ways.

One item was a wooden trolley, approximately 120 cm long, 40 cm wide, and 100 cm high. Used for storing collage materials, it was fitted with a bottom shelf approximately 30 cm from the floor. Wooden flaps folded down from the shelf almost to floor level. On eight occasions, one of four children climbed under the bottom shelf and lay full-length beneath the trolley, hidden by the flaps. The position did not appear to be used as a place for solitude, however, as more often than not the hidden children used the vantage point to throw collage materials across the floor. Staff intervened on three other occasions because the child was using the trolley as a hide-away to escape following staff directives (e.g., Vignette 5.26).

The other item of furniture sometimes commandeered as a hide-away was the wooden "refrigerator" in the home area. Three children achieved privacy on five different occasions by climbing into the bottom compartment and closing the door on themselves. On four of those occasions, another child stood in front of the door to turn the refrigerator into a virtual prison, and both participants treated the affair as a game. As a matter of discouraging children from climbing into refrigerators, toy or real, staff intervened immediately they noticed a hide-away or prisoner.

Both the collage trolley and the wooden refrigerator were used for reasons other than simply achieving privacy or exerting some control over the social environment. Combined with the evidence that only six different children used either pieces of furniture in these types of episodes, there appears little to suggest that children in the current study were looking for private places, a conclusion which is in accord with the findings in relation to almost half the subjects in the study by Zeegers et al. (1994). Therefore, the furniture appeared to have little association with occurrences of UCBs in relation to private places.

On the other hand, although the possible impact on child behaviours of an absence of private places could not be assessed, neither could it be dismissed. At the same time, as was mentioned earlier in the discussion relating to cosy areas, structural components of the centre in the current study provided opportunities for children to find solitude, engage in solitary play, or be an onlooker in both the extensive indoor and outdoor free play sessions. The amount of time children spent in solitary play was not recorded, but the data shows that almost half of all UCBs were produced by children

acting alone (Table 4.14), which provides some indication of the children's use of solitude. Evidence from the observations, discussed later in this chapter (e.g., 5.9.6) suggests that solitary play was deliberately chosen by children in the majority of cases and did not result from peer rejection or immature social development. For children in the current study, the opportunities for solitary play may have provided the basic benefits that children in other studies have found in specific private places.

5.7.12 Outdoor area, toys and play equipment

Several large pieces of outdoor equipment, such as the log fort, a smaller plastic fort with a slide, the tree seat, and balance beams, were all relatively frequent sites of UCBs. Similar to the indoor block area and open space, however, these settings and objects frequently appeared to have little direct connection with the behaviours that occurred in proximity to them. When the site or objects did appear influential, their role was invariably confounded by the concurrent and unrelated activity of peers or structural matters. One example was the previously mentioned violent encounter between PM21 and PM09 (Vignette 5.4), which involved solitude, the digging area and spade, but appeared to have been facilitated more by the free play structure of the session and the history of antagonism between the two boys, than either the setting or the object used as a club. Another example was illustrated by the non-compliant behaviours of PM22 during transition time (Vignette 5.25), when the nearby climb-through ball, rather than the larger and more distant wooden fort, provided him with the hide-away he wanted.

One exception to the general lack of connection between settings and UCBs may have been the sandpit, which was the location of 46 UCBs, and was also identified as a problem area by respondents to the Gruss et al. (1998) survey. The sandpit area in the current study was completely enclosed with trellis fencing, sunscreens and a roof. Two adjacent gates on one corner allowed easy, unrestricted access, but did not facilitate children running through the area (Figure 3.5). More than half of all UCBs were directly related to the location, objects, and materials, which included children not sharing the enclosed space (4), not sharing the equipment (7), or misusing the sand (13).

Other items of equipment that may have genuinely influenced UCBs were the four plastic "hula-hula" hoops. Although only involved in 16 UCBs with seven focus-children, the hoops were frequently used as weapons. Commonly, the boys used them for hitting each other in the style of sword fighting or, less aggressively, making believe they were bows that fired arrows. Most dangerously, however, the hoops were used as a lasso

directed to the head/neck of a running child, often bringing the target to an abrupt and painful halt. Despite rigid enforcement of the “no lasso” rule, the use of hoops for that purpose continued to attract several boys throughout the observation period. Unlike most other pieces of equipment, the hoops were rarely observed to be used for any of their designated purposes, such as hula-hula or bowling. Therefore, in most cases the use of the hoops was exclusively linked to child behaviours likely to be identified as unwanted.

5.7.13 Other physical factors

Many of the other indoor and outdoor physical factors of possible influence on child behaviours, mentioned in the review of literature, also appeared in connection with UCBs in the current study. These included the occasional collision in walkways between activities (e.g., Kritchevsky et al., 1977; Watkins & Durant, 1992; Department of Health, Housing, and Community Services, 1992), misuse of equipment and materials as a result of children’s innovations and fantasy play (e.g., Culpit, 1989; Dawkins, 1991; Lewin, 1935; Warren, 1996; Wilder, 1996), and competition for particularly prized “dressing-up” clothes or specialised pieces of construction materials, such as Mobilo “hinges” (e.g., Brown, 1996). However, the range of equipment, materials, and locations observed over the 54 days of investigation was so extensive that most had fewer than two or three UCBs attached to each, and frequently only one. Therefore, while a general connection between physical factors and UCBs can be made, no specific design element or object could be identified as exerting a common influence on all children at all times.

5.7.14 A response to the research question about physical factors

Part of the research question concerned how, and to what extent, physical factors within the environment of a child care centre, contribute to the manifestation of unwanted child behaviours. Observational data indicated that some factors in the physical environment were instrumental in the manifestations of unwanted behaviours in some children, and specific physical resources may have facilitated the production of UCBs by others. In particular, the large carpeted area appeared to contribute to R&T play for some children, while specific items of furniture and the comparative isolation of the children’s toilet provided the setting for other children to display UCBs. However, data from the current study provided no evidence that any one physical factor influenced the production of particular types of UCBs in the majority of children. More specifically, it is apparent that many of the UCBs associated with physical factors are influenced just as much by concurrent social, cultural and structural factors,

emphasising the previously found inseparable relationship between components of the environmental (e.g., Moore, 1986; Moos & Insel, 1974; Proshansky & Fabian, 1987).

This was particularly relevant for locations that were meant to encourage social interactions among children, such as the home and block areas. As expected, these areas engendered higher levels of conflict on account of the opportunities for social control, negotiations for outcomes of play, and sharing of objects and space afforded to participants (Hartup & Laursen, 1993; Kounin & Sherman, 1979; Moore, 1997b).

5.8 Social factors in the environment and UCBs

The social world of children attending the child care centre was, for most, seen to be dominated by the peer group. Staff also played a social role but matters of authority and control, as demonstrated in Vignettes 5.31 to 5.36 frequently confounded relationships with children. The focus-children's more egalitarian relationships were with other preschoolers and toddlers and took a variety of forms to suit different functions. Mention has already been made of the role of objects and social control in children's relationships, as well as some issues associated with joining friendship circles. Questions about the efficacy of some children's efforts to communicate intent have also been discussed. In the present section these matters are used as a backdrop to consideration of the role of peer associations in the focus-child's social milieu, particularly as they relate to the manifestations of UCBs.

5.8.1 Involvement of peers in UCBs

Table 4.14 shows that while 35 UCBs occurred as a result of accidental contacts, 720 UCBs resulted from purposeful peer associations in dyads (595), triads (91), and in groups of more than three children (34). To the observer, certain combinations of peers appeared to make a marginally greater contribution to the creation of UCBs than others. At the same time, however, it was noted that 629 UCBs, representing more than 45% of the total, were initiated by focus-children acting alone. Of these, almost half the number were accredited to just three focus-children, PM09, PM19, and PM21, who were also the three highest ranking initiators of UCBs overall.

More significant from a perspective of peer associations are the percentages of UCBs perpetrated by each focus-child alone. For the majority of children the number of UCBs involving no peers represented between 30%-60% of their personal totals. Although a wide range, a few children exhibited percentage rates far beyond the extremes of both ends. Of the 55 UCBs in her total, for example, PF07 initiated 40 or 73% alone.

Despite being the second highest female focus-child initiator of UCBs, she was a target of only two initiated by two others. Together these numbers appear to indicate that, although a highly active child in the production of UCBs, peers did not play a very important direct role in her behaviours. On the other hand, PM18 initiated a similar number of UCBs, but only six or 13% of the 45 accredited to him were enacted alone. Similarly contrasting to PF07, he was a target of 20 UCBs initiated by six others. Clearly, peers played a much more active role in his behaviours than in those of PF07.

The initiator, target, and peer association data (Appendix 7) indicate a range of peer influences in the UCBs of the other focus-children that fall between the extremes of PF07 and PM18. Overall, the extent and intensity of peer contacts has been suggested as critical in determining social aspects of the environment (Campos-de-Carvalho & Rossette-Ferreira, 1993; Ramsey, 1995). However, data from the current study appears to indicate that the direct influence of peers in the production of UCBs is less strong for some children than for others.

5.8.2 Initiating and being a target of UCBs

The involvement of a focus-child in UCBs on his or her day of observation did not signify that he or she initiated the behaviours that attracted staff attention. PM25, for instance, was involved in 71 UCBs on the day he was observed as a focus-child. Of these, he initiated 50, or approximately 70%, was the target of 17 UCBs, and an accessory to a further four events. He was not observed to initiate UCBs with any of his 29 fellow focus-children during the other 53 observation days, although he was a target in a further 23. PM18 also initiated approximately 70% (20) of the 28 UCBs recorded when he was observed as the focus-child on day 8. In contrast to PM25, however, he had already initiated 21 of the 97 UCBs involving PM20 as the focus-child on observation day 1, and a further 4 with PM19 as the target when the latter was the focus-child on day 3. As mentioned above, he was also a target in 20 UCBs initiated by six focus-children on four other days.

The number of times other focus-children were initiators and targets of UCBs listed in Appendix 6. Over the entire observation period the number of different children targeted by any one initiator ranged from none (PF09 & PM08) to 19 (PM19). At the same time, individual focus-children were targets of up to 21 other children (PM09), while PF09 was never observed as a target of UCBs.

As Tables 4.11 and 4.12 reveal, across the 54 observation days the amount of

involvement individual focus-children had in UCBs, as initiators, targets, or accessories, varied widely. For example, PM08 and PF09 were each involved in fewer than 10 UCBs in total, while PM09, PM19 and PM21 were each involved in 200 or more. The variable pattern of children's involvement in UCBs across different days, with different peers, was no less marked than the pattern of numbers of UCBs involving individual focus-children on their own observation days.

5.8.2.1 Dominance, submission and role acceptance

Overall, the social status of individual children within the peer group did not appear particularly stable or consistent over the course of the day (cf. La Freniere & Charlesworth, 1987). A number of reasons may account for the lack of stability and consistency, which relate to the structure of sub-groups and settings. Among the population of preschoolers, several boys and three girls were frequently observed taking leadership roles. However, similar to the findings of Smith and Connolly, (1980), the children in the current study were also observed to form separate sub-groups and, as Pierce and Cohen (1995) noted, the influence of a small group of friends may be greater than the peer group as a whole. Consequently, there were few opportunities for individuals to establish a dominant status over the whole group.

The opportunities were further restricted by the previously discussed variations in children's enrolment days. Few children attended every day of the week, which conspired against attaining a position of dominance in all situations. A child could be relatively dominant on one day, only to be challenged by others or accorded little status on another day.

Dominance, when it was apparent, occurred most frequently in dyads and triads where tasks were undertaken, or dramatic play enacted, as a joint venture. While a number of children presented as consistently trying to dominate, those who were supposed to be dominated were less constant in their role as a compliant associate. In only a single dyad did the participants appear to be stable and accepting of their respective roles, and they came together infrequently. When they did play, the relationship between the two was typical of the following vignette.

Vignette 5.15 Dominant partners

PM19 walks over to the carpet near the block area where PM13 is playing with a car built from Mobilo. PM19 kicks PM13's car hard against the wall, causing it to break apart – Mobilo pieces scatter around the area. PM19 shouts joyously. PM13 looks at PM19 but says nothing – starts searching for pieces. PM19 says

nothing but also starts looking for pieces, finds some and sits quietly rebuilding the car. PM13 gets up and goes to the Mobilo storage bin, picks out a piece and returns and gives it to PM19, sits and watches PM19 reconstruct the car. PM13 gets up again - goes to Mobilo bin again - picks out another piece - returns and gives it to PM19 – sits and passively watches PM19 reconstruct the car.

The car was eventually rebuilt and presented to PM13. PM19 built himself a car and they played together, racing, smashing, and rebuilding vehicles for nearly 30 minutes. After the car game the boys went to home area where PF14 was “cooking” playdough cakes for three other children. PM13 and PM19 joined in as kitchen hands and were soon being seriously reprimanded by PF14 for not putting the cakes in the oven on time. In both the car and the cakes incident there appeared to be a clear understanding and acceptance of roles and no opposition or UCBs arose from either situation.

Another form of behaviour that appeared as an attempt to exert dominance over others related to children acting alone and attempting to dominate a situation regardless of who the participants were, which is discussed further in 5.9.1.2. Overall, most UCBs in this category were recorded either as a result of staff intervention to prevent hold-ups during routine periods or because conflicts developed on account of the targets refusing to accept domination.

5.8.2.2 Bullies and reactive aggression

Bullying, which was closely related to some episodes of attempted domination, was observed on a number of occasions. Most frequently, the target of bullying was a child already involved in play and the bully was someone outside the group. Overall, however, few children displayed overt bullying tactics in their relationships with others (cf. Zoccolillo, 1993). The most prominent exception was PM09, although he did not always escape reactive aggression from peers. The following vignette represents a sequence of events at the end of organised foot races between preschoolers, held in the outdoor play area just before lunch.

Vignette 5.16 Bullying and reactive aggression

PM09 is running along with 8-9 other children but appears more interested in disrupting others than trying to win or even finish. PM09 kicks PM02 as the latter goes past him – S05 intervenes to prevent any follow-up or retaliation from PM02. S05 tells PM09 she wants him to stop hurting other children and that he should apologise to PM02. PM09 looks into the sky and says nothing. S05 asks PM09 what he should say to PM02 (after having kicked him). PM09 replies “thank you”. S05 talks quietly to PM09 and guides him back into the race. PM09 running - still not concerned with winning, grabs hat off head of PF01 as he passes her and tosses it away. PF01 turns to retrieve her hat, does not retaliate. PM02 catches up

with PM09 and pushes him hard as he passed. PM09 regains balance and pushes PM02 – PM02 pushes PM09 again – PM09 kicks PM02 – PM02 hits PM09 – PM09 runs off – PM02 chases and catches PM09 – both boys punching each other – PM09 appears to be getting the worst of it - screams – PM02 pushes PM09 down on the ground – S05 runs over to them – joined by S10.

Displaying a similarly attitude to the dominance tactics of PM09 as she portrayed in Vignette 5.11, PF01 did not retaliate and did not attract staff intervention. PM02 took a different view, possibly on account of PM09's apparent escape from any retribution for the original kick. While the nature of the staff response to PM09's original kicking of PM02 could be implicated, the later display of reactive aggression by PM02 was the defining action in the manifestation of the UCB. In most cases of hostile confrontation, reactive aggression in the face of attempted dominance or bullying appears to play a major part in the occurrences of UCB. In many cases, however, it was observed that the initial hostile act and initial reactive response often cancelled each other and the confrontation went no further. As in the above vignette, it was the further response of PM09 to the reactive aggression of PM02 that turned the encounter into a very physically hostile action. However, sequences of such physically violent behaviour were observed infrequently over the period of investigation.

5.8.3 Dyads, triads, and groups in UCBs

With a total of 595 UCBs, dyads were the more common numerical combination of children involved in the production of UCBs. As Table 4.14 shows, hostile confrontations outweighed friendly associations by a ratio of more than 2:1. There was a considerably smaller number of UCBs involving triads and groups and, of the 125 total, friendly encounters (95) far outweighed those imbued with hostile intent (30) by a ratio of more than 3:1. One interpretation of these figures suggests that groups of three or more children may be far less prone to UCBs than children in pairs or alone. However, no record was kept of the overall time individual children spent alone, in pairs or in groups. As a consequence, no proportional representation by time, or frequency rates, can be provided to substantiate any claims for comparative group behaviours.

5.8.4 Friendly and hostile peer associations in UCBs

Friendly dyads, triads, and groups accounted for 273 UCBs representing almost 20% of the total. The targets in these cases were children invited, incited, or otherwise coerced into a range of cooperative ventures that attracted staff intervention for more than 40 different categories of reasons. Among these were too much noise (10), R&T play (67), running inside (24), shooting games (7) and other misuses of resources (37).

It was observed that a salient feature of friendly dyads was their lack of exclusivity in relation to membership. Perhaps due to their collaborative nature, friendly dyads attracted others who appeared relatively welcome to join in the fun. What started out as dyadic venture frequently became triadic and even a group enterprise as other children contributed to the action. The process of expanding membership of the friendly group exhibited some of the characteristics that Sherman (1975) identified as “glee”, although the groups involved in R&T play did not depend on male and female membership or suggest the need for mixed-sex composition. On occasions, there was resistance to the additional participation of some children of the opposite sex, for example TF04 in Vignette 5.8. In this instance, however, the attempted exclusion of TF04 could have been on the basis of her age and status as a toddler or as PM20’s younger sister. In most cases, however, there appeared to be an open invitation for others to join in, as illustrated by the following typical series of events initiated almost unwittingly by PM05.

Vignette 5.17 Run like a plane

PM05 gets up from his seat in the far corner of book area and runs with his arms out like a plane to the nursery door. PM20 chases PM05 and pulls him to the ground. S10 comes over and intervenes to stop R&T play developing. S10 moves away. PM05 get up and PM20 immediately chases and catches PM05 near home area. They both wrestle, fall over and R&T play starts on the floor. PM06 joins in briefly then steps back. PM25 comes over and joins in, closely followed by PM11. All involved in R&T play behind cupboards in home area. PM07 comes over and joins in.

A notable characteristic of friendly UCBs was that, compared to hostile encounters, they appeared relatively impervious to the standard form of staff intervention. On numerous occasions it was observed that staff interventions curtailing friendly play had little lasting effect unless accompanied by firm redirection to, and supervision of participants in other activities. Whereas the act of staff intervention in hostile conflicts often provided a break in the cycle of confrontation, easing tension and giving opposing parties a chance to calm, it had no such impact on those taking part in joyous or gleeful encounters. Children involved in R&T play and friendly chasing games, in particular, frequently reformed after intervention and often ignored directives to stop.

Overall, 17 of the 30 focus-children were involved in 95 triadic and group UCBs with friendly associations, with two children (PM19 & PM20) mentioned in more than half of them. Hence there were both a greater number of friendly triads and groups, and a lower ratio of dyads to triads and groups, compared to UCBs listed as hostile.

In further contrast to friendly encounters, it was observed that hostile dyads tended to remain isolated, even within larger groups. A conflict between two children rarely attracted the attention of other children and on only one occasion did a child outside the initial conflictual dyad involve himself in the physical hostilities. In that instance PF05, PF07 and PF14 had been separately watching an animated film on video-film. PM13 and PM18, who were sitting together, were also watching.

Vignette 5.18 Third party peer intervention

PF05 and PF07 get up from the floor - face each other - and both start to wrestle with apparent hostile intent, (I cannot see or hear the cause). PM18 suddenly stands up, steps across to the two girls and pushes PF05 over. S10 comes over to investigate the disturbance.

In the majority of cases the hostile triads and groups involved a single child initiating the confrontation and being resisted by two or more others at the same time. On three occasions, two children conspired against a third and, once, three children conspired against one, but these events were comparatively rare. No UCBs involved opposing dyads, triads, or groups.

Although not a common occurrence overall, some children were also observed manipulating situations to get others into trouble with staff. These episodes were quite different to the reporting of peers mentioned earlier (Vignette 5.5) as they appeared to be premeditated, as demonstrated in the following vignettes.

Vignette 5.19 Retribution by entrapment

TF11 is playing in the outdoor home corner when PM19 comes over and pulls on the back of her dress to move her out of the way. TF11 resists being moved and PM19 hits her in the back. The bullying of the toddler is seen by S05 who comes over to comfort TF11. She calls PM19 to her, admonishes him, and shows him the mark on TF11's back (where PM19 hit her). S05 settles TF11 back into the home area and moves away. PM19 returns and initiates play with TF11, persuades her and another toddler to climb into the enclosure (out-of-bounds) as part of the game. TF11 and the other toddler climb into the enclosure - PM19 reports the misbehaviour of both toddlers to S06.

It appeared that PM19 was seeking retribution for having been admonished by S05, but in other instances the entrapment initiated the peer encounter.

Vignette 5.20 Initiating by entrapment

PM05 is sitting quietly on his own in an easy chair with a gun built from Mobilo pieces. PM09 passes by and, without stopping, tosses a small plastic container at PM05. PM05 responds by "shooting" him. PM09 stops and shouts "no guns, no

guns" (centre rule) and looks around to see if any staff have heard him – none have. PM09 turns back and, with a smile, asks PM05 to shoot him again. PM05 obliges and PM09 reports PM05's misbehaviour to S05.

Children frequently incited others to undertake illicit activities, but most were in the form of joint ventures with the promoter. Only PM09 and PM19 were observed to plan the entrapment of others and it was not clear to what extent the strategy was practiced. The resultant UCBs were, however, clearly the product of opportunism and were influenced by within-child characteristics more than immediate environmental factors.

5.8.5 Intra-day shifts in peer relationships

Matters associated with popularity and physical unattractiveness as issues in friendships were not addressed in the current study, but the data collection strategy did allow dyadic and triadic relationships to be charted across various settings throughout the day. One of the more salient features to emerge was evidence of shifting allegiances in different settings, even between apparently established friendships. Ramsay (1995) had observed changes in preschoolers' preferences for peers over periods of several months, while Ladd et al. (1990) noted that children's behaviour differed across social situations, affecting friendships. However, the data from the current study demonstrated a number of shifts in friendship patterns between morning and afternoon, and between indoor and outdoor play. Most frequently these occurred between dyads, but they also involved two members of a triad rejecting the third, with changes in both combinations having consequences for the creation of UCBs.

For example, PM05 and PM06 were a reasonably established dyad over the entire observation period and they had been playing together on the morning of day 51. PM19 associated with most children but spent a lot of time playing with the equally active PM21. After lunch, PM19 suddenly switched his allegiance to PM06, who reciprocated, and they spent most of the afternoon indoor and outdoor periods involved in cooperative activity. PM21 had also been involved in some games but events turned to confrontation towards late afternoon, as recounted in the following vignette.

Vignette 5.21 Shifts in peer relationships

PM21, PM22, PM19 and PM06 are on the verandah being "knocked over" by PF06 in a swing pushed by PF03. PM19 falls on top of PM06 and PM06 claims to have been hurt. He calls on PM19 to come away and play elsewhere. PM21 comes over to PM06 and punches him in the back - accuses PM06 of trying to stop him playing with PM19.

S10 intervened to prevent any escalation of the hostility, but a few minutes later PM19 pushed PM21 over with considerable force in what may have been a retaliatory action on behalf of the usually nonviolent PM06.

5.8.6 Intra-relationship shifts in peer relationships

More rapid and apparently unprovoked shifts from friendly to hostile relations, and back again, were observed a number of times between established and cooperative dyads. While friendships in this age group involve a range of interactions as part of normal social development (e.g., La Freniere & Charlesworth, 1987), the intent of some exchanges appeared to be considerably more complex than others. Vignettes 5.22 & 5.23 sequentially account for two events involving PM20 and PM07 with PM05 and PM06 in the preschoolers' playroom a little more than an hour after the episode between PM20 and PM07 recorded in Vignette 5.8. PM20 has been playing matching cards with PM05 when PM07 came over.

Vignette 5.22 Accepting peers

PM07 arrives at the card table, leans over and says something to PM20. PM20 stands up and "swings" a mock punch at PM07, PM07 runs off and PM20 chases him to the book area and starts R&T play in an easy chair. They are joined by PM06 and all three fall on the floor.

The R&T play appeared to be an extension of the boys' previous activities in the early morning nursery setting. On this occasion the R&T play attracted PM06 and, a few moments later, PM05 also joined in. At that point S10 intervened and redirected the boys into other activities. PM20 went to the home area, and approximately nine minutes later initiated a change in his relationships with PM05 and PM07, as shown by Vignette 5.23.

Vignette 5.23 Rejecting peers

PM20 is role playing in home and calls out that tea is ready. PM06 comes to the table and sits down. PM07 also comes over to the table. PM20 immediately launches a hostile attack on PM07 and pushes him out of the way. PM05 arrives at the table and PM20, with apparent hostile intent, throws a (plastic) saucer at him, hitting him on the head. PM05 stands at the edge of home area, with PM07, rubbing his head and complaining to PM20.

Both PM05 and PM07 were accepted back into the game a few minutes later but the relationships remained dynamic throughout the day, leading to a number of staff interventions. Similar shifts were noticed for other dyadic and triadic relationships over the observation period (e.g., Vignette 5.14), with a number of apparently hostile

conflicts resulting in UCBs.

Researchers have investigated many issues associated with conflicts within young children's friendships (e.g., Laursen & Hartup, 1989; Maynard, 1985; Sims, 1997; Stephen, 1993), as well as matters concerned with preferences, victimisation, and dominance (Hatch, 1987; Pettit et al., 1990). However, questions about intra-day shifts in the relationships of dyads and triads, from friendship to violent rejection, have not been specifically addressed.

5.8.7 A response to the research question about social factors

Although it is generally accepted in the literature that peers play a major role in child socialisation, only a little over half of all UCBs recorded in the current study involved more than one child. When peers were implicated in UCBs, the roles of focus-children varied considerably as initiators, targets, or accessories, often dependent on focus-child characteristic and peers or combinations of peers. Discerning patterns of peer influence on UCBs was further complicated by shifting allegiances between dyads and quite rapid intra-day changes from friendship to apparent enmity and back again.

Attempts at social control, including dominance and bullying, were implicated in a considerable number of UCBs although infrequently as the immediate cause of staff intervention. More often, it was the reactions of target children who attracted staff attention. Observations showed that on a number of occasions, however, UCBs were avoided because the target declined to retaliate, underlining the importance of children's responses to the production of UCBs.

Clearly, overall, social factors made an extensive contribution to the manifestation of UCB in some cases. The influence is, however, highly variable between different children, and between different situations involving the same child and peers. At the same time, the inconsistency of peer relations in this age group makes it difficult to predict any general influence of social factors on UCBs in any place at any time.

5.9 Structural factors in the environment and UCBs

Discussion throughout the current chapter has already implicated some structural factors in the production of UCBs. Interpretation of the data is in agreement with a number of investigators who have cited program structure as a major influence on children's behaviour (e.g., Berk, 1971; Del'Homme et al., 1994; Smith & Connolly, 1980). As a consequence, occurrences of UCBs and associated behaviour streams

were further examined for evidence of relationships with specific aspects of the structure, including free play and teacher-directed sessions, routines, and transition periods. Attention was also given to the impact on behaviour of passive sessions following highly active periods, and a variety of characteristics associated with grouping.

5.9.1 Characteristics of free play and staff-directed sessions

It may be appropriate at this point to reiterate that free play described settings in which children were left to make relatively free choices between activities that were planned and provided by staff. Decisions about program content were not seen by the observer to incorporate any direct contribution by children. However, throughout the observation period children made numerous suggestions and requests for specific materials and equipment, and staff frequently acquiesced. On a number of occasions, staff also extended activities in time and space to accommodate children's spontaneous interests, albeit at the cost of reducing or omitting following sessions. Although staff determined the settings, children were permitted to create their own situations within the boundaries of safety and culturally defined socially acceptable behaviour.

In contrast to the longer free play periods, staff-directed sessions were of shorter duration, less flexible in location or timing, and clearly delineated as limited behaviour settings that incorporated staff expectations for specific responsive child behaviours.

5.9.1.1 The characteristics of UCBs in free play sessions

In free choice sessions, children making inappropriate choices about play, or exercising a level of imagination about objects that posed a threat to other children, invariably prompted staff intervention on the basis of equipment or materials misuse. This group accounted for 99 UCBs within the categories of "misuse" and "out-of-area" listed in Table 4.17. Several instances were observed where children involved themselves in "unauthorised" activities by helping themselves to equipment and materials from stores and cupboards that were not intended by staff for children's use that day. In the outdoor area the unauthorised materials also included water, which several boys saw as indispensable to the digging area. Water play was not a planned activity on any of the observation days and attempts were made on a number of occasions to procure supplies from the garden tap or the children's toilet.

Similarly, there were a number of occasions, particularly in the outdoor area, when equipment was rearranged by children or moved "out-of-area". Usually these UCBs involved the raising or lowering of planks on climbing frames, or the accumulation of

blocks and mattresses onto the tree seat or into the wooden fort. The latter was frequently related to imaginative play requiring “stores” and other provisions, and enacted by the same group of boys. Nearly all of these activities resulted in staff interventions on the basis of maintaining staff control of the overall program and to restore materials to shelves or equipment to its original position.

Staff interventions were also prompted by a child not exercising sufficient control over his or her choice of behaviours within the parameters of acceptable play, which often resulted in physically hostile encounters (247 UCBs). Occurrences of UCBs comprising overt and object aggression, and a range of other conflictual behaviours involving peers, were frequently observed to be related to the extent of the freedom of choice of activities given to the children. For example, within dyads, triads and larger groups, complex play was often seen to develop, particularly in the outdoor settings, requiring organisation and a high degree of cooperation among the participants. Disputes over the direction of the play and the use of props to support the action were frequent, as found by Boisen (1992). Where staff were not on hand to guide or provide the scaffolding to help children solve some of the issues, then disagreements often escalated and sometimes turned to physical hostility.

In these situations, few UCBs occurred as a result of children failing to share objects or a shortage of resources (cf. Koralek et al., 1993; Stephen, 1993; Watkins & Durant, 1992). The disputes were more frequently about the function of objects in the play, or how to move them to specific locations, and their characteristics appeared to play no more than an instrumental role in issues of leadership and dominance among members of the group. Some matters associated with dominance have already been discussed in 5.8.2.1, and are further considered below.

5.9.1.2 The characteristics of UCBs in staff-directed sessions

In contrast, the close direction of staff meant that UCBs occurring in group sessions and routines were more likely to reflect rule infringements relating to group conformity and control. These infringements were frequently associated with not sitting properly (37), or moving from an allotted position (22) and being out of seat (21), particularly at meal times.

A number of UCBs were produced deliberately by some focus-children and appeared to demonstrate the child’s understanding of temporal limitations in a particular space imposed by schedules. The main issue was not seen as one of children resisting or

objecting to being ordered by time, as contended by some authors (e.g., Davidson, 1980; Greenman, 1988), but one of children using time as a means of asserting dominance over peers or challenging staff, as noted by Rodd (1996). For example, the data provided evidence of four children independently using delaying tactics on separate occasions to hold up others queuing in the children's toilet during pre-meal routines. One was PM25 who, having put his hat away after transition from outside free play, in accord with requirements of the routine, had gone to the children's toilet to wash his hands prior to lunch, as a continuing part of the normal routine. PM01 and PM20 were already waiting for a vacant wash basin when PM25 pushed his way to the front, ahead of the queue, only to be pulled back into line by S01 who was supervising the routine. PM25 had to wait less than half a minute for his turn then washed his hands, after which he exhibited the following behaviours.

Vignette 5.24 UCBs and the structure of toilet routine

PM25 finishes washing his hands and goes towards the towel, where PM01 is standing in line behind PM20, and wipes his wet hands across the face of PM01. PM01 backs away (taken by surprise) and does not retaliate. PM25 moves back towards the towel and wipes his hands across the face of PM20. PM20 backs away (also taken by surprise) and PM25 stands in front of the queue, deliberately wiping his hands slowly on the towel. S01 (who has been helping another child dress after toileting and missed the action), returns to the sink area and tells PM25 to dry his hands properly. PM25 continues drying his hands at a normal speed, then laughs and leaves the bathroom, punching PM05 on his way out.

There was no history of conflict between PM25 and PM01 or PM05 during the morning and only a minor incident with PM20, who had come off worse after being hit by a plastic tube swung by PM25 in the sandpit. There had been no confrontations in the children's toilet during the morning tea routine (and no repeat during the afternoon tea toileting routine). PM20 sat at the same lunch table as PM25 and along with PM24 was involved in quiet games during an otherwise uneventful mealtime.

Observations suggested that most structure-related UCBs of this type yielded no gain for the focus-child except knowing that other children and staff sometimes had to wait for him or her. Therefore, the behaviours probably belong to the category of UCBs associated with dominance (Hatch, 1987) and initiator behaviours (Tisak et al., 1996). This form of "blocking" behaviour was also observed on the steps from the first to second level of the wooden fort in the outdoor play area. During these incidences, the narrow physical structure of the steps was unquestioningly used as a prop for bullying and dominance behaviour, demonstrated mainly by three boys (PM09, PM19 & PM21) but not by PM25.

The data also evidenced examples of children ignoring or hiding from the call to assemble for the time-sensitive transition from outdoor play to indoor pre-lunch routines⁶. A four minute long example was provided by PM22, as soon as the triangle sounded as a signal for all children to assemble on the verandah near the preschool room door, which is recounted in the following vignette.

Vignette 5.25 UCBs and the structure of transition time

Triangle sounds – PM22 runs away from the verandah to the climb-through ball, climbs inside and lays down. S05 calls PM22 by name to come indoors – PM22 does not respond. S05 calls again from the verandah – PM22 still does not respond. S05 takes other children indoors to allow S10 to start group time prior to lunch - all go in without PM22. S13 walks over to the ball calling to PM22, who still does not respond. S13 gets to the ball tells PM22 that the door will be shut for lunch and he will be locked outside if he does not come in. PM22 does not respond. S13 reaches inside, but cannot get a hold on PM22. S05 again calls to PM22 from the verandah and tells him that she has something special for him. PM22 does not respond. S13 warns him again that the door will be shut and then walks away towards the preschoolers' playroom. PM22 climbs out of the ball and runs to join the group.

None of the other children appeared to be interested in what PM22 had been doing and he did not extend his silent and non-hostile four-minute delay in compliance into the normal group routine. Several other instances of similar actions by other children were observed in different situations on different days, but all during the lunch routine period. Similar to PM22's display above, the actions of focus-children in defiance of the structure did not impact on other children, as illustrated by Vignettes 5.31 & 5.33. Therefore, the UCBs could not be categorised as attempted domination of other children. In all cases the actions appeared to be aimed more at the authority of the staff, as exercised by the imposed structure of the program on the children, than any personal characteristic of staff or a specific directive issued by staff to the child. It appears likely, therefore, that the UCBs represented the resistance of children who were trying to counteract feelings of helplessness in a situation where adults were exerting power, as described by Miller (1996).

Despite these particular types of behaviours, group sessions, toileting routines and

⁶ After morning tea, the cook prepared lunches for the nursery children, toddlers and preschoolers, to be served separately and in sequence. Apart from children's groups needing to be seated on time in order to receive the nutritional benefits of freshly prepared meals, successful preparation of afternoon tea, within the cook's limited working hours, was dependent on lunch-time dishes and the kitchen being cleaned within a short time-span. Therefore, the outside-inside transition, and accompanying toilet routine, needed to be accomplished with minimal delays.

mealtimes overall yielded fewer UCBs per hour than did free play. Comparatively, therefore, the data in the current study provided only limited support for the claims of Farmer (1988) and Holloway (1991) that problem behaviours often occur during group rituals. Clearly, however, some children recognised the vulnerability of structure to certain forms of dominance or protest behaviours and were able to exercise those behaviours to good affect.

5.9.2 UCBs and transitions

The pattern of UCBs during transition periods was given special attention because of the temporal and spatial conditions imposed on children in moving from indoor activities to outdoor play and back again. Overall, the four regular transition periods contributed only 61 UCBs during a total of more than 15 hours observation. The aggregate frequency rate of one every 15 minutes was less than that for indoor free play.

The lower rates are particularly noteworthy in light of the centre's practice of keeping all children together for transitions between indoor and outdoor activities rather than moving small groups of children at a time as suggested by some practitioners and researchers (e.g., Gruss et al., 1998; Harms et al., 1998). Scheduled directly after morning and afternoon snacks, children who had finished eating and drinking were required to go to the toilet, if they needed to, then wait at the back door for those children who took longer to eat, drink and toilet. Staff also used the time to clear away foodstuffs, clean tables, apply sun block to the children's faces, and ensure all were appropriately dressed, with particular attention to shoes and hats.

On a number of occasions, focus-children sat on the floor by the door, in the company of other preschoolers, for 10 minutes or more without any specific activities to occupy them while waiting for the remaining children. For a greater part of the time the children appeared to experience little difficulty talking and playing among themselves while sitting relatively quietly. The evident self-control exercised by the majority of children, demonstrated on most observation days, served to accentuate the relatively few UCBs that did occur. Overall, the data in the current study failed to support contentions by Clarke and Grey (1997), Courtney and Kowalski (1995), and Davidson (1980) that transition periods may be particularly vulnerable to the manifestation of UCBs.

Transitions from outdoor play to indoor activities also involved all children being gathered together at one time, although achieved with less waiting time. One boy (PM22 – previously mentioned in Vignette 5.25) used the period to go into hiding on two

of the days he was the focus-child, creating nine UCBs involving three staff. As a consequence, he was solely responsible for two-thirds of all the UCBs that occurred during the morning transition from outdoor to indoor activities (settings #8), and greatly skewed the raw figures for all focus-children as a result.

5.9.2.1 Unscheduled transition periods

Other, less formal, transition periods were instigated by staff at various times during the day, often involving packing materials and equipment away, as a prelude to group gatherings. These “pack-away” periods were usually pre-empted by verbal warnings and calls for children to help in the clean-up tasks, similar to strategies suggested by Clarke and Gray (1997) and Zeece and Crase (1982). Children’s refusals to help pack objects away on shelves, particularly in the block and home areas, directly accounted for more than 40 UCBs and follow-up acts of defiance. A number of children were observed to openly avoid clearing anything away, sometimes hiding behind furniture rather than participate in the task with the majority of the group. More often than not, however, non-cooperating children would stand to one side, or sit down, and just watch the others. Any effort to get them involved was frequently met with stubborn resistance, inevitably leading to confrontations, such as the following eight-minute excerpt from a transcript after S05 had announced time to pack-away.

Vignette 5.26 Avoiding helping to pack-away

2.02pm	PF07 stands by mirror in home corner - watching others who are packing various items away in different parts of the room
2.04pm	PF07 plays with the mirror, tucking herself behind it - trying to fit loops as earrings
2.05pm	S05 comes across and asks PM07 to help pack away, then moves on - PF07 does not move – remains by mirror
2.06pm	PF07 still not helping - S05 comes across again and talks to her briefly then moves away
2.06pm	PF06 joins PF07 - now pushing mirror on top of PF07 - both laughing
2.07pm	PF06 leaves PF07 and mirror
2.07pm	PF07 goes to the Mobilo area - lays on the floor behind home area furniture
2.08pm	PF07 still on floor - invites PF03 to come and jump on her - PF03 joins PF07 for friendly wrestle on the floor - PF03 spits on PF07 - PF07 gets up – initiates hand-to-hand wrestle with PF03 - PF03 moves away
2.09pm	PF07 skips towards the book corner - stops - backs into home area - then walks over to the collage trolley on the edge of the blue carpet
2.10pm	PF07 crouches down behind collage trolley – hides from S05
2.10pm	S05 sees PF07 hiding - goes across to the trolley and takes her by the arms to pull her up. PM07 goes dead weight - refuses to move - refuses to help clear away

The problem for PF07 did not appear to be with the format of the transition but in the

task of clearing away. Although most children participated in the pack-away to some extent, a number of others, including PF06, PM25, and occasionally PM09 and PM21, also avoided pack-away tasks at some time. With the exception of PM09, the others employed strategies similar to PF07 and did not make a public show of their actions. Instead, they quietly avoided getting involved and tried not to be noticed, perhaps indicating an aversion to the task more than providing a demonstration of resistance to authority, as hypothesised by Miller (1996).

5.9.3 The impact on UCBs of enforced passivity after active play

On a number of occasions, indoor group time was held directly after outdoor play, requiring children to move from an active to a passive session. According to Holloway (1991), Krantz and Risley (1977), and Watkins and Durant (1992), the sudden requirement for changed physical behaviours in two different settings could lead to UCBs. In the current study, the impact may have been mitigated by the formalised transition period from outdoor to indoor settings, which provided a small cushion of time between the two contrasting activities. In addition, the outside play periods usually extended over 90 minutes or more and were characterised by options for children to participate in passive pastimes as well as active games. Either as a result of the length of play period, or the judicious use of transition time, as a short rest period between settings of different activity levels, no UCBs could be linked to problems directly associated with children unable to calm down after an active session.

5.9.4 Mixed-age grouping of children

Overlaying the 22 major settings were a number of periods when the toddlers and, on occasions, older babies were combined with the preschoolers' group. Many of the arrangements were designed to maintain legally required staff:child ratios for supervision, within the constraints of staff shift work schedules and meal breaks, as much as being based on an educational philosophy supporting the socialisation of children of different ages.

At the beginning of the day, all three age groups were combined in the nursery. On transfer to the preschoolers' playroom the toddlers normally remained in a combined group until the last staff morning shift commenced at 9.30am. The toddlers then went to their own room but combined with the preschoolers again in the outdoor play area after morning tea. Toddlers went indoors for lunch 30 minutes earlier than the preschoolers, who stayed in the outdoor area alone until nearer their lunchtime at 12 noon. Non-sleeping toddlers rejoined the preschoolers after lunch and stayed until

approximately 2.30pm. The preschoolers once more combined with toddlers in the outdoor area following afternoon tea. At 4.30pm the remaining toddlers and preschoolers went to the nursery and joined the babies until the close of the centre.

As the chart in Appendix 6 shows, toddlers featured prominently in 127 UCBs, initiating 45 including 32 in hostile encounters with 14 focus-children as targets. They were also targets in another 80 UCBs initiated by 18 different preschoolers. At the same time, babies were involved in a further 28 UCBs, 26 as targets of 11 preschoolers. A common feature of many UCBs involving babies and toddlers was the failure of the younger children to match the social skills of the older children, particularly in sharing and cooperative games. Instances of toddlers and babies pushing ahead of children waiting to use the paint easel or playdough, or forcing their way into block or home corner, often resulted in violent reactions from preschoolers. Many hostile UCBs appeared to arise from preschoolers' intolerance of the toddlers' involvement in activities and activity areas regardless of whether the younger children forced their way in. These findings are in accord with Goldman (1981) and Lougee et al. (1977), in that many preschool age children are not able to cope with the affective and cognitive demands of mixed-age groups, particularly in free play situations. The point is exemplified by the following episodes.

Vignette 5.27 Sharing dough with toddlers

PM05, PM16, PM18 and PM19 are at the playdough table when a female toddler comes across, stands at one corner, and asks for some dough. The boys refuse to give up any of their supply. The toddler calls out to nearby staff. PM18 takes a piece of dough from PM16 and gives it to the toddler – PM16 gives her another bit himself.

Vignette 5.28 Sharing area with babies

PF14 in the home area is setting up a picnic table with plates and cups. She is joined at the table by two toddlers and two babies, all are talking. One of the babies is apparently getting too close to the area occupied by PF14 and the older child pushes her away. The baby tries to get into PF14's area again and is pushed away again. The baby remains close, standing on a blanket. PF14 bends down and pulls the blanket away. The baby falls, rolls over, gets up, and leaves the area rubbing her head.

At the same time, staff vigilance for accidents or potential problems prompted interventions on a number of occasions just to prevent preschoolers getting too close to babies, particularly in the morning nursery free play sessions.

Vignette 5.29 Protecting babies

PM20, PM07, PM05, TF03, TF04, are all gathered around some large foam rubber shapes, looking at a baby on the floor. PM20 and PM05 are leaning across the baby – almost touching her. S03 moves PM05 back, PM20 moves back of his own accord, but both stay close to the baby. PM20 gets up and stands on one of the blocks. S03 asks him to get off and explains that he may fall onto the baby – S04 comes across from the other side and guides PM20 off the block.

Apart from general interest, some of the babies and toddlers attracted exuberant “mothering”, mainly by PF08 and PM19, giving rise to six UCBs. Unlike the protective measures characterising incidents such as that related above, the mothering usually took the form of persistent cuddling or attempts to carry the younger children. The following vignette provides an example of typical interactions between PF08 and babies in the outdoor play area.

Vignette 5.30 Mothering babies

One of the female babies is clambering on a large foam rubber block. PF08 sees her, comes to the block and tries to lift the baby [I cannot assess whether she is trying to lift her onto or off the block]. The baby objects to being lifted and struggles. PF08 lets her down then takes her by hand and guides her towards the sandpit. The baby breaks free and runs around the back of the sandpit. PF08 chases, catches the baby and picks her up again. The baby objects and tries to break free. S18 intervenes, separates PF08 from the baby and takes the baby by the hand. PF08 takes the baby's other hand and all three head towards the sandpit. PF08 bends down and cuddles the baby again – baby objects – S18 again intervenes to stop PF08.

Babies and toddlers were involved in a total of 155 UCBs, or more than 11% of the total, spread across all mixed-age settings with no particular activity or location being more prone to their involvement. Their presence also had an indirect influence on preschoolers' behaviour to the extent that staff were often preoccupied with demands of younger children and failed to notice UCBs developing among older children. On several occasions, preschoolers were observed to take advantage of events distracting staff to involve themselves in activities that would otherwise be prevented. These included various physically hostile acts, accessing objects without authorisation, and being in places regarded as out-of-bounds.

5.9.5 Group size

For various staff-directed activities the preschoolers, whose ages ranged from 3 to 5 years, were divided into at least two developmentally more compatible sub-groups. For the greater part of the day, however, they remained together and, as previously mentioned, were integrated with the toddlers for extensive periods. As a result, the size

and composition of the whole group was continually changing, although never seen to exceed a combined total of 30 children, and rarely reached 25. In the free play periods, which occupied two-thirds of the observed program, staff moved around the playroom and outdoor area working with individual children and small groups. Consequently, there was little opportunity to assess the effect of large groups on the behaviour of participants, as described by Dunn (1993) and Smith and Connolly (1980).

5.9.6 Program duration, timing, and time-of-day

The few extant investigations of program duration have looked at activities only in 15 and 30 minute periods (Boisen, 1992; Christie et al., 1988). The duration of play in the major indoor and outdoor settings in the current study frequently exceeded 90 minutes and, therefore, cannot be compared to the literature for effect of duration. During the course of the observations, however, there were no discernible patterns of UCBs at any particular time or period within the longer sessions. Consequently, the data did not support Boisen's (1992) finding that longer play periods yielded increased conflicts.

At the same time, it has to be acknowledged that data in the current study may be confounded by the variable arrival and departure times of children, which considerably shorten the length of play periods for some children as already discussed. In addition, the child care centre was well equipped with a large outdoor area which provided children with choices of activities and space of their own. As also previously mentioned, it was noted that individual children frequently took breaks from highly active or intensely social pursuits, often retreating to a garden area or taking up solitary play in the sandpit. Therefore, some of the confounding issues of boredom (e.g., Clarke & Gray, 1997; Davidson, 1980; Schuster et al., 1980), crowding (e.g., Greenman, 1988; Kritchevsky et al., 1969; Larson et al., 1990; Smith & Connolly, 1980), and inappropriate programming (Burts et al., 1990; Charlesworth et al., 1993), discussed in Chapter Two, could not easily be separated from other physical, social, structural and cultural factors in the observed settings.

5.9.7 A response to the research question about structural factors

Part of the research question concerned how, and to what extent, structural factors within the environment of a child care centre, contribute to the manifestation of unwanted child behaviours. Interpretation of the data in the current study indicated that a variety of structural factors were implicated in the manifestation of a large number of UCBs. These included time-sensitive routines, pack-away periods, and mixed-age groups. However, none appeared to be a defining feature of the occurrence of UCBs in

all children, and other factors suggested as influential in the literature, including waiting time, length of play sessions, and the contrast between high and low activity sessions, appeared to have little overall impact on the children.

The data indicated that specific behaviours of some children re-occurred in some structures more often than in others, but these were found to be influenced by concurrent activities, peer associates, and within-child characteristics, similar to findings by Schleifer et al. (1975) and Del'Homme et al. (1994). Therefore, while structure appeared to make some contribution to the manifestation of UCBs in some children, and provided a background to many others, interpretations of the data did not suggest that it exerted a particularly dominant influence on all children.

It was apparent, however, that the types of UCBs exhibited during staff-directed sessions were quite different to those occurring in free play. Specifically, directed sessions provided fewer opportunities for children to engage in overt aggression or R&T play, which is in keeping with findings by Berk (1971) and Smith and Connolly (1982). UCBs occurring in the staff-directed sessions were frequently related to staff concerns for group management and often involved staff:child confrontations. In free play sessions, UCBs were more frequently related to staff reactions to child:child conflicts and aggression emanating from social interactions.

5.10 Cultural factors in the environment and UCBs

As a condition of licensing, staff of centre-based child care are required to adhere to a code of conduct that reflects the shared values of society in relation to the full-day care of children (New South Wales Government, 1996). Apart from nutrition and other health and safety issues, and programming, clause (9) of the code of conduct concerns "Interactions with children". In particular, it provides broad guidelines to staff for the guidance and management of children, particularly in matters of discipline. As previously discussed, culture can be represented by the agreed standards and shared consensual behaviours of a society (Georgiou et al., 1996; Hall, 1959; Stebbins, 1971). Therefore, the culture of an accredited child care centre whose staff abide by the code of conduct should reflect much of the culture of society in relation to interactions with young children. Consequently, the culture of a particular centre, as part of the micro-environment, could be held responsible for influencing the production of UCBs only if the behaviours arise from children being confronted by cultural factors that are different to those of society. Otherwise, any UCBs could be seen as a product of children confronting society's culture in general, as part of the macro-environment, and not

factors specific to centre-based care.

The identification of UCBs as being influenced by differences in the centre's culture was determined by analyses of staff:child interactions. In particular, the data were examined in some depth to explicate the way staff as individuals and as a group related to individual children; the way staff related to boys compared to girls; how individual children related to individual staff members; how children elicited reactions from staff; and either uni- or bi-directional antagonism in staff:child relationships.

As previously mentioned, the centre was fully accredited by the National Childcare Accreditation Council and the program operated by the centre was observed to be developmentally appropriate and sensitive to social and cultural differences among children and parents. No UCBs were observed to arise from inappropriate staff practices relative to normal expectations for child development, religious beliefs, or specific mores of families emanating from minority groups within Australian society. Therefore, these matters are not pursued further.

5.10.1 Staff interventions and the gender of children

In the current study, staff intervened to curtail 1011 UCBs initiated by 18 male focus-children. These numbers represent 73% of the total UCBs being attributed to 60% of the total focus-child population. The ratio is almost identical to Ebbeck's (1986) findings that 60% of teachers' overall interactions were with male children who made up 50% of their preschool-age population. To a certain extent, therefore, the child care centre staff may have been acting in a manner typical of the suggested skewed nature of early childhood teachers' interactions with children which, numerically, have been seen to favour boys.

If staff were indeed responding unequally to boys and girls on the basis of gender rather than actual occurrences of UCBs then the findings of the current study could be interpreted to indicate little differences between the level of production of UCBs by both groups. Variations in the number of UCBs produced by boys compared to girls could be accounted for by recognising "natural" staff biases towards a greater proportion of interaction with boys in an overall setting where the genders exhibited an equal proportion of UCBs. It is possible, therefore, that the current study's reliance on the phenomenological perception of staff to identify UCBs, which may incorporate gender bias, confounded the findings. However, further examination of the data did not support this proposition.

5.10.2 Behaviour management strategies

In addition to claims about gender bias, it has been suggested that staff may be more likely to target the activities of some individual children with more frequent interventions than they may direct at others (e.g., Arnold et al., 1998; Neill & Denham, 1982; Reid, 1993). Under these circumstances, the recording of high staff intervention rates on different observation days may have been the result of behaviour management strategies directed at specific focus-children, or may have reflected a desire amongst staff to exert greater control over known problem children (Stebbins, 1971).

During the period of investigation, however, the observer was not made aware of any specific behaviour management program being applied to individual children. Nor were on-going demonstrations of differential treatment of any individual child's behaviours observed during the current study, although for a number of reasons an examination of the phenomena is not an easy undertaking in a child care centre. For example, the assessment of differential treatment requires extensive cross-children and cross-situational comparisons of instances when similar unwanted behaviours occur. Given the individual within-child and experiential differences already mentioned, such comparisons by an outside observer must be considered fraught with dangers of misinterpretation. In addition, as already mentioned, subtle differences in type and intent of UCBs also conspire to make hazardous any comparisons between the behaviours of individual children.

5.10.3 Variations in rates of response to the same child by different staff

Researchers have also suggested that all staff may not respond to the same child in the same way (e.g., Garland & White, 1980; Minuchin & Shapiro, 1983; Scott-Little & Holloway, 1992), which could skew the identification of UCBs according to the amount of time each spends with particular children. Apart from issues of tolerance levels and specific biases, mentioned earlier in relation to a number of investigators (e.g., Anderson-Goetz & Worobey, 1984; Conway, 1990; Crowther et al., 1981; Luk et al., 1991; Taylor & Romanczyk, 1994), Bugental et al. (1990), in a study of mother:child dyads, suggested that "identical child-behavior patterns may elicit different responses from different caregivers on the basis of perceived implications of those behaviors" (p. 637).

While perceived implications of an act may determine staff reactions to certain child behaviours, they are, again, problematic to examine in a centre. For instance, the number and range of staff members and others supervising the children compound the difficulties. Over the 54-day observation period in the current study, for example, the 13

permanent staff members in the centre were supplemented, at various times, by four casual staff, two education students undertaking teaching practice, and two senior-school students on work experience programs. In addition, periods of staff leave and the requirements for shift-work over the centre's 10-hour day, ensured that different combinations of staff were frequently working with the children. During any single day, individual staff members worked with specific children and groups for variable amounts of time. On occasions they had no contact with children while they completed necessary administrative or domestic tasks. The overall result was that the total time a staff member spent with each child was all but impossible to record. Without details of the time factor differential treatment of children cannot be calculated with accuracy. Therefore, no attempt has been made to interpret the relationship between individual staff members and the numbers of times each intervened in children's activities to identify UCBs.

5.10.4 The child as an elicitor of staff responses

As a rejoinder to the corollary that staff biased the identification of UCBs, the roles of children in relationships with staff were examined. The literature has noted that some children may elicit aversive responses from particular adults for their own purposes (e.g., Snyder et al., 1994; Wahler, 1990), which could impact on the staff response rate. In the current study it was possible to classify 316 UCBs (23%) as having been elicited from 11 staff (Table 4.13). The episodes were initiated by 11 female and 13 male focus-children and most involved deliberate confrontational behaviours by a child that necessitated staff intervention.

More than half the total was represented by focus-children acting contrary to a staff directive. Those directives may have been given to a particular focus-child, the group as a whole, or implied through normal routine. More often than not, a confrontation followed an UCB in a sequence of staff:child exchanges. On 20 different occasions, however, the observer could not determine whether the child's action was deliberate or resulted from his or her failure to hear the directive, or the child's failure to recognise that he or she was the subject of the directive. The situation was typified by the child who remained at a task after the staff member had directed tables to be cleared or blocks to be packed away, only to comply with a second or follow-up directive as if hearing it for the first time. For the purpose of preliminary analysis, however, the supposed reason for the child not following a directive was subordinated to outcome and the behaviour was classified as having elicited a staff response.

Of the total 316 elicited UCBs, 103 behaviours were classified as one of 27 different forms of openly defiant acts. These included absconding from time-out; protesting, complaining about, or questioning a directive; physically resisting restraint or resisting being moved; and simply declining to comply with a directive. The latter frequently took the form of passive resistance or an outright verbal refusal to follow the directive.

As 24 different focus-children initiated confrontations with staff at some time during the observation period, the cultural influence expressed as authority and the issuing of directives could be construed as playing a role in the manifestations of certain types of UCBs. This interpretation supports assertions about children's reactions to their supposed helplessness in the face of authority (e.g., Greenman, 1988; Miller, 1996). However, the main issue in determining the role of the centre in the production of these UCBs relates to the existence or nonexistence of previously mentioned differences between the demands of the centre's staff and the demands of society in general.

In further consideration of the above, it has to be recognised that within-child characteristics may have played an important role in staff:child confrontations. For example, although 24 of the 30 focus-children were involved in UCBs targeting staff, six initiated only one confrontation and a further five children initiated only two each. In contrast, 139, or nearly 60% of all confrontations, were initiated by just five focus-children (Appendix 7). It could have been the case that these five were having specific difficulties with conforming to some situations at their particular stages of development or were challenging the directives to satisfy some other aspect of their respective psychological habitats.

Anecdotally, the observer's comments suggest that the demands placed on children in the centre were unexceptional. It was also the opinion of the author that staff directives were not unreasonable or unduly authoritarian and were applied consistently and equally to all children. The resistance and confrontation was more often than not offered by a child acting alone at a particular time and in a particular place, which suggests that the psychological habitat of the child played a determining role in establishing a particular context of the situation for him or her. Few children consistently confronted staff in the similar situations across time and space, which emphasised the situational and temporal specificity of the influence of the child's psychological habitat.

In addition to exhibiting varied amounts of confrontational behaviour, children also

appeared to have different motivations for confrontation. Most events were undoubtedly initiated by the focus-child in an attempt to prolong an activity in which they were engaged, or to get their own way in carrying out a new task. On the other hand, some events were clearly unrelated to concurrent activities and appeared aimed at challenging authority for its own sake. Examples of different dimensions of confrontational behaviours observed are illustrated in the following vignettes.

Vignette 5.31 Confronting staff at morning tea

PF13 comes out of the toilet and sits at a small empty table near the kitchen servery. S04 calls to her to join the others at a special banquet style group table set up for the morning tea in the middle of the dining area. PF13 tells S04 that she does not want to move. S04 calls to her again, but PF13 only shuffles with her chair. S04 comes over to PF13, takes her by the hand, leads her to the group table and sits her down. PF13 immediately gets up and moves back to the servery table. S04 watches her go and raises her eyes to ceiling. S10 comes over to PF13, takes her by the hand, leads her to the group table and sits her down. PF13 immediately gets up and walks across to another table near the sign-in area and sits on her own.

Vignette 5.32 Confronting staff at story time

S05 is reading a story to the preschoolers who are all sitting on the floor when PF03 gets up and stands still in the middle of the group. S05 stops reading and tells PF03 to sit down. PF03 does not move, nor does she say anything. S05 tells PF03 that she must sit down or no more of the story will be read. PF03 stands her ground, still says nothing, still does not move.

Vignette 5.33 Confronting staff at lunch time

PM02 comes out of the toilet after washing his hands in the pre-lunch routine but instead of going to a lunch table like everyone else, heads off towards an easy chair in the book area. Staff ignore PM02 who, after a minute or so, takes off his shoes and throws them across the carpet. S10 walks over, kneels down next to the chair and talks to PM02, invites him to come and join the group for lunch, then she moves back towards the dining area. PM02 get up, walks through the home area to the car mat, picks up a toy car and starts playing on the track.

The actions of each child in the above vignettes, and numerous other examples recorded during the 54 days of observations, appeared unprovoked by any immediate past or present event. Other children took little apparent notice of the focus-children in any of the above situations, which in any case did not appear to be a concern of the focus-child. Eliminating historical and immediate stimuli for the behaviour and dismissing an attention-seeking motive made it difficult to connect these types of UCBs with any specific environmental influences. Although each child used the time/space structure to emphasise the effect of his or her actions on every occasion, the purpose appeared more closely linked to less obvious within-child needs at the time.

5.10.5 The child's differential response to different staff

Notwithstanding the previously discussed limitations on assessing the time each staff member was exposed to each child, the data suggested that an individual child might target one specific staff member for their confrontations more than others. Whatever the purpose of the child's attempts to elicit staff responses, the actions may have impacted on numbers of interventions attributed to that staff member. This was certainly the case for S10 who was clearly targeted by PM09 more than any other child. The extent of PM09's different relationships with different staff can be gauged from the following three vignettes depicting different aspects of PM09's array of challenging behaviour and physical hostility.

Vignette 5.34 Targeting specific staff

S10 is supervising the painting table near the kitchen servery. PM09 walks by - picks up a brush, moves away, taking the brush out-of-area, turns and calls out "fat cow" to S10. S10 gets up, catches hold of PM09 by the wrist and retrieves the brush. PM09 complains of being held too tight, breaks away from S10 and runs to the centre of the room. S10 calls for PM09 to come to her but he stands his ground and calls on S10 to make him come to her. S10 remains at the table - repeats the directive and tells him that she will not chase him. PM09 smiles and moves towards the home area calling out "chicken...chicken..." to S10.

The persistently challenging behaviour exhibited by PM09 towards S10 was not repeated with other staff members. S10 also took the brunt of PM09's violent behaviour, typified by the following episode.

Vignette 5.35 Denying attacking a toddler

PM09 walks up to a female toddler (TF01) and pushes her over. S10 sees the unprovoked attack, goes over to comfort TF01 and admonishes PM09 for pushing the smaller child. PM09 denies that he pushed TF01. S10 takes him aside and starts to talk to him about attacking other children. PM09 shakes free and punches out at S10's face (misses). S10 holds PM09's arms at his side and sits him down in a nearby chair while she continues to reason with him. PM09 kicks her.

PM09 hit, kicked and spat at S10 on 16 occasions during 69 encounters that he initiated with her over the three days he was observed as the focus-child. S05, the other regular staff member with the class, was a target of confrontations on 12 occasions but the following single instance of resisting restraint was the nearest PM09 came to making physical contact with her.

Vignette 5.36 The threading table

PM09 gets up from the threading table and walks to home area, swings his threading card at PM18 and PM19 - hits PM19 on the ear. PM19 hurt. S05 comes over and puts her arms around PM09 to physically restrain him and prevent him swinging the card again. PM09 resists, pushes over one of the home area cupboards. S05 speaks quietly, takes him by the hand and leads him back to the threading table. PM09 walks passively with her. S05 leaves PM09 at the table and moves away. PM09 recommences threading - stays at the table.

Over the three days, PM09 was observed targeting only two other staff. S02 was targeted once and S06 on four occasions, all five events were concerned with PM09 ignoring staff directives, and none induced PM09 to display violent behaviour.

From the raw figures it could be suggested that S10's greater proportion of involvement with PM09 might have been responsible for him being credited with the greatest number of UCBs. The literature indicates that some children may have a role in establishing bi-directional cycles of antagonism with adults (e.g., Patterson, 1982; Snyder et al., 1994), but no studies have provided evidence of persistent child-initiated aversive incidents in the face of inductive adult responses. At the same time, the data provide no evidence of any coercive cyclical patterning in the relationship between PM09 and S10. Despite the fact that she was frequently a specific target, S10 was not observed to act intolerantly towards PM09. Anecdotally, an observer's comment suggested that, if anything, S10 may have exercised too much tolerance which could have contributed to increased confrontation from PM09, in much the same way as the tolerance of aggressive children by peers was seen as depriving aggressors of appropriate feedback for unacceptable behaviour (Coie & Jacobs, 1993).

Data for all 54 observation days show no cyclical patterns of focus-child initiated bi-directional antagonism with any staff members. Pertinent to consideration of a particular child being targeted by staff are the figures relating to S05 and S10 as the staff members who spent most time with the preschoolers' group. Of the 98 UCBs directed at S05, 12 were initiated by PM09 with the remaining 86 emanating from 13 other focus-children. Apart from PM09, S10 was targeted on only 61 other occasions by a total of 17 other focus-children. These figures suggest that PM09's actions were strongly influenced by within-child factors and a view of S10 that he did not extend to other staff, and was not shared by other children. The data also failed to provide evidence that staff, specifically targeted any individual child, or group of children. Consequently, it did not appear that staff intervention in children's behaviours, leading to the identification of UCBs, could be attributed to staff bias in focussing on particular

children.

5.10.6 A response to the research question about cultural factors

In some respects the centre's culture could be seen as being responsible for all observed UCBs. As each could be interpreted as an infringement of the centre's rules, and as rules are part of the culture, every UCB must, by definition, be a product of the culture. On the other hand, much of the centre's culture also reflected the cultural values of the wider society and interpretation of the data concentrated on identifying anomalies in the centre's application of wider cultural expectations.

Within this framework of application, observational records were examined for anomalies in relationships between staff as individuals and as a group, and children as individuals and grouped by gender, with particular reference to the application of behaviour management strategies. Results provided little evidence to suggest that the intervention rates of staff made any significant contribution to the manifestation of unwanted behaviours in all children. The data were also analysed for evidence of behaviours initiated by children that could lead to inappropriate social or cultural biases in the relationships and interactions between staff and children. The behaviour of only one child could be seen as consistently prominent in relation to facets of the cultural environment and, in that particular case, within-child characteristics appeared to be exerting some considerably confounding influence.

Overall, there were no specific facets of the child care centre culture that could be identified as exerting a global influence on the manifestation of UCBs that could not be equally applied to situations outside the centre. At the same time, few UCBs could be categorised as being influenced by cultural factors without consideration of the transactional influence of structural and social factors.

5.11 Reducing occurrences of UCBs

The second part of the research question stated in Chapter One focussed on identifying aspects of the physical, social, structural or cultural environment that could be modified to reduce occurrences of UCBs. Interpretations of the data in relation to children's temporal experiences of child care, daily and seasonal factors, and the physical, social, structural, and cultural components of the environment, had all revealed a range of influences that exerted different levels of intensity on different children in different situations. At the same time, it was evident that the children's psychological habitats played a major role in interpreting the influences and incorporating them into

behaviours. A key component of psychological habitats appeared to be the intent or goal of the child, which could determine the form of behaviour and likelihood of UCBs being produced. A variety of child responses to different situations, recounted in the vignettes above, demonstrated that UCBs could be configured in a range of formats with different capacities to attract participants and sensitivities to staff interventions.

The differences were clearly illustrated by reviewing UCBs classified as friendly or hostile encounters, which revealed unambiguous differences in the form and function of the two types. These included clear distinctions in the aetiology of the encounters, their influence on the behaviour of children outside the initiating activity, the responses of participants to staff intervention, and likelihood of continuity or revival of the UCB after intervention.

Friendly UCBs were characterised by gleeful excitement and exuberance. Usually starting in dyadic form, they showed a capacity to attract several additional participants before being curtailed by staff. However, the emotional commitment generated by the group activity frequently ensured the revival of the action if staff did not physically separate and redirect the players.

Hostile episodes, on the other hand, usually involved only two children and rarely attracted additional combatants. The initiators of hostile UCBs appear to be motivated by one of a number of factors, including those associated with dominance and social control as well as distress at being accidentally or purposefully disrupted during an activity. Each episode or sequence of hostile events generally demonstrated clear forms of aggression, which prompted reactive aggression, expressed verbally or physically, frequently leading to violence. As discussed in Chapter One, reactive aggression, also known as emotional aggression, is associated with low levels of emotional control. In children aged 3-5 years, a low level of emotional control has to be expected and, therefore, UCBs based on reactive aggression must be considered reasonably normal in many circumstances.

Overall, the data indicated that observed UCBs resulted from individual child responses to different combinations of environmental stimuli emanating from the child care centre and that no single combination appeared to influence all children in the same way. Further interpretation of the data indicated that the strength of influence of similar stimuli might be differentially mitigated by the child's psychological habitat, which determined the context of the situation for the child, at any point in time.

While innate and learned behaviours were seen to play a major role in defining how a child might react to stimuli, analysis of behaviour streams suggest that such reactions could be influenced by the child's level of interest in immediate activities and his or her physical and psychological needs at the time. As a result the identification of triggers for UCBs was often confounded by apparent ambiguities in the motivation for actions by some children, particularly in regard to staff directives and relationships with peers.

As a consequence, it was concluded from the current data that unwanted behaviours manifested by all children in the centre studied were unlikely to be substantially reduced by modifying any single factor within the environment. Some UCBs may be eliminated or reduced by modification of some factors mentioned above, but the unique child reactions that result from the interface between a child's psychological habitat and the environmental components of a child care centre appear to conspire against generalised forms of environmental control or behaviour management.

CHAPTER SIX

Summary, discussion, and conclusions

6.1 Introduction

The purpose of the current study was to investigate the relationship between the totality of the environment of a single child care centre and occurrences of unwanted behaviours exhibited by attending children aged 3-5 years. Specifically, answers were sought to the following questions:

- a) How, and to what extent, do physical, social, structural, and cultural components of the environment contribute to manifestations of unwanted child behaviours?
- b) Can any aspect of the physical, social, structural or cultural components of the environment, which have been identified as contributing to manifestations of unwanted child behaviours, be modified to reduce its influence?

While the focus of the investigation was on environmental factors as the locus of causality, the role of the child's internal dispositions was also acknowledged.

6.2 Conceptual framework

To provide a conceptual framework for the investigation, a variety of issues associated with definitions of environmental factors and children's problem behaviours were considered. These included time-space locations of settings and situations, the basic components of environmental influence, the child's psychological habitat, unwanted child behaviours, and the contextualisation of child behaviours *in situ*. The framework was utilised to review literature associated with components of both the child's psychological habitat and the environment of a child care centre, implement an appropriate data collection strategy, and guide data analysis and interpretation of findings.

6.2.1 The environment

After reviewing relevant literature, the child care centre was defined as a micro-system with an environment comprising interrelated physical, social, structural, and cultural components. All activities were seen to take place in physical time-space locations

designated as settings. Within settings, children were seen to relate to objects, other children or adults to generate situations that gave rise to behaviours. The child's behaviour was seen as being dependent on the influence of time and the four environmental components, in conjunction with his or her psychological habitat. Comprising within-child characteristics and intentions, the psychological habitat was seen as contributing to the child's milieu and providing him or her with a context for action.

Context and milieu were considered personal constructs and, therefore, could not be interpreted objectively by an observer. However, child behaviours that occurred as a result of the child:environment interface were depicted as occurring in streams or sequences, which could be examined in detail through identification of behaviour units and momentary situations. Analyses of the streams of behaviour provided indications of the child's relationship with the totality of the environment across time and space within a child care centre.

The models of time-space locations, environmental components, and contextualisation provided an efficacious basis for developing the data collection strategy and the processes of data analyses and interpretation for the current study.

6.2.2 Unwanted child behaviour

Following discussion about the inconsistencies in the identification of problem behaviours in the literature, which were recognised as having the potential to limit or confound the establishment of patterned relationships between children and the environment, a concept of unwanted child behaviours (UCBs) was presented. Formulated for the current study to minimise confusion between the description of behaviour and the immediate status of that behaviour as problematic, UCBs were recognised as phenomenological perceptions of staff and could, therefore, only be identified reliably by staff.

6.2.3 Literature review

Within the conceptual framework of the environment and UCBs, consideration was given to methodological issues, particularly those concerned with the reliability of data collection and the maintenance of ecological validity. In particular, specific strategies for continuous data collection and procedures for providing unambiguous evidence of UCBs were established. To provide a detailed framework for analysis and interpretation of the data, the literature concerned with salient constituents of the child's psychological habitat, temporal factors associated with child care centre attendance, as well as the physical,

social, structural, and cultural components of the environment, was reviewed.

Findings from previous studies on attributes ascribed to individual children and various child-nurturing situations, suggested that within-child qualities arising from genetic or inherited characteristics, prenatal injury, prematurity, trauma, childrearing practices and the demographic features of a child's family, may create propensities for certain behaviours. At the same time, the attributes were recognised as having the capacity to create expectations in adults for the child to exhibit certain types, styles and levels of problem behaviour. Dispositions arising from genetics, heredity, biological impairment, and learning were also recognised as contributing to the psychological habitat of the child. In addition, motivation and intentions or goals were recognised as arising from the child's experiences and abilities to interpret the meaning of situations. Together, these components were seen to form the basis of the child's psychological habitat, which were subject to the variable influence of a changing array of temporal, setting and situational factors in a child care centre.

The review of investigations into the influence of environmental variables revealed a range of omissions in the methodologies of many studies that have examined features of settings and situations relevant to centre-based care. Despite limitations that these omissions placed on the utility of findings, a wide variety of physical, social, structural, and cultural factors have been attributed with a capacity to influence the behaviour of young children. These factors include children's attendance patterns; the physical characteristics of open spaces, the physical definition of activity areas, as well as various specific activities and objects; the social nature of peer group associations; the structure of the program and organisation of children's groups; and the cultural values inherent in the teaching styles and group-management techniques of staff, in addition to the developmental appropriateness of programs. In most cases, however, these matters were found to have been examined mainly in relation to children's social-emotional and cognitive development. There were fewer studies that examined environmental influences in relation to the production of problematic behaviours. No studies were found that systematically analysed the environment of a child care centre to determine the influence of physical, social, structural, and cultural factors on the manifestation of problem behaviour.

As a consequence, the data collection and analysis strategy for the current study focussed on establishing relationships between the child's psychological habitat, the four components of the environment, and time. The aim was to identify

correspondences between the six elements that demonstrated commonality across children and situations.

6.3 A summary of primary findings from the current study

Findings resulting from the identification of UCBs, and the analysis and interpretation of behaviour streams, are presented under six headings. These are: children's different experiences of time in child care centres; variations in occurrences of UCBs across times and days; influence of physical factors on the production of UCBs; influence of social factors on the production of UCBs; influence of structural factors on the production of UCBs; and the influence of cultural factors on the production of UCBs.

6.3.1 Children's different experiences of time in child care centres

Evidence from attendance-times data and observations indicated that the 30 focus-children each experienced the same centre-based child care differently. The conclusion was made after consideration of variations in the length of time each child spent in the centre each day, together with differences in the times each child arrived and departed, which impacted on the types of social and structural situations they experienced. The practical outcome for all 30 focus-children was that they each experienced different durations of play periods, both in the first half of the morning and latter part of the afternoon, with subsequent variable opportunities for complex play. For five children, the differences were accentuated by the necessity for them to sleep each afternoon, which meant that they also experienced short play periods in the early afternoon.

At the same time, children arriving later in the mornings, or returning from sleeptime in the afternoon, were faced with the task of joining established groups far more often than earlier arrivals and non-sleepers. On the other hand, later leaving children were frequently left without regular play partners or same-age peers at all. Although the current study did not correlate UCBs with arrival and departure times alone, it was clear that parents' schedules and requirements for some children to have an afternoon sleep applied an exo-system influence on individual subjects that differentiated their child care experience from that of each other.

The finding has implications for the interpretation of findings from past studies and the methodologies for future research focussing on the influence of child care or the behaviour of children in centres. For example, apart from the impact of the child's psychological habitat, it appears difficult to assume that the supposed effect of any

particular child care centre experience can be considered equal for all attending children, or equal for any child from one day to the next. Consequently, it is suggested that caution needs to be exercised in generalising effects of child care centre enrolment on young children without consideration of their individual attendance patterns. In particular, arrival and departure times of individual children needs to be examined in relation to a centre's program structure, with specific reference to issues associated with group entry and short play periods.

6.3.2 Variations in occurrences of UCBs across times and days

There appeared to be no specific pattern in occurrences of UCBs that would suggest an influence of time-of-day, day, month, or season. No type of UCB was identified as only occurring at specific times or on specific days that could not be explained by referring to the influence of structure or peer group composition.

6.3.3 Influence of physical factors on the production of UCBs

Analysis of the observational data indicated that some factors in the physical environment were instrumental in the manifestations of unwanted behaviours in some children, and specific physical resources may have facilitated the production of UCBs by others. However, no single physical factor was found to influence the production of particular types of UCBs in the majority of children, and in every situation implicating a physical component of the environment there were clear interrelationships with social, structural, or cultural factors.

Nevertheless, some aspects of the physical settings appeared to exert some specific influence on child behaviours. For example, indoor open spaces created opportunities for running in isolation as well as with peers, along with hitting, kicking, and pushing peers. However, occurrences of UCBs in these categories were considerably fewer than reported in other studies. Similarly, home and block areas were identified as the location of a considerable number of UCBs. At first glance the figures supported the findings of a number of investigations, but analysis of behaviour streams showed that many UCBs in the home and block areas were not associated with either home or block activities. In numerous instances, the locations were incidental to other more pervading physical influences. In particular, it appeared that the soft floor surface afforded by the carpets in the home and block areas, as well as the book areas, were a defining influence on many UCBs, especially rough and tumble play and wrestling. At the same time, the cover from staff view provided by home area furniture and barriers used to mark the boundaries between activity areas also facilitated bullying and some

dominance behaviours.

On the other hand, the social interactions engendered by group play settings, such as home area, were characterised by high levels of organisation and negotiations between children, which inevitably led to higher levels of conflict and aggression than would be expected in areas established for solitary play. For example, there were fewer UCBs recorded at table settings, such as threading and puzzles, where sharing resources was not a specific requirement. In comparison, the need to share cutters and rollers at the playdough table, and glue, scissors and materials at the collage table, contributed to much higher numbers of UCBs in those locations.

On occasions, it was found that specific attributes of physical locations or objects appeared to exert some influence on the production of UCBs. In particular, the sandpit was identified as a site of UCBs related to both its location and designated activities but, unlike findings of other studies, the area was not rated as highly prone to conflict. Although a popular activity, particularly with toddlers, the sandpit area was credited with little more than 3% of the total number of UCBs, most of which were dyadic confrontations emanating from predominantly solitary play being disrupted by the wanton or accidental action of another. A number of UCBs also resulted from solitary players taking sand and objects with them, or throwing objects indiscriminately into the sandpit, as they left the location. Overall, however, the sandpit was not a site of frequent UCBs relative to other locations and activity areas. As the sandpit area was specifically designed for quiet play, the findings suggest that it may be one of the clearest examples of environmental influences on child behaviours, with many solitary players occupying a small area with limited resources in relative peace and with considerable order.

In contrast, the children's toilet provided a number of examples of staff interventions for child behaviours that were inconsistent with the purpose of the area. For example, the mirrors and availability of water were observed to be particularly attractive to several children, giving rise to a variety of face pulling and water play activities, which were sometimes combined, leading to smeared glass, wet clothes and slippery floors. The toilet area was also the location of several UCBs related to bullying and dominance but in these cases the physical location was instrumental to the program structure and presence of peers.

Independent of specific locations, either indoors or outdoors, stacks of chairs, benches

and tables were used for unauthorised climbing. In most cases, no one item was favoured any more than others as the intent appeared to be to attract staff, and climbing facilitated the attention-seeking behaviour. The use of particular items, or stacks, appeared opportunistic, dependent on the location of staff members or other adults. Other facets of the physical environment depicted in the literature as important for children in child care centres were not found to be directly associated with specific child behaviours or the production of UCBs. In particular, no patterns of child activity could be identified in relation to soft places, cosy corners, places to rest outside of the designated sleep rooms in the centre, or private spaces for children. Separately, issues relating to resource availability, social and spatial density, and clear walkways, rarely arose in the current study.

Overall, the numbers of UCBs that could be attributed to aspects of the physical setting were relatively few. Although poorly defined activity areas contributed to a number of conflicts, particularly on the carpeted area of the preschoolers' playroom, the number of object-related UCBs was lower than findings for other studies reported in the literature. Similarly, few UCBs resulted from accidents or other forms of misadventure related to building and room layouts. It is possible that the physical facilities of the purpose built child care centre in the current study incorporated design features that minimised occurrences of many problems associated with poor design and deficient room layouts described in the literature. However, it was more likely that both structural and cultural components of the centre's environment exercised considerable influence on the children's use of the physical facilities.

6.3.4 Influence of social factors on the production of UCBs

The literature concerned with child socialisation in early childhood settings generally accepts that peers play a major role in a range of behaviours exhibited by children. However, in the current study more than 45% of UCBs were produced by children acting alone. While almost half of these one-child UCBs targeted staff members in acts of defiance, the greater proportion related to a variety of types of behaviours involving settings and objects. These included misuse of materials and equipment, taking resources out-of-area, and failing to sit properly in group-time and during meals.

When peers were implicated in UCBs, almost 40% were friendly encounters and nearly 60% were hostile, with the balance being judged as accidental contacts with no specific friendly or hostile intent. Numerically, the largest single category of peer related UCBs was represented by physically hostile dyads. The most common aetiology for these

encounters appeared to be linked to efforts of some children to exert social control over others, with tactics that included bullying and attempts by one child to dominate the behaviour of another or others. When a child acquiesced to dominance, or declined to retaliate, UCBs were rarely recorded. Observations of these events on a number of occasions underlined the importance of the targeted child's response to bullying or the dominance behaviours of others to the production of UCBs. For example, attempts to dominate that were met with resistance frequently erupted in verbal hostility followed by physical hostility, which inevitably led to staff intervention.

The roles of children in these encounters were analysed and individuals were categorised as an initiator or target of each UCB, or as an accessory in group UCBs involving other children as initiators or targets. Aggregating results over the 54 days of observation, it was found that most of the focus-children occupied these three roles in different proportions, with a wide range of involvement by individuals in each category. While some children were clearly members of groups and were involved in more UCBs by association than as an initiator or target, other children were observed primarily as initiators. Although several children recorded high proportions of UCBs as targets of others, none were primarily targets and none could be identified as an ongoing victim of any particular dominant peer.

Part of the reason for the lack of established dominance and victim relationships was due to the variable attendance patterns of children that manifest as different configurations of peers within the preschoolers' playroom each day. The majority of focus-children attended from one to three days each week, ensuring that few dyads or triads had the same membership for more than one or two days each week, which conspired against the establishment of any form of firm relationships between peers.

On occasions where dyads and triads appeared to have established regular memberships on particular days, observations showed that peer influence on UCBs was further complicated by shifting allegiances between children and quite rapid intra-day changes from friendship to apparent enmity and back again. A number of the shifts appeared setting dependent, with some relationships changing between nursery and preschoolers' playroom settings, and others changing between the indoor and outdoor activities. In other cases, shifts occurred within settings and appeared to be more closely related to individual children's need for solitude or rest, than the attributes of peers. None of the shifts appeared to have lasting influences on longer-term relationships between children, however, they introduced an element of inconsistency

to relationships and led to the production of a number of UCBs in the short-term.

While the social component of the environment was directly implicated in more than half of all recorded UCBs, the production of those behaviours frequently emanated from the extensive opportunities for child:child interactions facilitated by the long periods of free play afforded by the centre's structure. Aided by the physical facilities and resources, the culture of the centre encouraged the development of complex play and, as the literature indicates, the nature of complex play can be expected to engender conflict. All facets of the environment were clearly interrelated in providing opportunities for the production of UCBs principally ascribed to the influence of social factors. At the same time, the data also showed that the child's psychological habitat played a defining role in determining whether UCBs resulted from child:child encounters.

6.3.5 Influence of structural factors on the production of UCBs

Interpretation of the data in the current study indicated that a variety of structural factors were implicated in the manifestation of a large number of UCBs. These factors included time-sensitive routines, pack-away periods, and mixed-age groups, in addition to the previously mentioned extensive free play periods. In particular, it was noted that the characteristics of UCBs differed between free play and staff-directed sessions. However, none of the above structural factors appeared to influence occurrence of UCBs in all children or in different children in the same way. At the same time, other structural factors suggested in the literature as being influential on behaviour appeared to have little overall impact on the children. These included waiting time, length of play sessions, and the contrasting physical impact between high and low activity sessions.

Many UCBs associated with structure, and in particular the staff-directed sessions, appeared to be linked to children's understanding of the temporal limitations on activities imposed by schedules. In a number of instances, the issue was not seen so much as one of children resisting or objecting to being ordered by time, but one of children using time as a means of asserting dominance over peers or challenging staff. For example, the data provided evidence of several children using delaying tactics to hold up others queuing in the children's toilet during time-sensitive pre-meal routines. The data also showed that UCBs were recorded as a result of children ignoring or hiding from the calls to pack-away and to assemble for transitions, particularly during the movement from outdoor play to indoor pre-lunch routines. UCBs that disrupted time-sensitive routines did not always involve delaying the progress of other children, as evidenced by children acting alone on numerous occasions and appearing to have no

intention of disrupting other children in the group. In these instances, it was also apparent that the child was not displaying attention-seeking behaviour and, in most cases, was clearly trying to avoid the attention of staff. While the structure was a backdrop to the child's actions, the motivations of the individual child and his or her intended outcomes were the defining feature of each UCB.

Although also incorporating a significant contribution from the child's psychological habitat, UCBs produced in mixed-aged group sessions involved babies or toddlers and preschoolers in a blend of friendly and hostile encounters. A number of hostile encounters resulted from the inabilities of participants to share resources and assume appropriate roles in dramatic play. A number of UCBs also arose from safety issues on account of older children's mothering behaviours towards the younger ones, and the objections both of babies and toddlers to the physical restrictions placed on them by older children. Although the mothering preschoolers were friendly in intent, the reactions of their targets were frequently hostile. While babies and toddlers were involved with preschoolers in extensive periods of productive play, incorporating a number of friendly UCBs, more than 10% of all staff interventions were generated by mixed-age encounters. Consequently, this component of the structure must be held accountable for a large proportion of UCBs and disruptions to staff activities within the planned program.

6.3.5.1 Structure and the culture of free play

The temporal structure of the free play settings in the current study, extending over two hours in duration on some days, did not appear to be related to UCBs in its own right. Rather, free play was implicated in many UCBs through the freedom of actions the structure afforded children. On a number of occasions staff were observed to impose limitations on the extent of children's free choice of play, creating potentially avoidable UCBs. The contentious issues centred on children's use of equipment and materials in ways not intended by staff. The most frequent manifestation of the "problem" for staff was children's movement of materials into non-designated areas, such as taking outdoor building blocks onto the wooden fort. Another manifestation was the children's reorganisation of balance beams, jouncing boards, and climbing frames to provide different balancing challenges. Staff reactions to children's manipulation of the activities set up for them was evidently bounded by cultural and rearing-climate factors. On the surface it was possible to interpret staff actions as being present-focussed. However, while one view could see the children's actions as exploratory and innovative (a goal of future-focussed programs), they could also been seen as potentially

hazardous for children. Within this assessment of the situation, staff action can be seen as prudent compliance to their duty of care.

Similar activity by children, but less hazardous, was their unauthorised use of equipment and materials that had not been made available by staff as a scheduled activity. On a number of occasions, children gained access to items, such as puppets and construction kits, that were not on the day's program. The selection by children appeared more to do with status of the object, as either highly prized or a favourite activity, than due to a lack of resources or alternative activities. However, the possibility that children may have been motivated by a need for fresh interests over long play periods cannot be ignored. The initial selection of activities for children's free choice, and the design of the balancing "courses", was the prerogative of staff. Children were not seen to have any major role in the selection process. Overall, therefore, the structure of the program appeared to combine with the culture of the setting to produce a limited number of staff:child conflicts over materials and equipment that resulted in UCBs.

As mentioned earlier, relatively few UCBs involved objects. By far the greater number of UCBs were produced as a result of hostile child:child encounters involving social control, attempts at manipulation and dominance during play, and outright bullying, all of which were facilitated by the free play structure. At the same time, a large number of UCBs were attributed to friendly and exuberant associations. That UCBs occurred with greater frequency indoors than they did outdoors suggests that the physical setting may have exerted a specific influence.

6.3.5.2 Structure and the culture of staff-directed sessions

The influence of physical, structural and cultural factors was also evident during staff-directed sessions, which were mainly conducted indoors. UCBs occurring in these sessions were almost exclusively related to matters of child compliance to staff directives. Many UCBs emanated from children's infringement of rules about sitting "on bottoms" and not moving out of allotted places during group-time and meals. Cultural issues relating to the training of children to conform to specific group activities, and staff concerns for maintaining control of the process, were often seen to superimpose upon and sometimes conflict with the primary purposes of the behaviour settings. This was particularly evident during some sessions requiring children to remain together in a small area and to take turns in contributing to or actively participating in a group enterprise involving all preschoolers, such as "news-time", question and answer

sessions, or story-time. On a number of occasions, group management procedures subordinated the activity and in some instances led to the session being curtailed on the basis of one or more children's failure to behave appropriately.

6.3.6 Influence of cultural factors on the production of UCBs

The culture of a centre, incorporating staff attitudes to children and the developmental, and wider social and cultural appropriateness of programs and schedules, has been nominated in the literature as an important factor in child behaviour. The centre in the current study had successfully undertaken accreditation, and observations did not detect any situation where children were required to be involved in developmentally, socially, or culturally inappropriate activities. At the same time, rules and expectations for children appeared realistic for the various age groups and were regularly presented in verbal form to the children.

Analysis of the data relative to cultural factors focussed on children's behaviour sequences to identify characteristics of staff:child interactions. The occurrence of UCBs in relation to some staff expectations for equipment use and children's group behaviours, have already been mentioned above. More specifically, however, staff interventions were considered on the basis of staff targeting particular children, the child as an elicitor of staff responses, staff as a target of a child's attack, and staff interventions with children categorised by gender. The data provided no evidence of staff members, either as individuals or as a group, targeting one child more than another. On the other hand, evidence was found to suggest that children as elicitors of staff responses and as initiators of actions against staff contributed to the production of a considerable number of UCBs. There was also evidence to suggest that staff at the centre conformed to cultural bias observed elsewhere in giving proportionately more attention to boys than to girls.

6.3.6.1 The child as an elicitor of responses

Almost 17% of all UCBs were classified as confrontations with staff. Some of the 24 different children who challenged or defied staff directives did so during specific periods, such as routines and transitions, as mentioned above. The majority, however, appeared to be spontaneous responses to unique situations as they arose. Many were in sequences of exchanges with staff and incorporated repeated refusals by children to comply with a particular directive. A number of these sequences reached an impasse and resulted in staff withdrawing from the situation in order to deal with other group matters. The effect that these episodes may have had on children cannot be gauged,

although it was noted that almost half the children who did confront staff did so on only one or two occasions during the 54 days of observation. At the same time, the data indicated that 60% of all confrontations with staff were enacted by only five children. The skewed nature of the figures suggest within-child characteristics may be more pertinent than environmental influences on the manifestation of this type of behaviour and that general manipulation of environmental factors may not lead to a significant reduction in UCBs.

6.3.6.2 Staff targets of child attacks

Separated from issues of “child as elicitor” were those behaviours deliberately aimed at specific staff members by particular children. Whereas some children were indiscriminate about who they confronted, as long as they got their own way, several others were observed to challenge one staff member more than others. The numbers for these UCBs were skewed by one child’s verbal and physical attacks on one staff member, but differential reactions to different staff were also evident among other children. That children in this age group are clearly able to plan and execute courses of action designed to irritate and incite non-familial adults is a matter worthy of further contemplation.

6.3.6.3 Gender of the child

Staff made more interventions in the activities of boys than they did in the activities of girls, even when specific types of behaviours thought more predominant in females were considered. However, the differences were not as prevalent in some areas as they were in others, with the role of friendly encounters and the previously discussed ambiguity of the status of rough and tumble play being a confounding factor.

The proportion of all staff interventions directed at boys was, however, almost identical to that found for all interactions between staff and preschool-aged boys in a previous Australian study (Ebbeck, 1986). The agreement in findings suggested that teachers generally interact more with boys than they do with girls and that the additional attention may be reflected in the greater number of UCBs attributed to boys. The ratio of boy:girl UCBs remained relatively stable across compounded settings, with girls getting closer to parity with boys during circle-times and reaching the greatest disparity during free play sessions. Overall, however, there appeared to be little evidence to suggest that staff were significantly biased towards curbing the unwanted behaviour of boys compared to that of girls.

It could be said that, as the culture of the centre incorporates rules and standards of behaviour, all UCBs are influenced by cultural factors. Beyond this broad point, however, no specific facet of the child care centre culture could be identified as exerting a global influence on children to account for the production of UCBs in any particular situations. At the same time, few UCBs could be categorised as being influenced by cultural factors without consideration of the transactional influence of physical, social, and structural factors.

6.4 Reducing occurrences of UCBs

Analysis and interpretations of the data in relation to children's temporal experiences of child care, daily and seasonal factors, and the physical, social, structural, and cultural components of the environment, provide evidence that UCBs are influenced by a range of factors. Furthermore, it indicates that these influences are perceived by the child, through his or her psychological habitat, as being exerted at different levels of intensity in different situations. While innate and learned behaviours were seen to play a major role in defining how a child might react to stimuli, analysis of behaviour streams suggests that such reactions could be influenced by the child's level of interest in immediate activities and his or her apparent physical and psychological needs at the time. In particular, the child's intentions in relation to the situation were seen to determine the form of the child's behaviour and likelihood of UCBs being produced.

The data provided evidence of a wide variety of child responses to similar and different situations, which demonstrated the unpredictability and lack of consistency in reactions to peers, places, objects, activities, and staff. As a consequence, it was concluded from the current data that unwanted behaviours manifested by all children in the centre studied were unlikely to be substantially reduced by modifying any single factor, at any point of time, within the environment. Some UCBs may be eliminated or reduced by modification of some environmental factors, mentioned in Chapter Five, but the unique child reactions that result from the interface between a child's psychological habitat and the environmental components of a child care centre across time, generally contrive to thwart any centre-wide forms of environmental control or behaviour management. The findings suggest, instead, that efforts to control UCBs should place emphasis on a strategy comprising four points:

- 1 Create greater staff awareness of the unique behaviour patterns of each child across different settings and situations, including the child's experience of the centre and the differential influence of peers.

2. Clarify the purpose of settings provided for children and establishing styles of staff intervention that will maximise the immediate curtailment of inappropriate child activities and minimise opportunities for children to implement sequences of UCBs.
3. Give careful consideration to the operation of mixed-age grouping, with particular attention to the types of joint access activities provided and the additional demands expected to be made on staff by younger children.
4. Adopt planning policies and activity management strategies that, after consideration of health and safety obligations within a duty of care, clarify and implement practices to ensure that the child-rearing climate is future-focussed.

6.5 Limitations of the study

The current study utilised a single child care centre in a multiple case study approach with 30 children over 54 days of observation. The choice of location, study population, and duration of data collection was part of the overall research strategy designed to provide answers to specific questions. At the same time, limitations of such an approach were recognised. For example, although the centre was selected for its unexceptionality among accredited community-based services, with stable staff and sound management, the combination of environmental factors makes it unique among child care centres. Therefore, the details of findings presented above may not be generalisable to other centres, settings or situations.

Similarly, the 30 focus-children, while representing almost 90% of the available population of the centre, were not necessarily representative of all children attending child care centres elsewhere, or even the centre being studied. While the focus-children possessed many of the demographic characteristics common to other children and other families, they were not randomly selected but volunteered by parents who were supportive of the investigation. The level of interest shown by both parents and staff, who were prepared to be observed in great detail, may indicate that the focus-child population was a product of exceptionally self-confident parents and professional carers. Little is known about the families who did not volunteer their children. Nor is it known whether their inclusion would have altered the distribution of raw figures, the frequencies or percentages for any setting or situation.

Finally, although the children were studied for nearly 400 hours, the complexity of

findings suggests, in retrospect, that more time may have produced more information. Although some general child behaviours began to show some signs of repetition and stability in occurrence, which indicates possible saturation in data collection, the analysis of behaviour streams revealed many examples of rare incidences of UCBs in particular settings and situations. It is possible that these incidences may not have been determined as rare if the observation period had been extended.

It is acknowledged, therefore, that these three design features of the current investigation impose specific limitations on the utility of findings.

6.6 Conceptual and methodological implications of the study

A number of conceptual and methodological issues have been raised in the current study. Among those already discussed, in Chapter One, are matters related to definitions, especially of concepts embedded in the general term “environment”. In particular, however, two aspects of the data collecting strategy appear to be pertinent to the findings. These relate to the concept and identification of UCBs, and the use of continuous narrative to record children’s activities. In addition, the issue of children’s individual attendance patterns, and their potential impact on children’s experiences of child care, is raised for general consideration.

6.6.1 Staff interventions and UCBs

While acknowledged as another possible limiting effect on the utility of findings identifying unwanted behaviour through staff intervention is also proposed as a major strength of the current study, with significant implications for future investigations of child behaviour. It is contended that many of the ambiguities and inconsistencies in previous studies are related to a failure to clarify *for whom* are children’s behaviours problematic. The majority of investigations use a range of behavioural descriptions, usually based on psychological definitions of conduct disorder. The appropriateness of these definitions in relation to the behaviour problems of young children has been widely debated and largely unresolved (e.g., Halperin et al., 1995; Richters & Cicchetti, 1993a; Zoccolillo, 1993). As was shown in Chapter One, in the brief recital of issues surrounding definitions of aggression, attempts to clarify semantic ambiguities have also failed to reach consensus.

The current study placed the responsibility for identifying behaviour problems with the people who have to work with the problems, in the settings and situations in which the behaviours appear. The strategy has allowed the recording of most behaviours likely to

be found in psychological-based checklists, without the observer having to be concerned about definitions or discriminating between what is real and what is pretence. It also allowed the observer to record child behaviours which are undoubtedly problematic for early childhood staff but are not recognised as such by list-makers outside child care centres. In particular, these types of behaviours include those emanating from friendly and exuberant associations with peers.

Given that UCBs were designated by staff as activities needing to be curtailed, there may be apparent implications for a more meaningful definition of “problem” behaviour for research designed to provide practical information for teachers. Under the strategy employed in the current study, staff designated what could be described as some noisy, boisterous, and generally excitable or gleeful behaviours as “unwanted”. The designation was deemed appropriate by all staff concerned with issues of group management, and was observed to have been applied to all children equally and consistently over the period of investigation.

6.6.2 Full-day continuous observations

Individually, UCBs provided a clear indication of the type of child activities staff found unacceptable or inappropriate at particular times and in particular places. As indicated in the previous chapter, however, a number of behaviours were open to misinterpretation. Without access to consequent, as well as antecedent events, the meaning of some child behaviours may have been impossible to define.

An essential factor in attempting to interpret the meaning of a child’s behaviour and assess its relationship to environmental influences, in the current study, was access to records of complete behaviour sequences. While some sequences involved only two or three events and lasted for less than 30 seconds, others comprised 30 events or more and lasted several minutes. With links to other sequences in behaviour streams, antecedent episodes could be traced back over several hours in some instances. During that time, some peer associations were noted to shift between dyads, while others switched between friendly play and hostilities, and back again, within a few minutes.

The detailed records needed to follow peer group and other influences from the immediate environment are not available in studies using methodologies that document behaviours in limited numbers of predetermined categories and/or use time-interval recording techniques. As the limitations of video-film have already been discussed, it is

contended that only full-day continuous narrative is likely to provide the necessary detail of sequences and streams of behaviour in “real-time”. Therefore, it is suggested that investigations into cause and effect of child behaviours have to consider the continuous experiences of individual children.

6.6.2.1 Ethics and observations

The ethical behaviour of investigators has become an important issue in research, as evidenced by the now standard requirement for approval of most staff and student research proposals by university research ethics committees. The purpose of the process undoubtedly ensures the ethical appropriateness of proposed investigative methodologies, including the form and format of questions, prior to commencement of a study. The experience of the author of the current study, however, was that the role of a non-initiating observer of young children’s activities in play areas has the potential to raise some specific ethical issues about data collection that may need to be addressed by observers in the future. Watching one child without having to be concerned with others in the group provides the observer with a singular view of child:child relationships and the process of their development. It is doubtful whether the author’s experience was unique, yet the matter has rarely been raised in the literature.

An example of the issues is illustrated by a number of the vignettes that relate sequences of physically hostile child behaviours. The accounts were drawn from a range of situations where one child attacked another by kicking, biting, or hitting him or her with fist or object, which included spades, wooden blocks, and scissors. While many violent interactions were spontaneous, others could be predicted from patterned relationships and antecedent events. Although the role of the observer was to be a non-initiator of contacts with children or staff in order to minimise his impact on the environment, witnessing and allowing preventable physical harm to be done to a child created an ethical dilemma. It is the contention of the author that potential conflict between an adult’s moral responsibility to young children and a researcher’s obligation to maximise the ecological validity of data collection needs to be discussed and clear guidelines established for observational investigations.

The author of the current study established his role with staff as totally non-intervening unless a child was in serious danger of harm and no staff were in a position to respond in time. The declaration was deemed necessary by the author in order to ensure staff that they were not being criticised in any way by the observer’s intervention in child activities. During the observation period the author drew staff attention to harmful

situations on five occasions, and physically restrained one focus-child and one toddler on two separate occasions. Although the author's intervention appeared to have no particular impact on the subsequent behaviours of either staff or children, the extent of influence cannot be gauged and some contamination must be assumed.

6.6.3 Children's experiences of child care centres

A survey of child care centre attendance times showed a wide variation in focus-children's experience of the centre's programs as a result of the number of days each child attended and the duration of his or her day. Analysis of arrival and departure times in relation to the structure of the centre, staff work shifts, and patterns of peer group attendance, suggests that each child may experience the same child care centre differently to other children, rather than simply experience more or less than other children. Examples were provided to show that opportunities for quiet intimate times with particular staff were minimised for later arriving and earlier departing children. At the same time, consistently later arrivals and children designated to sleep in the afternoon were regularly confronted with having to enter groups that had already established their territories and membership. Finally, it was noted that arrival and departure times also impact on the time some children spent in some free play sessions, and that the limitations may have consequences for opportunities to develop complex play.

The issue was identified as possibly impacting on child behaviours, particularly in the first half of the morning and last half of the afternoon. More importantly, perhaps, is that difference experiences of child care for individual children in the same centre may have the potential to confound findings related to investigations of the general influence of child care centres and their programs on attending children.

6.7 New literature

Since commencing the writing of this thesis, no further studies have been published that have focussed on the influence of child care centre environments on children's behaviour. However, a number of other related issues have received attention, both in academic literature and the print media, and are cited below.

6.7.1 Brain neurology

In addition to investigations into the effects of brain damage and impairment of executive functioning on behaviour, reviewed in Chapter Two as a component of the child's psychological habitat, renewed interest has recently been shown in brain

research generally. Moir and Jessel (1991) had previously reviewed findings demonstrating differences in the brain circuitry of individuals, particularly in relation to gender specific behaviours. In the current resurgence of interest, however, both researchers and practitioners have begun to rediscover the importance of the environment to infant brain development and behaviour. A recent issue of Every Child, a magazine published by the Australian Early Childhood Association, incorporated five articles to provide a broad introduction to the implications of brain research in understanding environmental influences on child development (Corrie, 2000a; Dockett, 2000; Lawrence, 2000; Linke, 2000; Rolfe, 2000). At almost the same time, the Australian Journal of Early Childhood published one article extolling the virtues of neuroscience for the field of early childhood education (Talay-Ongan, 2000) and one urging a more cautious approach (Corrie, 2000b).

In general, the emphasis of all seven articles was on child development with no direct reference to externalised problem child behaviours. Rather, the implications of brain research provide an alternative to genetics or learning as a theoretical pathway for children acquiring the potential or propensity for problematic behaviour. Brain research proposes the existence of biological connections between neural development and the child's subsequent socio-emotional control and cognitive growth. While claims for the connection are not new (e.g., Moffitt, 1993), generalisation of the implications for staff in early childhood services is a comparatively recent application of findings. However, as Elliott (2000) observed, "to date, neuroscience provides very tenuous connections to educational practice in the early childhood setting....there is limited specific knowledge about relationships between brain development and neural circuitry and functioning, and best educational practices and outcomes" (p. 3).

6.7.2 Iron deficiency

The review in Chapter Two also considered the impact of toxins and trauma on the young child's neurological development. More recently, iron deficiency in young children has been brought to the fore in Australia with the claim that "...up to 25 per cent of Australian children under the age of two may be iron deficient", accompanied by the warning that "...iron deficiency can have a negative effect on concentration, memory, and even basic motor skills" (Cleghorn, 2000, p. 16). Interest in the topic as a matter of current concern in relation to young children appears to have followed increased attention to the subject in America over the past few years (e.g., Cohen, 1999; Graeber, 1997; Satter, 1999).

More recently, interest has also included investigations into the effects of lead poisoning combined with iron deficiency, particularly on memory (Wright et al., 2000).

6.7.3 Seasonal affective disorder (SAD)

A wide review of research into SAD has recently been published by Mersch, Middendorp, Bouhuys, Beersma, and van den Hoofdakker, (1999). In addition, Glod and Baisden (1999) have completed a study of school-age children. However, neither the review nor the new study provide any further indication of the likelihood that children under the age of five years suffer from the affliction or exhibit any symptoms.

6.7.4 Forms of aggression

Crick, Casas, and Ku (1999) have recently found that girls are not only more likely to use relational forms of aggression than boys, but that girls were more likely than boys to be relationally victimised. The current study recorded only one incident interpreted as relational aggression, but did not utilise a data collection strategy that would have more accurately recorded episodes of relational aggression. It is possible, therefore, that the current study may have misinterpreted some of the girls' verbally hostile interactions, although these were relatively small in number.

6.7.5 Staff of child care centres

Following on from the discussion relating to staff in Chapter Two (2.3.5.2), Press (1999) recently added currency to the problem of maintaining consistency in child care centre programs and practices because of continuing high staff turnover and the employment of casual staff to replace full-time staff.

6.7.6 Emotive views of child care

Emotive reports and stories about the harm or otherwise of out-of-home child care, referred to in Chapter Two (2.3.1), have continued to appear in Australian newspapers and magazines (e.g., Cook, 1999a; Cox, 1999) and in one medical journal (Cook, 1999b), indicating the ongoing influence of this approach.

6.7.7 Summary of new literature

Although making no fundamental difference to the analysis or interpretation of data in the current study, the findings and comments from the above literature indicate the currency of many issues upon which parts of the current investigation were based.

6.8 Future study

To add to knowledge of the influence of environmental factors on the manifestation of unwanted behaviours of preschool-age children, the current study amalgamated a number of older and extant models of person:environment relations to create a conceptual framework for the investigation. The relatively unique perspective on child:environment relationships provided by the framework, and the extensive amount of data collected through the strategy of recording continuous narrative in which UCBs were identified by staff, raised a number of methodological and child care issues. The four most salient are listed below and recommended for future study, both to clarify findings in the current investigation and to add further to the limited existing knowledge about child:environment relationships in a child care centre.

6.8.1 Developing a conceptual framework for investigating environments

The current study has developed and utilised a conceptual framework for reviewing literature and collecting, analysing and interpreting data concerned with determining the influence of the environments of child care centres on the behaviours of attending children. The framework provided a model of activity settings and situations in time and space, a conceptualisation of component parts of the child care centre environment, a contextualisation of the child's behaviour *in situ*, and a conceptualisation of unwanted child behaviours in a child care centre. Each one of these basic concepts, and the methodology for the investigation that was based on them, will undoubtedly benefit from further development and refinement to create a common platform for the analysis of environmental variables on the behaviour and development of children in various early childhood settings. The creation of a common platform for investigations will help overcome much of the ambiguity and confusion that surrounds many of the findings and current ideas about early childhood environments. It will also help establish a sound basis for comparing studies of environmental influence across different settings.

6.8.2 Children's different experiences of the same child care program

While the current study found that children have different social, structural, and cultural experiences of child care centres as a result of their attendance patterns, the findings need to be investigated further. The extent of those differences evidenced by the data suggests that much more attention needs to be given to child characteristics based on the nature of his or her experiences, rather than relying on demographic data, in future studies. However, the possible influence of variable attendance patterns on children's behaviour needs to be established and documented.

6.8.3 Advantages and disadvantages of mixed-age grouping

A considerable proportion of UCBs were created through the preschoolers' interactions with toddlers and babies. Many encounters were physically hostile and embodied risk of injury to participants, particularly to smaller children. Therefore, the impact of mixed-age socialisation on the immediate behaviour of all children involved in mixed-age groupings needs to be investigated. The literature review indicated little recent study of the topic and no systematic examination of the benefits or otherwise for children and staff in Australian child care centres. Consequently, current practices of mixed-age grouping appear to have little basis in the findings of research in areas of child development, group management, or administration. In particular, the benefits to staff and to all involved children need to be established and documented.

6.8.4 Benefits of soft and cosy corners, and private places

The literature advocating cosy corners, soft places, places to rest, and private places in child care centres is characterised by a lack of evidence to support either their need or explain their purpose in relation to children aged 3-5 years in a child care centre. Such facilities have been suggested as necessary for children to retreat from high activity, to recover from fatigue, to escape the frustration of continual social interaction, and to find solitude. However, few studies have examined children's needs for these facilities in relation to centre programs and activity choices, or the success the facilities have had in meeting those needs. As tired, fatigued or frustrated children are likely to be more prone to UCBs, it appears appropriate to examine the impact of programs on children's levels of energy and tolerance, as well as the efficacy of various ways in which children can be provided with opportunities to retreat from high activity and to find solitude, if required.

6.9 Postscript

The current study set out to investigate the influence of the environment of a child care centre on the production of unwanted child behaviours to facilitate their reduction. The data collected from close observation of the children over many hours clearly demonstrated that unwanted behaviours resulted from individual child responses to different combinations of environmental stimuli emanating from a variety of settings and situations. Interpretation of the evidence showed that no single combination of those stimuli appeared to influence all children in the same way. To explain the phenomena, it was suggested that the influence of stimuli is likely to be dependent on the child's psychological habitat, which determined the context of the situation for the child, at any point in time and space. Despite the apparent inconsistencies in child responses, a

number of general recommendations were made that could help minimise the production of unwanted behaviours in a child care centre.

The findings upon which these conclusions and recommendations were made were derived from the study of a centre that was selected for its stable management, staff membership, and overall program. These conditions were seen as a necessary prerequisite for the study of multiple cases (the focus-children) within a single setting (the child care centre). The author expected that such stability would provide consistency and patterning in the structural and cultural components of the environment that would, in turn, help maintain a relatively constant social component of the environment. There were no expectations for any changes to the physical setting.

While these factors did remain reasonably consistent and stable over the five month period of observation, two specific exo-system events that occurred a few weeks after completion of the data collection appear to have irrevocably impacted on the social and physical aspects of the centre for the current population of enrolled children.

In the first case, the ongoing behaviour management of PM09, and staff members' work with his parents, began to show results in reducing the number and intensity of his unwanted behaviours. He was reported to have calmed considerably and was participating well in groups and socialising appropriately with most of the other children. However, his parents later separated and by the New Year his behaviour in the centre had deteriorated to the extent that he had to be removed altogether. Given the amount of negative peer interaction that had involved PM09 during the observations, it is difficult to estimate what influence he would have had on the behaviours of other children during his periods of relative calm, then increased hostility, and the final departure. However, it is probably safe to say the overall climate of the preschoolers' playroom would have been substantially altered as a consequence of the changes. This case demonstrates the impact that the behaviour of one child can have on any group.

In the second case, the physical surroundings of the centre were transformed substantially when staff and parents' protests were unsuccessful in preventing development of a petrol station on the vacant bushland adjacent to the nursery. Although additional protests had succeeded in delaying, at least, the building of a hotel and liquor outlet next to the service station, the siting of the centre has now changed from a suburban bushland setting to one more closely associated with industry. What

short- or long-term impact the change to the ambient sounds and noise levels, as well as increased traffic and air pollution, will have on the centre's operation is difficult to calculate at this early stage. The case demonstrates the fragility of physical environments for children that are subject to exo-system factors, particularly those comprising commercial development.

Both cases also demonstrate the dynamism of the environments of individual child care centres, and the deficiencies inherent in many claims that assign general behavioural consequences for children attending child care centres. The current study has already acknowledged the limitations of generalising the findings of an investigation into the environmental influences on child behaviours in a single child care centre. To that must be added the limitations imposed by studying one centre at one point in time.

REFERENCE LIST

- Abbott, C., & Abbott, C. (1995). *Child care centre design and the potential of architecture*. Washington DC: Office of Educational Research and Improvement. (ERIC Documents Reproduction Service No. ED 387 258).
- Abramovitch, R., & Strayer, F. (1978). Preschool social organization: Agonistic, spacing, and attentional behaviors. In L. Krames, P. Pliner, & T. Alloway (Eds.), *Aggression, Dominance, and Individual Spacing* (Vol. 4, pp. 107-128). New York: Plenum Press.
- Achenbach, T. M. (1993). Taxonomy and comorbidity of conduct problems: Evidence from empirically based approaches. *Development and Psychopathology*, 5, 51-64.
- Achenbach, T. M., Howell, C. T., Quay, H. C., & Conners, C. K. (1991). National survey of problems and competencies among four- to sixteen-year-olds: Parents' reports for normative and clinical samples. *Monographs of the Society for Research in Child Development*, 56(3), v-120.
- Adams, G. R. (1977). Physical attractiveness research. *Human Development*, 20, 217-239.
- Adams, G. R., & Crane, P. (1980). An assessment of parents' and teachers' expectations of preschool children's social preference for attractive or unattractive children and adults. *Child Development*, 51, 224-231.
- Alexander, C., Ishikawa, S., Silverstein, M., Jacobson, M., Fiksdahl-King, I., & Angel, S. (1977). *A Pattern Language*. New York: Oxford University Press.
- Alloway, N. (1997). Early childhood education encounters the postmodern: What do we know? What can we count as 'true'? *Australian Journal of Early Childhood*, 22(2), 1-5.
- Aloa, V. (1994). Temperament: Implications for practitioners working with infants and toddlers. In T. Bekkers (Ed.), *Proceedings of the 20th Triennial Conference of the Australian Early Childhood Association* (no page numbers). Perth: Bekkers and Associates.
- Alpern, L., & Lyons-Ruth, K. (1993). Preschool children at social risk: Chronicity and timing of maternal depressive symptoms and child behavior problems at school and at home. *Development and Psychopathology*, 5(3), 371-387.
- Altepeter, T. S., & Breen, M. J. (1989). The Home Situations Questionnaire (HSQ) and the School Situations Questionnaire (SSQ): Normative data and an evaluation of psychometric properties. *Journal of Psychoeducational Assessment*, 7(4), 312-322.
- Altepeter, T. S., & Breen, M. J. (1992). Situational variation in problem behavior at home and school in attention deficit disorder with hyperactivity: A factor analytic study. *Journal of Child Psychology and Psychiatry and Allied Disciplines*, 33(4), 741-748.

- Altman, I., & Rogoff, B. (1987). World views in Psychology: Trait, interactional, organismic, and transactional perspectives. In D. Stokols & I. Altman (Eds.), *Handbook of Environmental Psychology* (Vol. 1, pp. 7-40). New York: John Wiley and Sons.
- Anderson-Goetz, D., & Worobey, J. (1984). The young child's temperament: Implications for child care. *Childhood Education, November/December*, 134-140.
- Anonymous (1996, Winter). Dealing with JET as a director. *Rattler*, (38), pp. 8-9.
- Ariès, P. (1962). *Centuries of Childhood*. (Robert Baldick, Trans.) London: Jonathan Cape.
- Arnold, D. H., McWilliams, L., & Arnold, E. H. (1998). Teacher discipline and child misbehavior in day care: Untangling causality with correlational data. *Developmental Psychology*, 34(2), 276-287.
- Ashby, G. (1991). Professional ethics: An overview of discussion in the Australian early childhood journals 1960-1990. *Australian Journal of Early Childhood*, 16(1), 11-16.
- Atwater, J. B., & Morris, E. K. (1988). Teachers' instructions and children's compliance in preschool classrooms: A descriptive analysis. *Journal of Applied Behavioral Analysis*, 21(2), 157-167.
- Averill, J. R. (1982). *Anger & Aggression: An Essay on Emotion*. New York: Springer-Verlag.
- Azar, L., & Tansey, J. (1995, Winter). Enlisting parents' help during periods of staff turnover. *Rattler*, (34), pp. 11-12.
- Baghurst, P., McMichael, A. J., Wigg, N. R., Vimpani, G., Robertson, E. F., Roberts, R. J., & Tong, S. (1993). Environmental exposure to lead and children's intelligence at the age of seven years: The Port Pirie Cohort Study. *New England Journal of Medicine*, 327(18), 1279-1284.
- Balcombe, J., & Tansey, J. (1996, Autumn). Childcare workers who are parents. *Rattler*, (37), pp. 8-11.
- Ball, A. (1997, September). Regulations alert. *Broadside*, p. 1.
- Bandura, A. (1973). *Aggression: A Social Learning Analysis*. New Jersey: Prentice-Hall.
- Bandura, A. (1992). Social cognitive theory. In R. Vasta (Ed.), *Six Theories of Child Development* (pp. 1-60). London: Jessica Kingsley.
- Bandura, A., & Walters, R. H. (1959). *Adolescent aggression*. New York: Ronald Press.
- Barker, R. G. (1963a). On the nature of environment. *Journal of Social Issues*, 19(4), 17-38.
- Barker, R. G. (1963b). The stream of behavior as an empirical problem. In R. G. Barker (Ed.), *The Stream of Behavior: Explorations of its Structure & Content* (pp. 1-22). New York: Appleton-Century-Crofts.

- Barker, R. G. (1968). *Ecological Psychology*. California: Stanford University Press.
- Barnes, S. (1996, Summer). Becoming a non-teaching director. *Rattler*, (36), pp. 7-8.
- Barnett, B., Schaafsma, M. F., Guzman, A. M., & Parker, G. B. (1991). Maternal anxiety: A 5 year review of an intervention study. *Journal of Child Psychology and Psychiatry and Allied Disciplines*, 32(3), 423-438.
- Baskett, L. M. (1984). Ordinal position differences in children's family interactions. *Developmental Psychology*, 20(6), 1026-1031.
- Bay-Hinitz, A. K., Peterson, R. F., & Quilitch, H. R. (1994). Cooperative games: A way to modify aggressive and cooperative behaviours in young children. *Journal of Applied Behaviour Analysis*, 27(3), 435-446.
- Beattie, J. (1993, Summer). Lead and young children - what can services do? *Rattler*, (28), pp. 16-18.
- Bechtel, R. B. (1974). The undermanned environment: A universal theory? In D. H. Carson (Ed.), *Man-Environment Interactions: Evaluations and Applications, Part II* (pp. 227-244). Stroudsburg PA: Dowden, Hutchinson & Ross.
- Behar, L. B. (1977). The Preschool Behavior Questionnaire. *Journal of Abnormal Child Psychology*, 5(3), 265-275.
- Bell, R. Q. (1965). Developmental Psychology. *Annual review of Psychology*, 16, 1-38.
- Belsky, J. (1988). The 'effects' of infant day care reconsidered. *Early Childhood Research Quarterly*, 3, 235-272.
- Belsky, J., & Steinberg, L. D. (1978). The effects of day care: A critical review. *Child Development*, 49, 929-949.
- Bennett, L. (1991). Women, exploitation and the Australian child care industry: Breaking the vicious circle. *Journal of Industrial Relations*, 33(1), 20-40.
- Berk, L. E. (1971). Effects of variations in the nursery school setting on environmental constraints and children's modes of adaptation. *Child Development*, 42, 839-869.
- Berkowitz, L. (1993). *Aggression: Its causes, consequences, and control*. Philadelphia: Temple University Press.
- Berndt, T. J. (1977). The effects of reciprocity norms on moral judgement and causal attribution. *Child Development*, 48, 1322-1330.
- Berscheid, E., & Walster, E. (1972). Beauty and the beast. *Psychology Today*, 5, 41-46, 74.
- Biddulph, S. (1997). *Raising Boys*. Sydney: Finch Publishing.
- Biggs, J. B., & Collis, K. F. (1991). Multimodal learning and the quality of intelligent behavior. In H. A. H. Rowe (Ed.), *Intelligence: Reconceptualization and Measurement* (pp. 57-76). New Jersey: Lawrence Erlbaum Associates.

- Bijou, S. W. (1992). Behavior analysis. In R. Vasta (Ed.), *Six Theories of Child Development* (pp. 61-83). London: Jessica Kingsley.
- Björkqvist, K., & Niemelä, P. (1992). New trends in the study of female aggression. In K. Björkqvist & P. Niemelä (Eds.), *Of Mice and Women: Aspects of Female Aggression* (pp. 3-16). San Diego: Academic Press.
- Björkqvist, K., Österman, K., & Kaukiainen, A. (1992). The development of direct and indirect aggressive strategies in males and females. In K. Björkqvist & P. Niemelä (Eds.), *Of Mice and Women: Aspects of Female Aggression* (pp. 51-64). San Diego: Academic Press.
- Block, J., & Block, J. H. (1981). Studying situational dimensions: a grand perspective and some limited empiricism. In D. Magnusson (Ed.), *Toward a Psychology of Situations: An Interactional Perspective* (pp. 85-106). New Jersey: Lawrence Erlbaum Associates.
- Body, M. K. (1955). Patterns of aggression in the nursery school. *Child Development*, 26(1), 3-11.
- Boisen, M. A. (1992). The relation between length of play period and the frequency of reported conflicts by preschool children. *Education and treatment of children*, 15(4), 310-319.
- Boray, B. F., Gifford, R., & Rosenblood, L. (1989). Effects of warm white, cool white and full-spectrum fluorescent lighting on simple cognitive performance and rating of others. *Journal of Environmental Psychology*, 9, 297-308.
- Bradley, R. H., & Caldwell, B. M. (1984). The HOME Inventory and family demographics. *Developmental Psychology*, 20(2), 315-320.
- Bradley, R. H., & Caldwell, B. M. (1995). Caregiving and the regulation of child growth and development: Describing proximal aspects of caregiving systems. *Developmental Review*, 15, 38-85.
- Braungart-Rieker, J., Rende, R. D., Plomin, R., DeFries, J. C., & Fulker, D. W. (1995). Genetic mediation of longitudinal associations between family environment and childhood behavior problems. *Developmental Psychopathology*, 7, 233-245.
- Bredekamp, S. (Ed.). (1986). *Developmentally Appropriate Practice in Early Childhood Programs Serving Children From Birth Through Age 8*. Washington, DC: National Association for the Education of Young Children.
- Bredekamp, S. (Ed.). (1987). *Developmentally Appropriate Practice in Early Childhood Programs Serving Children From Birth Through Age 8* (Expanded Edition.). Washington, DC: National Association for the Education of Young Children.
- Bredekamp, S. (1997). NAEYC issues revised position statement on developmentally appropriate practice in early childhood programs. *Young Children*, 52(2), 34-40.
- Bredekamp, S., & Copple, C. (Eds.). (1997). *Developmentally Appropriate Practice in Early Childhood Programs* (Revised Edition.). Washington, DC: National Association for the Education of Young Children.

- Brenner, A. (1979). Trace mineral levels in hyperactive children responding to the Feingold diet. *Journal of Pediatrics*, 94(6), 944-945.
- Brim, O. G. (1975). Macro-structural influences on child development and the need for childhood social indicators. *American Journal of Orthopsychiatry*, 45, 516-524.
- Brody, G. H., & Forehand, R. (1986). Maternal perception of child maladjustment as a function of combined influence of child behavior and maternal depression. *Journal of Consulting and Clinical Psychology*, 54(2), 237-240.
- Bronfenbrenner, U. (1977). Towards an experimental ecology of human development. *American Psychologist*, 32, 513-531.
- Bronfenbrenner, U. (1979). *The Ecology of Human Development*. Cambridge, MA.: Harvard University Press.
- Bronfenbrenner, U. (1992). Ecological systems theory. In R. Vasta (Ed.), *Six Theories of Child Development* (pp. 187-249). London: Jessica Kingsley.
- Brown, E. R. (1996). Effects of resource availability on children's behavior and conflict management. *Early Education and Development*, 7(2), 149-166.
- Brown, J. G., & Burger, C. (1984). Playground designs and preschool children's behaviors. *Environment and Behavior*, 16(5), 599-626.
- Brown, W. H., Fox, J. J., & Brady, M. P. (1987). Effects of spatial density on 3- and 4-year-old children's socially directed behavior during freeplay: An investigation of a setting factor. *Education and Treatment of Children*, 10(3), 247-258.
- Bruya, L. D. (1985). The effect of play structure format differences on the play behaviour of preschool children. In J. L. Frost & S. Sunderlin (Eds.), *When Children Play* (pp. 115-120). Wheaton, MD: Association for Childhood Education International.
- Bryson, A. (1996, September & October). Regulations update. *Broadside*, pp. 4-5.
- Buffin, L. (1996, September). Hard joys: managing behavior with a creative mind and a playful spirit. *Child Care Information Exchange*, (111), pp. 58-62.
- Bugental, D. B., Blue, J., & Lewis, J. (1990). Caregiver beliefs and dysphoric affect directed to difficult children. *Developmental Psychology*, 26(4), 631-638.
- Bunnett, R., & Davis, N. L. (1997, March). Getting to the heart of the matter. *Child Care Information Exchange*, (114), pp. 42-44.
- Burts, D. C., Hart, C. H., Charlesworth, R., & Kirk, L. (1990). A comparison of frequencies of stress behaviors observed in kindergarten children in classrooms with developmentally appropriate versus developmentally inappropriate instructional practices. *Early Childhood Research Quarterly*, 5, 407-423.
- Butterworth, D. (1987). Lone father families: Implications for early childhood education. *Australian Journal of Early Childhood*, 12(1), 38-41.
- Campbell, S. B. (1994). Hard-to-manage preschool boys: Externalizing behavior, social competence, and family context at two-year followup [sic]. *Journal of Abnormal Child Psychology*, 22(2), 147-166.

- Campbell, S. B. (1995). Behavior problems in preschool children: A review of recent research. *Journal of Child Psychology and Psychiatry and Allied Disciplines*, 36(1), 113-149.
- Campbell, S. B., Breaux, A. M., Ewing, L. J., & Szumowski, E. K. (1986). Correlates and predictors of hyperactivity and aggression: A longitudinal study of parent-referred problem preschoolers. *Journal of Abnormal Child Psychology*, 14(2), 217-234.
- Campbell, S. B., Breaux, A. M., Ewing, L. J., Szumowski, E. K., & Pierce, E. W. (1986). Parent-identified problem preschoolers: mother-child interaction during play at intake and 1-year follow-up. *Journal of Abnormal Child Psychology*, 14(3), 425-440.
- Campos-de-Carvalho, M. I., & Rossette-Ferreira, M. C. (1993). Importance of spatial arrangements for young children in day care centres. *Children's Environments*, 10(1), 19-30.
- Camras, L. A. (1977). Facial expressions used by children in a conflict situation. *Child Development*, 48, 1431-1435.
- Carey, W. B. (1982). Validity of parental assessments of development and behavior. *American Journal of Diseases of Children*, 136, 97-99.
- Carskadon, M. A., & Acebo, C. (1993). Parental reports of seasonal mood and behavior changes in children. *Journal of the American Academy of Child & Adolescent Psychiatry*, 143, 356-358.
- Carta, J. J., Greenwood, C. R., & Atwater, J. B. (1986). *ESCAPE: Eco-behavioral system for complex assessments of preschool environments* (Research draft School Research Unit, Kansas City, Kansas
- Carta, J. J., Greenwood, C. R., & Robinson, S. L. (1987). *Application of an eco-behavioral approach to the evaluation of early intervention programs*. Juniper Gardens Children's Project, Kansas City, Mo. (ERIC Documents Reproduction Service No. ED 276 217)
- Carter, M. (1994, May). Moving teachers to move children. *Child Care Information Exchange*, (97), pp. 46-50.
- Caruso, G. A. L., & Corsini, D. A. (1994). The prevalence of behavior problems among toddlers in child care. *Early Education and Development*, 5(1), 27-40.
- Charlesworth, R. (1998). Developmentally Appropriate Practice is for everyone. *Childhood Education*, 74(5), 274-282.
- Charlesworth, R., Hart, C. H., Burts, D. C., Thomasson, R. H., Mosley, J., & Fleege, P. O. (1993). Measuring the developmental appropriateness of kindergarten teachers' beliefs and practices. *Early Childhood Research Quarterly*, 8, 255-276.
- Charlesworth, W. R., & Dzur, C. (1987). Gender comparisons of preschoolers' behavior and resource utilization in group problem solving. *Child Development*, 58, 191-200.

- Charlton, T., Leo, E., Evans, P., & Flagg, P. (1994). Rates of problem behaviour amongst 3- and 4-year-old children attending nursery classes in St Helena, South Atlantic. *Support for Learning*, 9(3), 129-135.
- Chazan, M., Laing, A. F., Jones, J., Harper, G. C., & Bolton, J. (1983). *Helping Young Children with Behaviour Difficulties*. London: Croom Helm.
- Chimienti, G., Nasr, J. A., & Khalifeh, I. (1989). Children's reactions to war-related stress: Affective symptoms and behaviour problems. *Social Psychiatry and Psychiatric Epidemiology*, 24(6), 282-287.
- Choice (1994, November). The search for quality childcare. *Choice*, 35(11), pp. 8-16.
- Christian, L. G. (1997). Children and death. *Young Children*, 52(4), 76-80.
- Christie, J. F., Johnsen, E. P., & Peckover, R. B. (1988). The effects of play period duration on children's play patterns. *Journal of Research in Childhood Education*, 3(2), 123-131.
- Christie, J. F., & Wardle, F. (1992). How much time is needed for play? *Young Children*, 47(3), 28-32.
- Cicchetti, D., Ackerman, B. P., & Izard, C. (1995). Emotions and emotion regulation in developmental psychopathology. *Development and Psychopathology*, 7, 1-10.
- Cicchetti, D., & Richters, J. E. (1993). Developmental considerations in the investigation of conduct disorder. *Development and Psychopathology*, 5, 331-344.
- Cielens, V., & Cielens, M. (1986). Developing children's outdoor play spaces. In T. Hill (Ed.), *Proceedings of the Australian Association of Early Childhood Educators National Open Conference: Quality Care and Education, what is it?* (pp. 122-129). Adelaide: Australian Association of Early Childhood Educators.
- Clarke, J., & Gray, M. (1997). *52 Steps to Quality Care*. Castle Hill, NSW: Pademelon.
- Clarke-Stewart, K. A. (1988). "The 'effects' of infant day care reconsidered" reconsidered: Risks for parents, children, and researchers. *Early Childhood Research Quarterly*, 3, 293-318.
- Cleghorn, G. (2000, Autumn). Iron: The key to better learning. *Every Child*, 6(1), p. 16.
- Clitheroe Jr., H. C., Stokols, D., & Zmuidzinas, M. (1998). Conceptualizing the context of environment and behavior. *Journal of Environmental Psychology*, 18, 103-112.
- Clyde, M. (1995). Concluding the debate: Mind games-What DAP means to me. In M. Fleer (Ed.), *DAP centrism: Challenging Developmentally Appropriate Practice* (pp. 109-116). Canberra: Australian Early Childhood Association.
- Cohen, A. (1999). Choosing the best strategy to prevent childhood iron deficiency. *Journal of the American Medical Association*, 281(23), 2247.
- Cohen, S., & Bromet, E. J. (1992). Maternal predictors of behavioral disturbance in preschool children: A research note. *Journal of Child Psychology and Psychiatry and Allied Disciplines*, 33(5), 941-946.

- Cohen, V., Hill, A. B., Lane, C. G., McGinty, T., & Moore, G. T. (1999). *Recommendations for child play area* No. R79-1), Wisconsin University, Milwaukee, Centre for Architecture and Urban Planning Research
- Cohn, E. G. (1990). Weather and violent crime: A reply to Perry and Simpson, 1987. *Environment and Behavior*, 22(2), 280-294.
- Coie, J. D., Dodge, K. A., & Kupersmidt, J. B. (1990). Peer group behavior and social status. In S. R. Asher & J. D. Coie (Eds.), *Peer Rejection in Childhood* (pp. 17-59). Cambridge: Cambridge University Press.
- Coie, J. D., & Jacobs, M. R. (1993). The role of social context in the prevention of conduct disorder. *Development and Psychopathology*, 5, 263-275.
- Cole, P. M., Zahn-Waxler, C., & Smith, K. D. (1994). Expressive control during a disappointment: Variations related to preschoolers' behavior problems. *Developmental Psychology*, 30(6), 835-846.
- Coleman, M. (1971). Serotonin concentrations in whole blood of hyperactive children. *Journal of Pediatrics*, 78(6), 985-990.
- Colley, T. (1959). The nature and origin of psychological sexual identity. *Psychological Review*, 66(3), 165-177.
- Collis, K. F., & Biggs, J. B. (1991). Developmental determinants of qualitative aspects of school learning. In G. Evans (Ed.), *Learning and Teaching Cognitive Skills* (pp. 185-207). Hawthorn, Victoria: Australian Council for Educational Research.
- Commonwealth Department of Health and Family Services (1998). *Annual Report 1997/98*. Canberra: Australian Government Publishing Services.
- Condon, D. (1995). ADHD: Maybe not the precision that is often implied. *Special Education Perspectives*, 4(1), 3-10.
- Condry, J., & Condry, S. (1976). Sex differences: A study of the eye of the beholder. *Child Development*, 47, 812-819.
- Condry, J. C., & Ross, D. F. (1985). Sex and Aggression: The influence of gender label on the perception of aggression in children. *Child Development*, 56, 225-233.
- Connolly, K., & Smith, P. (1978). Experimental studies of the preschool environment. *International Journal of Early Childhood*, 10(2), 86-96.
- Conrad, M., & Hammen, C. (1989). Role of maternal depression in perception of child maladjustment. *Journal of Consulting and Clinical Psychology*, 57, 663-667.
- Conway, R. (1990). Behaviour disorders. In A. Ashman & J. Elkins (Eds.), *Educating Children with Special Needs* (pp. 148-186). Brookvale NSW: Prentice Hall.
- Cook, P. (1999b, 24 March). Home truths absent in early childcare debate. *The Australian*, p. 13.
- Cook, P. S. (1999a). Rethinking the early childhood agenda. *Medical Journal of Australia*, 170(1), 29-31.

- Cook, S., & Kirby, S. (1989). Planning and developing a playspace for young children. *Australian Journal of Early Childhood*, 14(3), 9-12.
- Cooke, L. B., & Thompson, C. (1998). Seasonal affective disorder and response to light in two patients with learning disability. *Journal of Affective Disorders*, 48(2-3), 145-148.
- Coplan, R. J., Rubin, K. H., Fox, N. A., Calkins, S. D., & Stewart, S. L. (1994). Being alone, playing alone, and acting alone: distinguishing among reticence and passive and active solitude in young children. *Child Development*, 65(1), 129-137.
- Corrie, L. (1994). Managing a troublesome behaviour at group time: Talking out of turn. In T. Bekkers (Ed.), *Proceedings of the 20th Triennial Conference of the Australian Early Childhood Association* (no page numbers). Perth: Bekkers and Associates.
- Corrie, L. (2000a, Autumn). Enrichment programs: low-cost fix for high-risk children? *Every Child*, 6(1), pp. 6-7.
- Corrie, L. (2000b). Neuroscience and early childhood? A dangerous liaison. *Australian Journal of Early Childhood*, 25(2), 34-40.
- Costello, J. E., & Angold, A. (1993). Towards a developmental epidemiology of the disruptive behavior disorders. *Development and Psychopathology*, 5, 91-101.
- Courtney, J., & Kowalski, H. (1995). Transitions in the early childhood day. *Australian Journal of Early Childhood*, 20(3), 6-9.
- Courtney, M. L., & Cohen, R. (1996). Behavior segmentation by boys as a function of aggressiveness and prior information. *Child Development*, 67(3), 1034-1047.
- Cox, E. (1999, 30 March). 'Real women' are entitled to both kids and careers. *The Australian*, p. 15.
- Crick, N. R. (1995). Relational aggression: The role of intent attributions, feelings of distress, and provocation type. *Developmental Psychopathology*, 7, 313-322.
- Crick, N. R., Bigbee, M. A., & Howes, C. (1996). Gender differences in children's normative beliefs about aggression: How do I hurt thee? Let me count the ways. *Child Development*, 67(3), 1003-1014.
- Crick, N. R., Casas, J. F., & Ku, H. C. (1999). Relational and physical forms of peer victimization in preschool. *Developmental Psychology*, 35(2), 376-385.
- Crick, N. R., & Dodge, K. A. (1996). Social information-processing mechanisms in reactive and proactive aggression. *Child Development*, 67(3), 993-1002.
- Crick, N. R., & Grotpeter, J. K. (1995). Relational aggression, gender, and social-psychological adjustment. *Child Development*, 66(3), 710-722.
- Crockenberg, S., & Litman, C. (1991). Effects of maternal employment on maternal and two-year-old behavior. *Child Development*, 62(5), 930-953.
- Crowther, J. H., Bond, L. A., & Rolf, J. E. (1981). The incidence, prevalence, and severity of behavior disorders among preschool-aged children in day care. *Journal of Abnormal Child Psychology*, 9(1), 23-42.

- Cuccaro, M. L., Holmes, G. R., & Wright, H. H. (1993). Behavior problems in preschool children: A pilot study. *Psychological Reports*, 72(1), 121-122.
- Culpit, G. C. (1989). *Socialising the superheroes*. Australian Early Childhood Resource Booklets, No. 5. Canberra: Australian Early Childhood Association.
- Cummings, E. M., Iannotti, R. J., & Zahn-Waxler, C. (1985). Influence of conflict between adults on the emotions and aggression of young children. *Developmental Psychology*, 21(3), 495-507.
- Cummings, E. M., & Smith, D. (1993). The impact of anger between adults on siblings' emotional and social behavior. *Journal of Child Psychology and Psychiatry and Allied Disciplines*, 34(8), 1425-1433.
- Cunningham, C. (1994). Outdoor play space provision in child care centres. In T. Bekkers (Ed.), *Proceedings of the 20th Triennial Conference of the Australian Early Childhood Association* (no page numbers). Perth: Bekkers and Associates.
- David, O. J., Hoffman, S. P., Sverd, J., & Clark, J. (1977). Lead and hyperactivity: Lead levels among hyperactive children. *Journal of Abnormal Child Psychology*, 5(4), 405-416.
- Davidson, J. (1980). Wasted time: The ignored dilemma. *Young Children*, 35(4), 13-20.
- Dawkins, M. (1991). Hey dudes, what's the rap? A plea for leniency towards superhero play. *Australian Journal of Early Childhood*, 16(2), 3-8.
- Dawson, G., Hessler, D., & Frey, K. (1994). Social influences on early developing biological and behavioral systems related to risk for affective disorder. *Development and Psychopathology*, 6(4), 759-779.
- de Lacey, P. R. (1979). Compensatory education: a basis for more equal opportunity. *Australian Journal of Early Childhood*, 4(1), 4-9.
- Dean, J. P., Eichhorn, R. L., & Dean, L. R. (1969). Establishing Field Relations. In G. J. McCall & J. L. Simmons (Eds.), *Issues in Participant Observation: A Text and Reader* (pp. 68-70). New York: Random House.
- DeFronzo, J. (1984). Climate and crime: Tests of an FBI assumption. *Environment and Behavior*, 16, 185-210.
- Del'Homme, M., Sinclair, E., & Kasari, C. (1994). Preschool children with behavioral problems: Observation in instructional and free play contexts. *Behavioral Disorders*, 19(3), 221-232.
- Deluty, R. H. (1979). Children's action tendency scale: A self-report measure of aggressiveness, assertiveness, and submissiveness in children. *Journal of Consulting and Clinical Psychology*, 47, 1061-1071.
- Department of Health Housing and Community Services. (1992). *Nationally Consistent Child Care Standards* (Working Party Report Author: Canberra
- Derryberry, D., & Reed, M. A. (1994). Temperament and the self-organization of personality. *Development and Psychopathology*, 6, 653-676.

- Derscheid, L. (1997). Mixed-age grouped preschoolers' moral behavior and understanding. *Journal of Research in Childhood Education*, 11(2), 147-151.
- Dewey, J., & Bentley, A. F. (1949). *Knowing and the known*. Boston: Beacon Press.
- Dinwiddie, S. A. (1994). The saga of Sally, Sammy, and the red pen: Facilitating children's social problem solving. *Young Children*, 49(5), 13-19.
- Dion, K. K. (1972). Physical attractiveness and evaluations of children's transgressions. *Journal of Personality and Social Psychology*, 24(2), 207-213.
- Dion, K. K. (1973). Young children's stereotyping of facial attractiveness. *Developmental Psychology*, 9(2), 183-188.
- Dion, K. K. (1974). Children's physical attractiveness and sex as determinants of adult punitiveness. *Developmental Psychology*, 10(5), 772-778.
- Dion, K. K., & Berscheid, E. (1974). Physical attractiveness and peer perception among children. *Sociometry*, 37(1), 1-12.
- Dockett, S. (1995). Children as theorists: Developing a theory of mind. In M. Flear (Ed.), *DAP centism: Challenging Developmentally Appropriate Practice* (pp. 55-69). Canberra: Australian Early Childhood Association.
- Dockett, S. (2000, Autumn). Caring adults: a necessity for optimal brain development. *Every Child*, 6(1), pp. 12-13.
- Dockett, S., & Degotardi, S. (1997). Some implications of popularity at age four. *Journal of Australian Research in Early Childhood Education*, 1, 21-31.
- Dodge, K. A. (1980). Social cognition and children's aggressive behavior. *Child Development*, 51, 162-170.
- Dodge, K. A. (1990). Nature versus nurture in childhood conduct disorder: It is time to ask a different question. *Developmental Psychology*, 26(5), 698-701.
- Dodge, K. A., Pettit, G. S., & Bates, J. E. (1994). Socialization mediators of the relation between socioeconomic status and child conduct problems. Special Issue: Children and poverty. *Child Development*, 65(2), 649-665.
- Donaldson, M. (1978). *Children's Minds*. London: Groom Helm.
- Dreikurs, R., Grunwald, B., & Pepper, F. (1998). *Maintaining Sanity in the Classroom: Classroom Management Techniques* (2nd ed.). New York: Harper & Row.
- Drewry, D. L., & Clark, M. L. (1985). Factors important in the formation of preschoolers' friendships. *The Journal of Genetic Psychology*, 146(1), 37-44.
- Drotar, D., & Sturm, L. (1992). Personality development, problem solving, and behavior problems among preschool children with early histories on nonorganic failure-to-thrive: A controlled study. *Journal of Developmental and Behavioral Pediatrics*, 13(4), 266-273.
- Duffy, M. (1995, October). Is childcare bad for kids? *Independent Monthly*, pp. 36-42.

- Dunn, J., & McGuire, S. (1992). Sibling and peer relationships in childhood. *Journal of Child Psychology and Psychiatry and Allied Disciplines*, 33(1), 67-105.
- Dunn, J., & Munn, P. (1986). Sibling quarrels and maternal intervention: Individual differences in understanding and aggression. *Journal of Child Psychology and Psychiatry and Allied Disciplines*, 27(5), 583-595.
- Dunn, L. (1993). Proximal and distal features of day care quality and children's development. *Early Childhood Research Quarterly*, 8, 167-192.
- Earls, F., & Jung, K. G. (1988). Temperament and home environment characteristics as causal factors in the early development of childhood psychopathology. *Annual Progress in Child Psychiatry and Child Development*, 373-393.
- Eaton, W. O., Chipperfield, J. G., & Singbeil, C. E. (1989). Birth order and activity level in children. *Developmental Psychology*, 25(4), 668-672.
- Ebbeck, M. (1986). Teachers interacting with young children: Are there inconsistencies between actions and intentions? *Unicorn*, 12(1), 47-49.
- Edelbrock, C., Rende, R., Plomin, R., & Thompson, L. (1995). A twin study of competence and problem behavior in childhood and early adolescence. *Journal of Child Psychology and Psychiatry and Allied Disciplines*, 36(5), 775-785.
- Edwards, J., & Cuff, R. (1996, Summer). The 'grown-up' child. *Rattler*, (40), pp. 21-22.
- Egeland, B., Kalkoske, M., Gottesman, N., & Erickson, M. F. (1990). Preschool behavior problems: Stability and factors accounting for change. *Journal of Child Psychology and Psychiatry and Allied Disciplines*, 31(6), 891-909.
- Eibl-Eibesfeldt, I. (1974). *Phylogenic adaptation as determinants of aggressive behavior in man*. The Hague: Mouton.
- Eisenberg, E. (1997, September). Meeting adult needs within the classroom. *Child Care Information Exchange*, (9), pp. 53-56.
- Eisenberg, N., Fabes, R. A., Nyman, M., Bernzweig, J., & Pinuelas, A. (1994). The relations of emotionality and regulation to children's anger-related reactions. *Child Development*, 65(1), 109-128.
- Ekholm, B., Hedin, A., & Andersson, B. E. (1995). Climates in Swedish day care centres: A methodological study. *Journal of Research in Childhood Education*, 9(2), 97-111.
- El-Sheikh, M., Cummings, M., & Goetsch, V. L. (1989). Coping with adults' angry behavior: Behavioral, Physiological, and verbal responses in preschoolers. *Developmental Psychology*, 25(4), 490-498.
- Elliott, A. (1985). Changing families - changing classrooms: developing support strategies in early childhood settings. *Australian Journal of Early Childhood*, 10(1), 41-45.
- Elliott, A. (1995). Scaffolding young children's learning in early childhood settings. In M. Flear (Ed.), *DAP centrism: Challenging Developmentally Appropriate Practice* (pp. 23-33). Canberra: Australian Early Childhood Association.

- Elliott, A. (1998). From child care to school: experiences and perceptions of children and their families. *Australian Journal of Early Childhood*, 23(3), 26-32.
- Elliott, A. (2000, Autumn). Putting brain research to work in the classroom. *Every Child*, 6(1), p. 3.
- Endler, N. S. (1981). Situational aspects of interactional psychology. In D. Magnusson (Ed.), *Toward a Psychology of Situations: An Interactional Perspective* (pp. 361-373). New Jersey: Lawrence Erlbaum Associates.
- English, H. B., & English, A. C. (1958). *A Comprehensive Dictionary of Psychological and Psychoanalytical Terms*. New York: Longmans, Green and Co.
- Erickson, F. (1986). Qualitative methods in research on teaching. In M. C. Wittrock (Ed.), *Handbook of Research on Teaching* (3rd ed., pp. 119-161). New York: Macmillan.
- Erickson, F. (1996). On the evolution of qualitative approaches in educational research: From Adam's task to Eve's. *Australian Educational Researcher*, 23(2), 1-15.
- Erickson, F., & Mohatt, G. (1982). Cultural organization and participation structures in two classrooms of Indian students. In G. Spindler (Ed.), *Doing the Ethnography of Schooling: Educational Anthropology in Action* (pp. 132-175). New York: Holt Rinehart and Winston.
- Etaugh, C., & Happach, A. (1979). Effects of aggressive play on children's subsequent aggressive behavior. *Psychological Reports*, 45, 656-658.
- Evans, G., & Lepore, S. J. (1993). Nonauditory effects of noise on children: A critical review. *Children's Environments*, 10(1), 31-51.
- Fabes, R. A., Eisenberg, N., Smith, M. C., & Murphy, B. C. (1996). Getting angry at peers: Associations with liking of the provocateur. *Child Development*, 67(3), 942-956.
- Fagot, B. I. (1977). Consequences of moderate cross-gender behavior in preschool children. *Child Development*, 48, 902-907.
- Fagot, B. I. (1978). The influence of sex of child on parental reactions to toddler children. *Child Development*, 49, 459-465.
- Fagot, B. I., & O'Brien, M. (1994). Activity level in young children: Cross-age stability, situational influences, correlates with temperament, and the perception of problem behaviors. *Merrill Palmer Quarterly*, 40(3), 378-398.
- Fantuzzo, J. W., DePaola, L. M., Lambert, L., Martino, T., Anderson, G., & Sutton, S. (1991). Effects of interparental violence on the psychological adjustment and competencies of young children. *Journal of Clinical and Consulting Psychology*, 59(2), 258-265.
- Farmer, S. (1988, Winter). Helping children help themselves. *Rattler*, (6), pp. 10-11.
- Fawl, C. L. (1963). Disturbances experienced by children in their natural habitats. In R. G. Barker (Ed.), *The Stream of Behavior: Explorations of its structure & Content* (pp. 99-126 & 330-336). New York: Appleton-Century-Crofts.

- Feingold, B. F. (1975). *Why Your Child is Hyperactive*. New York: Random House.
- Fergusson, D. M., Horwood, L. J., & Lynskey, M. (1994a). The childhoods of multiple problem adolescents: A 15-year longitudinal study. *Journal of Child Psychology and Psychiatry and Allied Disciplines*, 35(6), 1123-1140.
- Fergusson, D. M., Horwood, L. J., & Lynskey, M. T. (1994b). A longitudinal study of early childhood education and subsequent academic achievement. *Australian Psychologist*, 29(2), 110-115.
- Fergusson, D. M., Horwood, L. J., & Lynskey, M. T. (1995). Maternal depressive symptoms and depressive symptoms in adolescents. *Journal of Child Psychology and Psychiatry and Allied Disciplines*, 36(7), 1161-1178.
- Feshbach, S. (1955). The catharsis hypothesis and some consequences of interaction with aggressive and neutral play objects. *Journal of Personality*, 24, 449-462.
- Field, T., Healy, B., Goldstein, S., & Guthertz, M. (1990). Behavior-state matching and synchrony in mother-infant interactions of nondepressed versus depressed dyads. *Developmental Psychology*, 26(1), 7-14.
- Field, T., Masi, W., Goldstein, S., Perry, S., & Parl, S. (1988). Infant day care facilitates preschool social behavior. *Early Childhood Research Quarterly*, 3, 341-359.
- Field, T., Pickens, J., Fox, N. A., Nawrocki, T., & Gonzalez, J. (1995). Vagal tone in infants of depressed mothers. *Development and Psychopathology*, 7(2), 227-231.
- Fischer, M., Rolf, J. E., Hasazi, J. E., & Cummings, L. (1984). Follow-up of a preschool epidemiological sample: Cross-age continuities and predictions of later adjustment with internalizing and externalizing dimensions of behavior. *Child Development*, 55, 137-150.
- Fisher, D. L., Fraser, B. J., & Bassett, J. (1995). Using a classroom environment instrument in an early childhood classroom. *Australian Journal of Early Childhood*, 20(3), 10-15.
- Fleer, M. (1995). Challenging Developmentally Appropriate Practice: An introduction. In M. Fleer (Ed.), *DAP centrism: Challenging Developmentally Appropriate Practice* (pp. 1-9). Canberra: Australian Early Childhood Association.
- Fleer, M. (1996). Theories of 'play': Are they ethnocentric or inclusive? *Australian Journal of Early Childhood*, 21(4), 12-17.
- Fowell, N., & Lawton, J. (1992). An alternative view of appropriate practice in early childhood education. *Early Childhood Quarterly*, 7, 53-73.
- Fox, J. (1990). Ecology, environmental arrangement, and setting events: An interbehavioral perspective on organizing settings for behavioral development. *Education and Treatment of Children*, 13(4), 364-373.
- Fox, N. A., & Field, T. M. (1989). Individual differences in preschool entry behavior. *Journal of Applied Developmental Psychology*, 10(4), 527-540.
- Fredericksen, N. (1972). Towards a taxonomy of situations. *American Psychologist*, 27, 114-123.

- Frick, P. J., Lahey, B. B., Loeber, R., Stouthamer-Loeber, M., Christ, M. G., & Hanson, K. (1992). Familial risk factors to oppositional defiant disorder and conduct disorder: Parental psychopathology and maternal parenting. *Journal of Consulting and Clinical Psychology, 60*(1), 49-55.
- Frisch, H. L. (1977). Sex stereotypes in adult-infant play. *Child Development, 48*, 1671-1675.
- Fromberg, D. P. (1997, November). What's new in play research? *Child Care Information Exchange, (11)*, pp. 53-56.
- Frost, J. L., Shin, D., & Jacobs, P. J. (1998). Physical environments and children's play. In O. N. Saracho & B. Spodek (Eds.), *Multiple perspectives on play in early childhood education* (pp. 255-294). Albany: State University of New York Press.
- Fuhrer, U. (1990). Bridging the ecological-psychological gap. *Environment and Behavior, 22*(4), 518-537.
- Furman, W., & Masters, J. C. (1980). Peer interactions, sociometric status, and resistance to deviation in young children. *Developmental Psychology, 16*(3), 229-236.
- Gall, M. D., Borg, W. R., & Gall, J. P. (1996). *Educational Research* (6th ed.). White Plains NY: Longman.
- Gardner, F. E. M. (1994). The quality of joint activity between mothers and their children with behaviour problems. *Journal of Child Psychology and Psychiatry and Allied Disciplines, 35*(5), 935-948.
- Garland, C., & White, S. (1980). *Children and Day Nurseries*. London: Grant McIntyre.
- Gelenter, C. (1988, Autumn). A new child care centre for Brewarina. *Rattler, (5)*, pp. 18-19.
- Georgiou, D., Carspecken, P. H., & Willems, E. P. (1996). An expansion of Roger Barker's behavior setting survey for an ethno-ecological approach to person-environment interactions. *Journal of Environmental Psychology, 16*, 319-333.
- Gibson, J. J. (1979). *An ecological approach to visual perception*. Boston: Houghton Mifflin.
- Giedd, J. N., Swedo, S. E., Lowe, C. H., & Rosenthal, N. E. (1998). Case Series: Pediatric seasonal affective disorder. A follow-up report. *Journal of the American Academy of Child & Adolescent Psychiatry, 37*(2), 218-220.
- Gifford, J. (1978). Is day care really risky: a review of the evidence. *Australian Journal of Early Childhood, 3*(3), 28-31.
- Glazer, I. M. (1992). Interfemale aggression and resource scarcity in a cross-cultural perspective. In K. Björkqvist & P. Niemelä (Eds.), *Of Mice and Women: Aspects of Female Aggression* (pp. 163-171). San Diego: Academic Press.
- Glod, C. A., & Baisden, N. (1999). Seasonal affective disorder in children and adolescents. *Journal of the American Psychiatric Nurses Association, 5*(1), 29-33.

- Glod, C. A., Teicher, M. H., Polcari, A., & McGreenery, C. E. (1997). Circadian rest-activity disturbances in children with seasonal affective disorder. *Journal of the American Academy of Child & Adolescent Psychiatry*, 36(2), 188-197.
- Goldberg, S., Corter, C., Lojkasek, M., & Minde, K. (1991). Prediction of behavior problems in four-year-olds born prematurely. *Annual Progress in Child Psychiatry and Child Development*, 92-113.
- Goldman, J. A. (1981). Social participation of preschool children in same- versus mixed-age groups. *Child Development*, 52, 644-650.
- Goldman, J. A., Lerman, R. H., Contois, J. H., & Udall, J. N. (1986). Behavioral effects of sucrose on preschool children. *Journal of Abnormal Child Psychology*, 14(4), 565-577.
- Goldsmith, H. H., Buss, A. H., Plomin, R., Rothbart, M. K., Thomas, A., Chess, S., Hinde, R. A., & McCall, R. B. (1987). Roundtable: What is temperament? Four approaches. *Child Development*, 58, 505-529.
- Goldstein, J. H. (1992). Sex differences in aggressive play and toy preference. In K. Björkqvist & P. Niemelä (Eds.), *Of Mice and Women: Aspects of Female Aggression* (pp. 65-76). San Diego: Academic Press.
- Goodenough, F. L. (1931). *Anger in Young Children*. Westport, Connecticut: Greenwood Press.
- Goodenough, W. H. (1971). *Culture Language and Society*. Module in Anthropology (Vol. 7). Reading, MA: Addison-Wesley Publishing Company.
- Goodfellow, J. (1994). Subtleties of the teacher's style: Messages for children and parents. In T. Bekkers (Ed.), *Proceedings of the 20th Triennial Conference of the Australian Early Childhood Association* (no page numbers). Perth: Bekkers and Associates.
- Gordon, C., Arthur, M., & Butterfield, N. (1996). *Promoting Positive Behaviour*. Melbourne: Nelson.
- Gottman, J. M., & Katz, L. F. (1989). Effects of marital discord on young children's peer interaction and health. *Developmental Psychology*, 25(3), 373-381.
- Goyette, C. H., Connors, C. K., & Ulrich, R. F. (1978). Normative data on Revised Conner Parent and Teacher Rating Scales. *Journal of Abnormal Child Psychology*, 6(2), 221-236.
- Graeber, L. (1997, September). Anemia alert. *Parents Magazine*, 72(9), pp. 43-45.
- Gratz, R., & Boulton, P. (1993). Environmental hazards in the child care centre. *Early Child Development and Care*, 87, 29-38.
- Graue, M. E. (1992). Meanings of readiness and the kindergarten experience. In S. A. Kessler & B. B. Swadener (Eds.), *Reconceptualizing the Early Childhood Curriculum: Beginning the Dialogue* (pp. 62-90). New York: Teachers College Press.

- Greenberg, J. (1996). Seeing children through tragedy: My mother died today - when is she coming back? *Young Children*, 51(6), 76-77.
- Greenberg, M. T., Speltz, M. L., & DeKlyen, M. (1993). The role of attachment in the early development of disruptive behavior problems. *Development and Psychopathology*, 5, 191-213.
- Greenblat, E., & Ochiltree, G. (1993). *Use and Choice of Child Care* (Early Childhood Study Paper No. 4), Australian Institute of Family Studies
- Greenman, J. (1988). *Caring spaces, learning places: children's environments that work*. Redmond, WA: Exchange Press.
- Greenough, W. T., Black, J. E., & Wallace, C. S. (1987). Experience and brain development. *Child development*, 58, 539-559.
- Greenwood, C. R., Carta, J. J., & Atwater, J. (1991). Ecobehavioral analysis in the classroom: Review and implications. *Journal of Behavioral Education*, 1(1), 59-77.
- Gruss, C., Jackson, I., Grimson, A., & Hedgcock, D. (1998). Antisocial play in the preschool: Survey data on children's behaviour and some response strategies in current use. *Australian Journal of Early Childhood*, 23(1), 10-14.
- Gump, P. V. (1971). The behavior setting: A promising unit for environmental designers. *Landscape Architecture*, 61, 130-134.
- Gump, P. V., Schoggen, P., & Redl, F. (1963). The behavior of the same child in different milieus. In R. G. Barker (Ed.), *The Stream of Behavior: Explorations of its structure & Content* (pp. 169-202). New York: Appleton-Century-Crofts.
- Gurwitz, S. B., & Dodge, K. A. (1975). Adults' evaluations of a child as a function of sex of adult and sex of child. *Journal of Personality and Social Psychology*, 32(5), 822-828.
- Hagekull, B., & Bohlin, G. (1992). Prevalence of problematic behaviors in four-year-olds. *Scandinavian Journal of Psychology*, 33(4), 359-369.
- Hagekull, B., & Bohlin, G. (1994). Behavioural problems and competencies in 4-year-olds: Dimensions and relationships. *International Journal of Behavioral Development*, 17(2), 311-327.
- Hagekull, B., & Bohlin, G. (1995). Day care quality, family and child characteristics and socioemotional development. *Early Childhood Research Quarterly*, 10, 505-526.
- Hall, E. T. (1959). *The Silent Language*. New York: Doubleday & Company.
- Hall, E. T. (1969). *The Hidden Dimension*. New York: Doubleday & Company.
- Halperin, J. M., Newcorn, J. H., Matier, K., Bedi, G., Hall, S., & Sharma, V. (1995). Impulsivity and the initiation of fights in children with disruptive behavior disorders. *Journal of Child Psychology and Psychiatry and Allied Disciplines*, 36(7), 1199-1211.
- Hardy, R. C., Hunt, J., & Lehr, E. (1978). Relationship between birth order and leadership style for nursery school children. *Perceptual and Motor Skills*, 46(1), 184-186.

- Harkness, S., & Super, C. M. (1985). The cultural context of gender segregation in children's peer groups. *Child Development*, 56, 219-224.
- Harms, T., & Clifford, R. M. (1980). *Early Childhood Environmental Rating Scale*. New York: Teachers College Press.
- Harms, T., Clifford, R. M., & Cryer, D. (1998). *Early Childhood Environmental Rating Scale* (rev. ed.). New York: Teachers College Press.
- Harper, L. V., & Huie, K. S. (1985). The effects of prior group experience, age, and familiarity on the quality and organization of preschoolers' social relationships. *Child Development*, 56, 704-717.
- Harris, W. J., & Drummond, R. J. (1977). An investigation of relationships between teachers' ratings of behavior and children's personality traits. *Journal of Abnormal Child Psychology*, 5(1), 43-52.
- Hart, C. H., DeWolf, D. M., Wozniak, P., & Burts, D. C. (1992). Maternal and paternal disciplinary styles: relations with preschoolers' playground behavioral orientations and peer status. *Child Development*, 63, 879-892.
- Hart, C. H., & Sheehan, R. (1986). Preschoolers' play behavior in outdoor environment: effects of traditional and contemporary playgrounds. *American Educational Research Journal*, 23(4), 668-678.
- Hartup, W. W. (1974). Aggression in childhood: Developmental perspectives. *American Psychologist*, 29, 336-341.
- Hartup, W. W. (1983). Peer relations. In P. H. Mussen (Ed.), *Handbook of Child Psychology* (4th ed., Vol. 4, pp. 103-196). New York: John Wiley & Sons.
- Hartup, W. W., & Laursen, B. (1993). Conflict and context in peer relations. In C. H. Hart (Ed.), *Children on Playgrounds* (pp. 44-84). Albany, NY: State University of New York Press.
- Haskins, R. (1985). Public school aggression among children with varying day care experience. *Child Development*, 56, 689-703.
- Hatch, J. A. (1987). Status and social power in a kindergarten peer group. *Elementary School Journal*, 88(1), 79-92.
- Hatch, J. A. (1989). Young children as informants in classroom studies. *Early Childhood Research Quarterly*, 5, 251-264.
- Haugen, K. (1997, March). Using your senses to adapt environments: Checklist for an accessible environment. *Child Care Information Exchange*, (114), pp. 50-56.
- Hauser-Cram, P., Bronson, M. B., & Upshur, C. C. (1993). The effects of the classroom environment on the social mastery behavior of preschool children with disabilities. *Early Childhood Research Quarterly*, 8(4), 479-497.
- Hayden, J. (1996). *Management of Early Childhood Services: An Australian Perspective*. Wentworth Falls, NSW: Social Science Press.

- Hayes, D. S. (1978). Cognitive bases for liking and disliking among preschool children. *Child Development*, 49, 906-909.
- Hayes, D. S., Gershman, E., & Bolin, L. J. (1980). Friends and enemies: Cognitive bases for preschool children's unilateral and reciprocal relationships. *Child Development*, 51, 1276-1279.
- Hedin, A., Ekholm, B., & Andersson, B. E. (1997). Climates in Swedish day care centres: Children's behavior in differing centres. *Journal of Research in Childhood Education*, 11(2), 181-187.
- Hegland, S. M., & Rix, M. K. (1990). Aggression and assertiveness in kindergarten children differing in day care experiences. *Early Childhood Research Quarterly*, 5, 105-116.
- Heinicke, C. M., Friedman, D., Prescott, E., Puncel, C., & Sale, J. S. (1973). The organization of day care: considerations relating to the mental health of child and family. *American Journal of Orthopsychiatry*, 43(1), 8-22.
- Heins, T. (1996). Presenting rules to young children at school. *Australian Journal of Early Childhood*, 21(2), 7-11.
- Hemphill, S. A. (1996). Characteristics of conduct-disordered children and their families: A review. *Australian Psychologist*, 31(2), 109-118.
- Hennessy, E., Martin, S., Moss, P., & Melhuish, E. (1992). *Children and Day Care: Lessons from Research*. London: Paul Chapman.
- Henniger, M. L. (1985). Preschool children's play behaviours in an indoor and outdoor environment. In J. L. Frost & S. Sunderlin (Eds.), *When Children Play* (pp. 145-149). Wheaton, MD: Association for Childhood Education International.
- Hestenes, L. L., Kontos, S., & Bryan, Y. (1993). Children's emotional expression in child care centres varying in quality. *Early Childhood Research Quarterly*, 8, 295-307.
- Hinde, R. (1992). Ethological and relationships approaches. In R. Vasta (Ed.), *Six Theories of Child Development* (pp. 251-285). London: Jessica Kingsley.
- Hinde, R. A. (1987). *Individuals, Relationships & Culture*. Themes in the Social Sciences. Cambridge: Cambridge University Press.
- Hinde, R. A., Easton, D. F., Meller, R. E., & Tamplin, A. (1983). Nature and determinants of preschoolers' differential behaviour to adults and peers. *British Journal of Developmental Psychology*, 1, 3-19.
- Hinshaw, S. P., Lahey, B. B., & Hart, E. (1993). Issues of taxonomy and comorbidity in the development of conduct disorder. *Development and Psychopathology*, 5, 31-49.
- Holborow, P., Elkins, J., & Berry, P. (1981). The effect of the Feingold diet on 'normal' school children. *Journal of Learning Disabilities*, 14(3), 143-147.
- Holloway, L. (1991). Smoothing the vortex time of day in child care, *Proceedings of the 19th National Conference of the Australian Early Childhood Association* (pp. 171-175). Adelaide: Australian Early Childhood Association.

- Horin, A. (1996, 24 October). Child care centres fail quality test. *Sydney Morning Herald*, p. 3.
- Horin, A. (1998, 10 March). Govt subsidy crackdown a real hot potato. *Sydney Morning Herald*, p. 19: Supplement Section.
- Horne, A. M. (1981). Aggressive behavior in normal and deviant members of intact versus mother-only families. *Journal of Abnormal Child Psychology*, 9(2), 283-290.
- Howe, N., Moller, L., Chambers, B., & Petrakos, H. (1993). The ecology of dramatic play centres and children's social and cognitive play. *Early Childhood Research Quarterly*, 8(2), 235-251.
- Howes, C. (1980). Peer play scale as an index of complexity of peer interaction. *Developmental Psychology*, 16(4), 371-372.
- Howes, C. (1988). Relations between early child care and schooling. *Developmental Psychology*, 24(1), 53-57.
- Howes, C., Hamilton, C. E., & Matheson, C. C. (1994). Children's relationships with peers: Differential associations with aspects of the teacher-child relationship. *Child Development*, 65(1), 253-263.
- Huesmann, L. R., Lagersptz, K., & Eron, L. D. (1984). Intervening variables in the TV violence-aggression relation: Evidence from two countries. *Developmental Psychology*, 20(5), 746-775.
- Huntsman, L. (1989, Winter). Child care regulations in Australia - comparisons and comments. *Rattler*, (10), pp. 7-8.
- Hutt, C. (1972). *Males and Females*. Middlesex, UK: Penguin.
- Hutt, C., & Vaizey, M. J. (1966). Differential effects of group density on social behavior. *Nature*, 209, 1371-1372.
- Hyde, J. S. (1984). How large are gender differences in aggression? A developmental meta-analysis. *Developmental Psychology*, 20(4), 722-736.
- Isaacs, S. (1933). *Social development in young children*. London: Routledge & Kegan Paul.
- Ittleson, W. H., Proshansky, H. M., Rivlin, L. G., & Winkel, G. H. (1974). *An introduction to Environmental Psychology*. New York: Holt, Rinehart and Winston.
- Jackson, E. L. (1996). Work conditions in long day care in the era of accreditation. *Australian Journal of Early Childhood*, 21(2), 17-20.
- Jersild, A. T., & Markey, F. V. (1935). Conflicts between pre-school children. *Monographs of the Society for Research in Child Development*, 21.
- Jewett, J. (1992). *Aggression and Cooperation: Helping Young Children Develop Constructive Strategies*. Washington DC: Office of Educational Research and Improvement. (ERIC Documents Reproduction Service No. ED 351 147).

- Jipson, J. (1991). Developmentally appropriate practice: culture, curriculum, connections. *Early Education and Development*, 2(2), 129-136.
- Johnson, J. E. (1988). Psychological theory and early education. In A. D. Pellegrini (Ed.), *Psychological Bases for Early Education* (pp. 1-21). Chichester: John Wiley and Sons Ltd.
- Johnson, R. N. (1972). *Aggression in man and animals*. Philadelphia: W. B. Saunders.
- Jones, J. (1990, Summer). Grouping - let me count the ways. *Rattler*, (12), pp. 6-8.
- Jordan, N. (1963). Some formal characteristics of the behavior of two disturbed boys. In R. G. Barker (Ed.), *The Stream of Behavior* (pp. 203-218). New York: Appleton-Century-Crofts.
- Jordan, R. (1997). *Education of children and young people with Autism. Guides for Special Education No. 10* United Nations Education, Scientific, and Cultural Organization, Paris (France). Basic Education Division. (ERIC Document Reproduction Service No. ED 420 130).
- Jorde-Bloom, P. (1988). *A Great Place to Work*. Washington DC: National Association for the Education of Young Children.
- Kahn, R. E. (1996). Chaos theory, scientific revolutions and creativity in learning. In W. Sulis & A. Combs (Eds.), *Nonlinear Dynamics in Human Behavior* (pp. 319-342). New Jersey: World Scientific.
- Kantor, J. R. (1959). *Interbehavioral Psychology*. Bloomington: The Principia Press.
- Karamoskos, P. (1981). An evaluation of the effects of environmental lead on children's behaviour and intellectual development. *Australian Journal of Remedial Education*, 13(2), 4-10.
- Katz, L. F., & Gottman, J. M. (1995). Vagal tone protects young children from marital conflict. *Development and Psychopathology*, 7, 83-92.
- Kavale, K. A., & Forness, S. R. (1983). Hyperactivity and diet treatment: a meta-analysis of the Feingold hypothesis. *Journal of Learning Disabilities*, 16(6), 324-330.
- Kazdin, A. E. (1993). Treatment of conduct disorders: Progress and directions in psychotherapy research. *Development and Psychopathology*, 5, 277-310.
- Kean, J. (1997). Teacher ethnotheories & child temperament: Impact on classroom interaction. *Australian Journal of Early Childhood*, 22(3), 13-18.
- Keating, C. F., & Bai, D. L. (1986). Children's attributions of social dominance from facial cues. *Child Development*, 57, 1269-1276.
- Kennedy, D. (1991). The young child's experience of space and child care centre design: A practical meditation. *Children's Environments Quarterly*, 8(1), 37-48.
- Kessler, S. (1991). Alternative perspectives on early childhood education. *Early Childhood Research Quarterly*, 6, 183-197.

- Kimball, S. L. (1994). *The Influence of Lead Exposure and Toxicity to Children's Neurological Development and School Performance*
- King, R. (1978). *All Things Bright and Beautiful?* Chichester: John Wiley & Sons.
- Kirmeyer, S. L. (1985). Employee reactivity and adaptation to observation on the job. *Journal of Environmental Psychology*, 5, 355-372.
- Koch, H. L. (1955). The relation of certain family constellation characteristics and the attitudes of children towards adults. *Child Development*, 26(1), 13-40.
- Koffka, K. (1935). *Principles of Gestalt Psychology*. London: Routledge.
- Kohn, M. (1977). The Kohn Social Competence Scale and Kohn Symptom Checklist for the Preschool Child: A follow-up report. *Journal of Abnormal Child Psychology*, 5(3), 249-263.
- Koot, H. M., & Verhulst, F. C. (1992). Prediction of children's referral to mental health and special education services from earlier adjustment. *Journal of Child Psychology and Psychiatry and Allied Disciplines*, 33(4), 717-729.
- Koralek, D. G., Colker, L. J., & Dodge, D. T. (1993). *The What, Why, and How of High-Quality Early Childhood Education: A Guide for On-Site Supervision*. Washington: National Association for the Education of Young Children.
- Kounin, J. S., & Sherman, L. W. (1979). School environments as behavior settings. *Theory into Practice*, 18(3), 145-151.
- Krantz, P. J., & Risley, T. R. (1977). Behavioral Ecology in the Classroom. In K. D. O'Leary & S. G. O'Leary (Eds.), *Classroom Management: The Successful Use of Behavior Modification* (2nd ed., pp. 349-366). New York: Pergamon Press.
- Kritchevsky, S., Prescott, E., & Walling, L. (1969). *Planning Environments for Young Children: Physical Space* (1st ed.). Washington, DC: National Association for the Education of Young Children.
- Kritchevsky, S., Prescott, E., & Walling, L. (1977). *Planning Environments for Young Children: Physical Space* (2nd ed.). Washington, DC: National Association for the Education of Young Children.
- Krummel, D. A., Seligson, F. H., & Guthrie, H. A. (1996). Hyperactivity: is candy causal? *Food Science and Nutrition*, 36(1 & 2), 31-47.
- Kuhns, C. L., & Marcus, R. (1992). *Maternal Child-Rearing Practices and Children's Social Problem Solving Skills*. Poster presentation at the Annual Convention of the American Psychological Association, Washington DC. (ERIC Documents Reproduction Service No. ED 352 571).
- La Freniere, P. J., & Charlesworth, W. R. (1987). Effects of friendship and dominance status on preschooler's resource utilization in a cooperative/competitive situation. *International Journal of Behavioral Development*, 10(3), 345-358.
- Lacey, J. (1994, Spring). Who cares. *Choice*, (61), pp. 10-14.

- Ladd, G. W., Price, J. M., & Hart, C. H. (1990). Preschoolers' behavioral orientations and patterns of peer contact: Predictive of peer status? In S. R. Asher & J. D. Coie (Eds.), *Peer Rejection in Childhood* (pp. 90-117). Cambridge: Cambridge University Press.
- Lahey, B. B., Hammer, D., Crumrine, P. L., & Forehand, R. L. (1980). Birth order x sex interactions in child behavior problems. *Developmental Psychology*, 16(6), 608-615.
- Lamb, M. E., Easterbrooks, M. A., & Holden, G. W. (1980). Reinforcement and punishment among preschoolers: characteristics, effects, and correlates. *Child Development*, 51, 1230-1236.
- Lambert, B. (1990). Hyperactivity: A review of research. *Australian Journal of Early Childhood*, 15(2), 43-48.
- Lambert, B. (1995). Reasoning and problem-solving: Contemporary theoretical perspectives. In M. Fleer (Ed.), *DAP centrism: Challenging Developmentally Appropriate Practice* (pp. 71-86). Canberra: Australian Early Childhood Association.
- Lancaster, S., Prior, M., & Adler, R. (1989). Child behavior ratings: The influence of maternal characteristics and child temperament. *Journal of Child Psychology and Psychiatry and Allied Disciplines*, 30(1), 137-149.
- Langeveld, M. J. (1983). The secret place in the life of the child. *Phenomenology + Pedagogy*, 1(2), 181-191.
- Langlois, J. H., & Stephan, C. (1977). The effects of physical attractiveness and ethnicity on children's behavioral attributions and peer preferences. *Child Development*, 48, 1694-1698.
- Langlois, J. H., & Stephan, C. W. (1981). Beauty and the beast: The role of physical attractiveness in the development of peer relations and social behavior. In S. S. Brehm, S. M. Kassin, & F. X. Gibbons (Eds.), *Developmental Social Psychology Theory and research* (pp. 152-168). New York: Oxford University Press.
- Larson, C. S., Greenfield, P. M., & Land, D. (1990). Physical environment and child behavior in Vienna kindergartens. *Children's Environments Quarterly*, 7(1), 37-43.
- Laursen, B., & Hartup, W. W. (1989). The dynamics of preschool children's conflicts. *Merrill-Palmer Quarterly*, 35(3), 281-297.
- Lawrence, H. (2000, Autumn). Stress-free environments: promoting healthy brain development. *Every Child*, 6(1), pp. 10-11.
- Le, M. (1986). Towards understanding: Indochinese refugee and migrant children in Australia. *Australian Journal of Early Childhood*, 11(3), 8-12.
- Leach, P. (1994). *Children First*. London: Penguin Group.
- Ledingham, J. E. (1981). Developmental patterns of aggressive and withdrawn behavior in childhood: A possible method for identifying preschizophrenics. *Journal of Abnormal Child Psychology*, 9(1), 1-22.

- Lefkowitz, M. M., Eron, L. D., Walder, L. O., & Huesmann, L. R. (1977). *Growing Up to be Violent: A Longitudinal Study of the Development of Aggression*. Pergamon General Psychology Series (Vol. 66). New York: Pergamon Press.
- Lerner, R. M. (1983). A "Goodness of fit" model of person-context interaction. In D. Magnusson & V. L. Allen (Eds.), *Human Development: An Interactional Perspective* (pp. 279-294). New York: Academic Press.
- Levine, L. J. (1995). Young children's understanding of the causes of anger and sadness. *Child Development*, 66(3), 697-709.
- Lewin, K. (1935). *A Dynamic Theory of Personality - Selected Papers* (D. K. Adams, & K. E. Zener, Trans.). New York: McGraw-Hill.
- Lewis, M., Feiring, C., McGuffog, C., & Jaskir, J. (1984). Predicting psychopathology in six-year-olds from early social relations. *Child Development*, 55, 123-136.
- Lewis, M., Sullivan, M. W., & Vasen, A. (1987). Making faces: Age and emotion differences in the posing of emotional expressions. *Developmental Psychology*, 23(5), 690-697.
- Lichtenstein, R., & Ireton, H. (1984). *Preschool Screening*. New York: Grune & Stratton.
- Lieberman, A. F. (1977). Preschoolers' competence with a peer: Relations with attachment and peer experience. *Child Development*, 48, 1277-1287.
- Linke, P. (2000, Autumn). Infant brain research: what is it and what does it mean? *Every Child*, 6(1), pp. 4-5.
- Lipkowitz-Susser, R. (1994). The effect of viewing violent television programming on early childhood development. In T. Bekkers (Ed.), *Proceedings of the 20th Triennial Conference of the Australian Early Childhood Association* (no page numbers). Perth: Bekkers and Associates.
- Lippitz, W. (1983). The child's understanding of time. *Phenomenology + Pedagogy*, 1(2), 172-180.
- Loane, S. (1996, 17 August). The big business of caring for little kids. *Sydney Morning Herald*, p. 31.
- Loo, C. M. (1972). The effects of spatial density on the social behavior of children. *Journal of Applied Social Psychology*, 2(4), 372-381.
- Lougee, M. D., Grueneich, R., & Hartup, W. W. (1977). Social interaction in same- and mixed-age dyads of preschool children. *Child Development*, 48, 1353-1361.
- Lowry, P. (1993). Privacy in the preschool environment: gender differences in reaction to crowding. *Children's Environments*, 10(2), 130-139.
- Lubeck, S. (1998a). Is Developmentally Appropriate Practice for everyone? *Childhood Education*, 74(5), 283-292.
- Lubeck, S. (1998b). Is DAP for everyone? A response. *Childhood Education*, 74(5), 299-301.

- Luk, S., Leung, P. W., Bacon-Shone, J., & Lieh-Mak, F. (1991). The structure and prevalence of behavioral problems in Hong Kong preschool children. *Journal of Abnormal Child Psychology*, 19(2), 219-232.
- Lytton, H. (1990a). Child and parent effects in boys' conduct disorder: A reinterpretation. *Developmental Psychology*, 26(5), 683-697.
- Lytton, H. (1990b). Child effects - still unwelcome? Response to Dodge and Wahler. *Developmental Psychology*, 26(5), 705-709.
- Maccoby, E. E., & Jacklin, C. N. (1980). Sex differences in aggression: A rejoinder and reprise. *Child Development*, 51, 964-980.
- MacDonald, K. (1987). Parent-child physical play with rejected, neglected, and popular boys. *Developmental Psychology*, 23(5), 705-711.
- MacNaughton, G. (1995). A post-structuralist analysis of learning in early childhood settings. In M. Flear (Ed.), *DAP centrism: Challenging Developmentally Appropriate Practice* (pp. 35-54). Canberra: Australian Early Childhood Association.
- Magnusson, D. (1981a). Problems of environmental analysis - an introduction. In D. Magnusson (Ed.), *Toward a Psychology of Situations: An Interactional Perspective* (pp. 3-7). New Jersey: Lawrence Erlbaum Associates.
- Magnusson, D. (1981b). Wanted: A psychology of situations. In D. Magnusson (Ed.), *Toward a Psychology of Situations: An Interactional Perspective* (pp. 9-35). New Jersey: Lawrence Erlbaum Associates.
- Magnusson, D., & Allen, V. L. (1983). An interactional perspective for human development. In D. Magnusson & V. L. Allen (Eds.), *Human Development: An Interactional Perspective* (pp. 3-31). New York: Academic Press.
- Magnusson, D., & Törestad, B. (1992). The individual as an interactive agent in the environment. In W. B. Walsh, K. H. Craik, & R. H. Price (Eds.), *Person-Environment-Psychology* (pp. 89-126). New Jersey: Lawrence Erlbaum Associates.
- Malaguzzi, L. (1994, March). Your image of the child: where teaching begins. *Child Care Information Exchange*, (96), pp. 52-56 & 61.
- Manne, A. (1996, January-February). Electing a new child. *Quadrant*, 40(1-2), pp. 8-19.
- Marakovitz, S. E., & Campbell, S. B. (1998). Inattention, impulsivity, and hyperactivity from preschool to school age: Performance of hard-to-manage boys on laboratory measures. *Journal of Child Psychology and Psychiatry and Allied Disciplines*, 39(6), 841-851.
- Martin, J. L., & Ross, H. S. (1996). Do mitigating circumstances influence family reactions to physical aggression? *Child Development*, 67, 1455-1466.
- Masselos, G., & Healey, C. (1981). The child with special needs from a migrant family. *Australian Journal of Early Childhood*, 6(4), 35-39.

- Mathias, J. L., Mertin, P., & Murray, A. (1995). The psychological functioning of children from backgrounds of domestic violence. *Australian Psychologist*, 30(1), 47-56.
- Matsuura, M., Okubo, Y., Kojima, T., Takahashi, R., Wang, Y. F., Shen, Y. C., & Lee, C. K. (1993). A cross-national prevalence study of children with emotional and behavioural problems - A WHO collaborative study in the Western Pacific Region. *Journal of Child Psychology, Psychiatry, and Allied Disciplines*, 34(3), 307-315.
- Mattes, J. A. (1983). The Feingold diet: A current reappraisal. *Journal of Learning Disabilities*, 16(6), 319-323.
- Maxwell, L. E. (1996). Multiple effects of home and day care crowding. *Environment and Behaviour*, 28(4), 494-511.
- Maynard, D. W. (1985). On the functions of social conflict among children. *American Sociological Review*, 50(2), 207-223.
- Mayron, L. W. (1978). Hyperactivity from fluorescent lighting - fact or fancy: A commentary on the report by O'Leary, Rosenbaum, and Hughes. *Journal of Abnormal Child Psychology*, 6(3), 291-294.
- McCabe, P. P. (1991). Low level lead toxicity: The hidden challenge for educators. *Childhood Education*, 68(2), 88-92.
- McCabe, V. (1984). Abstract perceptual information for age level: A risk factor for maltreatment? *Child Development*, 55, 267-276.
- McCall, G. J. (1969). Data quality control in participant observation. In G. J. McCall & J. L. Simmons (Eds.), *Issues in Participant Observation: A Text and Reader* (pp. 128-141). New York: Random House.
- McCartney, K., Scarr, S., Phillips, D., Grajek, S., & Schwarz, J. C. (1982). Environmental differences among day care centres and their effects on children's development. In E. F. Zigler & E. W. Gordon (Eds.), *Day Care: Scientific and Social Policy Issues* (pp. 126-151). Boston: Auburn House Publishing Company.
- McCrea, N. L., & Piscitelli, B. (1991). *Handbook of High Quality Criteria for early Childhood Programs* (rev. ed.). Brisbane: Queensland University of Technology.
- McGrew, P. L. (1970). Social and spatial density effects on spacing behaviour in preschool. *Journal of Child Psychology and Child Psychiatry and Allied Disciplines*, 11(3), 197-205.
- McGuire, J., & Richman, N. (1986). Screening for behaviour problems in nurseries: The reliability and validity of the Preschool Behaviour Checklist. *Journal of Child Psychology and Psychiatry and Allied Disciplines*, 27(1), 7-32.
- McGuire, S., Dunn, J., & Plomin, R. (1995). Maternal differential treatment of siblings and children's behavioral problems: A longitudinal study. *Development and Psychopathology*, 7(3), 515-528.
- McHugh, B. (1997, May 17). Working at childcare. *Newcastle Herald*, p. 2.
- McIntyre, J. (1993). Research paradigms and adult education. *Studies in Continuing Education*, 15(2), 80-97.

- McKay, F. (1988). Discipline. In A. Stonehouse (Ed.), *Trusting Toddlers* (pp. 65-78). Canberra: Australian Early Childhood Association.
- McKee, J. P., & Leader, F. B. (1955). The relationship of socio-economic status and aggression to the competitive behavior of preschool children. *Child Development*, 26(2), 135-142.
- McKeough, A., Yates, T., & Marini, A. (1994). Intentional reasoning: A developmental study of behaviorally aggressive and normal boys. *Development and Psychopathology*, 6(2), 285-304.
- McLean, V. (1988). Survival: A concern for every teacher?, *Proceedings of the 18th Triennial Conference of the Australian Early Childhood Association* (no page numbers). Canberra: Australian early Childhood Association.
- Meesters, Y. (1998). Dawn simulation as maintenance treatment in a nine-year-old patient with seasonal affective disorder. *Journal of the American Academy of Child and Adolescent Psychiatry*, 37(9), 986-988.
- Mellor, B. (1988). The vulcanismic approach to child care, *Proceedings of the 18th Triennial Conference of the Australian Early Childhood Association* (no page numbers). Canberra: Australian Early Childhood Association.
- Merrett, F., & Taylor, B. (1994). Behaviour problems in the nursery. *Educational Review*, 46(3), 287-295.
- Mersch, P. P. A., Middendorp, H. M., Bouhuys, A. L., Beersma, D. G. M., & van den Hoofdakker, R. H. (1999). Seasonal affective disorder and latitude: a review of the literature. *Journal of Affective Disorders*, 53(1), 35-48.
- Meyer, P. (1997, March). More than a playground: Accessible outdoor learning centers. *Child Care Information Exchange*, (114), pp. 57-60.
- Michael, R. P., & Zumpe, D. (1983). Sexual violence in the United States and the role of season. *American Journal of Psychiatry*, 140, 883-886.
- Milgrom, J. (1994). *Mother-infant interaction*. Issues for Research (no. 2). Canberra: Health Research Advisory Committee, Commonwealth Department of Human Services
- Miller, K. (1996, September). Developmental issues that affect behavior. *Child Care Information Exchange*, (111), pp. 49-55.
- Miller, S. A. (1995). Parents' attributions for their children's' behavior. *Child Development*, 66, 1557-1584.
- Milligan, K. (1994). Overview of recent research and thinking on child development and education. In T. Bekkers (Ed.), *Proceedings of the 20th Triennial Conference of the Australian Early Childhood Association* (no page numbers). Perth: Bekkers and Associates.
- Milman, D. H., & Bennett, A. A. (1996). School and seasonal affective disorder. *American Journal of Psychiatry*, 153(6), 849-850.

- Minuchin, P. P., & Shapiro, E. K. (1983). The school as a context for social development. In P. H. Mussen (Ed.), *Handbook of Child Psychology* (4th ed., Vol. 4, pp. 197-274). New York: John Wiley & Sons.
- Mobbs, J. (1994). "Supporting interactions": A new design brief of child care centres. In T. Bekkers (Ed.), *Proceedings of the 20th Triennial Conference of the Australian Early Childhood Association* (no page numbers). Perth: Bekkers and Associates.
- Mobley, C. E., & Pullis, M. E. (1991). Temperament and behavioral adjustment in preschool children. *Early Childhood Research Quarterly*, 6(4), 577-586.
- Moffitt, T. E. (1993). The neuropsychology of conduct disorder. *Development and Psychopathology*, 5, 135-151.
- Moir, A., & Jessel, D. (1991). *Brainsex*. London: Mandarin.
- Moore, G. (1994a). *The developmentally appropriate design of child care facilities*. Summary text of paper presented at the United Nations conference on the rights of the child: Stronger Families - Stronger Children. (ERIC Document Reproduction Service No. ED 376 964).
- Moore, G. (1994b). *Early childhood physical environment observation schedule and rating scales: preliminary scales for the measurement of the physical environment of child care centres and related environments* (2nd ed.). Milwaukee: Wisconsin University, Milwaukee, School of Architecture and Urban Planning.
- Moore, G. T. (1986). Effects of the spatial definition of behavior settings on children's behavior: A quasi-experimental field study. *Journal of Environmental Psychology*, 6, 205-231.
- Moore, G. T. (1987). The physical environment and cognitive development in child-care centers. In C. S. Weinstein & T. G. David (Eds.), *Spaces for Children: The Built Environment and Child Development* (pp. 41-71). New York: Plenum Press.
- Moore, G. T. (1993). The architecture of child care centres: theory, research, and design applications. *Progressive Architecture*, 74(8), 83.
- Moore, G. T. (1996a, July). How big is too big? How small is too small? *Child Care Information Exchange*, (110), pp. 21-24.
- Moore, G. T. (1996b, September). Addressing center size: A village of interconnected houses for very large centers. *Child Care Information Exchange*, (111), pp. 77-80.
- Moore, G. T. (1996c, November). A question of privacy: Places to pause and child caves. *Child Care Information Exchange*, (112), pp. 91-95.
- Moore, G. T. (1997a, March). The common core of a child care center. *Child Care Information Exchange*, (114), pp. 82-86.
- Moore, G. T. (1997b, May). A place for block play. *Child Care Information Exchange*, (115), pp. 73-77.
- Moore, G. T. (1997c, September). Favorable locations for child care centres. *Child Care Information Exchange*, (117), pp. 73-76.

- Moos, R. H., & Insel, P. M. (1974). Preface. In R. H. Moos & P. M. Insel (Eds.), *Issues in Social Ecology* (pp. ix-xi). Palo Alto: National Press.
- Morehouse, L. E., & Gross, L. (1977). *Total fitness in 30 minutes a week*. Herts: Mayflower.
- Morris, D. (1967). *The Naked Ape*. New York: McGraw-Hill.
- Muenzinger, K. F. (1942). *Psychology: The Science of Behavior*. New York: Harper & Brothers.
- Mules, R. (1993, Spring). To plan or not to plan - an issue of quality. *Rattler*, (27), pp. 20-22.
- National Childcare Accreditation Council (1993). *Putting Children First: Quality Improvement and Accreditation System Handbook*. Sydney: National Childcare Accreditation Council.
- Naylor, H. (1985). Design for outdoor play: An observational study. In J. L. Frost & S. Sunderlin (Eds.), *When Children Play* (pp. 103-120). Wheaton, MD: Association for Childhood Education International.
- Neill, S. R. (1982). Preschool design and child behavior. *Journal of Child Psychology and Psychiatry and Allied Disciplines*, 23(3), 309-318.
- Neill, S. R., & Denham, E. J. M. (1982). The effects of pre-school building design. *Educational Research*, 24(2), 107-111.
- New South Wales Government (1996). Centre Based and Mobile Child Care Regulation (No. 2): Clause 9 - Code of Conduct. Sydney: New South Wales Government.
- Newth, S. J., & Corbett, J. (1993). Behaviour and emotional problems in three-year-old children of Asian parentage. *Journal of Child Psychology and Psychiatry and Allied Disciplines*, 34(3), 333-352.
- Nucci, L. P., & Turiel, E. (1978). Social interactions and the development of social concepts in preschool children. *Child Development*, 49, 400-407.
- Nyland, B., & Wood, S. (1994). How building and playground design can support developmentally appropriate practice. In T. Bekkers (Ed.), *Proceedings of the 20th Triennial Conference of the Australian Early Childhood Association* (no page numbers). Perth: Bekkers and Associates.
- Nystedt, L. (1981). A model for studying the interaction between the objective situation and a person's construction of the situation. In D. Magnusson (Ed.), *Toward a Psychology of Situations: An Interactional Perspective* (pp. 375-391). New Jersey: Lawrence Erlbaum Associates.
- O'Brien, L. M. (1997). Turning my world upside down: How I learned to question Developmentally Appropriate Practice. *Childhood Education*, 73(2), 100-102.
- O'Brien, T. (1998). *Promoting Positive Behaviour*. London: David Fulton.
- O'Keefe, D. (1995, Summer). The yearly cycle of long day care. *Rattler*, (36), pp. 19-20.

- O'Keefe, D. (1997, Autumn). Escalating demands on staff. *Rattler*, (41), p. 9.
- O'Leary, K. D., Rosenbaum, A., & Hughes, P. C. (1978). Fluorescent lighting: A purported source of hyperactive behavior. *Journal of Abnormal Child Psychology*, 6(3), 285-289.
- O'Mara, L., & Johnston, C. (1989). Mothers' attitudes and their children's behaviors in 3-year-olds born prematurely. *Journal of Developmental and Behavioral Pediatrics*, 10(4), 192-197.
- O'Shea, J. A., & Porter, S. F. (1981). Double-blind study of children with hyperkinetic syndrome treated with multi-allergen extract sublingually. *Journal of Learning Disabilities*, 14(4), 189-191 & 237.
- Ochiltree, G. (1994). *Effects of Child Care on Young Children* (Early Childhood Study Paper No. 5), Australian Institute of Family Studies
- Ochiltree, G., & Edgar, D. (1995). *Today's Child Care, Tomorrow's Children* (Early Childhood Study Paper No. 7), Australian Institute of Family Studies
- Olds, A. R. (1997, September). Mood: The spirit of place. *Child Care Information Exchange*, (9), pp. 51-52.
- Ollendick, D. G., & LaBerteaux, P. J. (1978). Locus of control and teacher ratings of behavior problems in preschoolers. *The Journal of Psychology*, 99, 15-18.
- Olson, S. L. (1992). Development of conduct problems and peer rejection in preschool children: A social systems analysis. *Journal of Abnormal Child Psychology*, 20(3), 327-350.
- Overton, W. F., & Reese, H. W. (1977). General models for man-environment relations. In H. McGurk (Ed.), *Ecological Factors in Human Development* (pp. 11-19). New York: North-Holland Publishing.
- Parents who choose preschool (1995, Winter). *Rattler*, (34), pp. 7-10.
- Parke, R. D., & Slaby, R. G. (1983). The development of aggression. In P. H. Mussen (Ed.), *Handbook of Child Psychology* (4th ed., Vol. 4, pp. 547-641). New York: John Wiley & Sons.
- Parker, J. (1995). *Understanding Grief & Loss*. AECA Resource Book Series (Vol. 2, No. 4). Canberra: Australian Early Childhood Association.
- Parker, J. (1996). *Understanding Separation and Divorce*. AECA Resource Book Series (Vol. 3, No. 1). Canberra: Australian Early Childhood Association.
- Parsons, H. M. (1974). Why human factors research in environmental design? In D. H. Carson (Ed.), *Man-Environment Interactions: Evaluations and Applications, Part II* (pp. 1-14). Stroudsburg PA: Dowden, Hutchinson & Ross.
- Patterson, G. R. (1982). *Coercive family process*. Eugene, OR: Castalia.
- Pavuluri, M., & Smith, M. (1996). Principles and practice of cognitive behaviour therapy in working with parents of young children with behaviour disorder. *Australian Journal of Early Childhood*, 21(2), 22-27.

- Pavuluri, M. N., Luk, S., Clarkson, J., & McGee, R. (1995). A community study of preschool behaviour disorder in New Zealand. *Australian and New Zealand Journal of Psychiatry*, 29, 454-462.
- Pellegrini, A. D. (1984). The social cognitive ecology of preschool classrooms: Contextual relations revisited. *International Journal of Behavioral Development*, 7, 321-332.
- Pellegrini, A. D. (1992). Ethological studies of the categorization of children's social behavior in preschool: A review. *Early Education and Development*, 3(4), 284-297.
- Pellegrini, A. D., & Perlmutter, J. C. (1988). The role of verbal conflicts in pre-school children's socio-cognitive development. In A. D. Pellegrini (Ed.), *Psychological Bases for Early Education* (pp. 229-244). Chichester: John Wiley & Sons Ltd.
- Pellegrini, A. D., & Perlmutter, J. C. (1989). Classroom contextual effects on children's play. *Developmental Psychology*, 25(2), 289-296.
- Pennington, B. F., & Bennetto, L. (1993). Main effects or transactions in the neuropsychology of conduct disorder? Commentary on 'The neuropsychology of conduct disorder'. *Development and Psychopathology*, 5, 153-164.
- Pepper, S. C. (1961). *World hypotheses: A study in evidence*. Berkeley: University of California Press.
- Perry, J. D., & Simpson, M. E. (1987). Violent crimes in the city: Environmental determinants. *Environment and Behavior*, 19, 77-90.
- Perry, R. (1994). A case for broadening perspectives and re-examining assumptions. In T. Bekkers (Ed.), *Proceedings of the 20th Triennial Conference of the Australian Early Childhood Association* (no page numbers). Perth: Bekkers and Associates.
- Pervin, L. A. (1981). The relation of situations to behavior. In D. Magnusson (Ed.), *Toward a Psychology of Situations: An Interactional Perspective* (pp. 343-360). New Jersey: Lawrence Erlbaum Associates.
- Pescara-Kovach, L. A., & Alexander, K. (1994). The link between food ingested and problem behavior: fact or fallacy? *Behavioral Disorders*, 19(2), 142-148.
- Pettit, G. S., Bakshi, A., Dodge, K. A., & Coie, J. D. (1990). The emergence of social dominance in young boys' play groups: Developmental differences and behavioral correlates. *Developmental Psychology*, 26(6), 1017-1025.
- Phillips, D., McCartney, K., & Scarr, S. (1987). Child care quality and children's social development. *Developmental Psychology*, 23(4), 537-543.
- Piaget, J. (1971). *The Child's Concept of Time*. (A. J. Pomerans, Trans.) New York: Ballantine Books.
- Piaget, J., & Inhelder, B. (1973). *Memory and Intelligence*. (A. J. Pomerans, Trans.).
- Pierce, K. A., & Cohen, R. (1995). Aggressors and their victims: toward a contextual framework for understanding children's aggressor-victim relationships. *Developmental Review*, 15, 292-310.

- Piscitelli, B. (1994). Tradition and challenge in the early childhood professions. In T. Bekkers (Ed.), *Proceedings of the 20th Triennial Conference of the Australian Early Childhood Association* (no page numbers). Perth: Bekkers and Associates.
- Podmore, V. N. (1993). *Education and Care. A Review of International Studies of the Outcomes of Early Childhood Experiences*. Wellington: New Zealand Council for Educational Research.
- Porter, R. (1994, May). Roughhousing as a style of play. *Child Care Information Exchange*, (97), pp. 44-45.
- Powell, J., Martindale, A., & Kulp, S. (1975). An evaluation of time-sample measures of behavior. *Journal of Applied Behavior Analysis*, 8(4), 463-469.
- Prescott, E. (1987). The environment as organizer of intent in child-care settings. In C. S. Weinstein & T. G. David (Eds.), *Spaces for Children: The Built Environment and Child Development* (pp. 73-88). New York: Plenum Press.
- Prescott, E. (1994, November). The physical environment - a powerful regulator of experience. *Child Care Information Exchange*, (100), pp. 9-15.
- Prescott, E. (1997, September). 3 keys to flexible room arrangement. *Child Care Information Exchange*, (9), pp. 48-50.
- Press, F. (1999). The demise of community-owned long day care centres and the rise of the mythical consumer. *Australian Journal of Early Childhood*, 24(1), 20-25.
- Price, R. H., & Bouffard, D. L. (1974). Behavior appropriateness and situational constraint as dimensions of social behavior. *Journal of Personality and Social Psychology*, 30(4), 579-586.
- Prior, M., Sanson, A., Oberklaid, F., & Northam, E. (1987). Measurement of temperament in one to three year old children. *International Journal of Behavioral Development*, 10(1), 121-132.
- Proshansky, H. M., & Fabian, A. K. (1987). The development of place identity in the child. In C. S. Weinstein & T. G. David (Eds.), *Spaces for Children: The Built Environment and Child Development* (pp. 21-40). New York: Plenum Press.
- Puckering, C. (1989). Annotation: Maternal depression. *Journal of Child Psychology and Psychiatry and Allied Disciplines*, 30(6), 807-817.
- Putallaz, M., & Wasserman, A. (1990). Children's entry behavior. In S. R. Asher & J. D. Coie (Eds.), *Peer Rejection in Childhood* (pp. 60-89). Cambridge: Cambridge University Press.
- Quay, H. C. (1993). The psychobiology of undersocialized aggressive conduct disorder: A theoretical perspective. *Development and Psychopathology*, 5, 165-180.
- Quilitch, H. R., & Risley, T. R. (1973). The effects of play material on social play. *Journal of Applied Behavior Analysis*, 6(4), 573-578.
- Radke-Yarrow, M., McCann, K., DeMulder, E., Belmont, B., Martinez, P., & Richardson, D. T. (1995). Attachment in the context of high-risk conditions. *Development and Psychopathology*, 7(2), 247-265.

- Ramsey, P. G. (1995). Changing social dynamics in early childhood classrooms. *Child Development*, 66(3), 764-773.
- Rapoport, A. (1977). *Human Aspects of Urban Form*. New York: Pergamon Press.
- Rapoport, A. (1982). *The Meaning of the Built Environment*. Beverly Hills, California: Sage Publications.
- Reid, J. B. (1993). Prevention of conduct disorder before and after school entry: Relating interventions to developmental findings. *Development and Psychopathology*, 5, 243-262.
- Reinert, H. R., & Huang, A. (1987). *Children in Conflict*. Columbus, OH: Merrill Publishing.
- Reite, M. (1987). Some additional influences shaping the development of behavior. *Child Development*, 58, 596-600.
- Rende, R. D., & Killen, M. (1992). Social interactional antecedents of conflict in young children. *Early Childhood Research Quarterly*, 7(4), 551-63.
- Repp, A. C., Nieminen, G. S., Olinger, E., & Brusca, R. (1988). Direct observation: Factors affecting the accuracy of observers. *Exceptional Children*, 55(1), 29-36.
- Rettig, M. (1998). Environmental influences on the play of young children with disabilities. *Education and Training in Mental Retardation and Developmental Disabilities*, 33(2), 189-194.
- Rettig, M., Kallam, M., & McCarthy-Salm, K. (1993). The effect of social and isolate toys on the social interactions of preschool-aged children. *Education and Training in Mental Retardation and Developmental Disabilities*, 28(5), 252-56.
- Richters, J. E., & Cicchetti, D. (1993a). Mark Twain meets DSM-III-R: Conduct disorder, development, and the concept of harmful dysfunction. *Development and Psychopathology*, 5, 5-29.
- Richters, J. E., & Zahn-Waxler, C. (1988). The infant day care controversy: Current status and future directions. *Early Childhood Research Quarterly*, 3, 319-336.
- Ricks, M. H. (1985). The social transmission of parental behavior: Attachment across generations. In I. Bretherton & E. Waters (Eds.), *Monographs of the Society for Research in Child Development* .50, 211-230.
- Rimland, B. (1983). The Feingold diet: An assessment of the reviews by Mattes, by Kavale and Forness and others. *Journal of Learning Disabilities*, 16(6), 331-333.
- Robertson, A. (1982). Day care and children's responsiveness to adults. In E. F. Zigler & E. W. Gordon (Eds.), *Day Care: Scientific and Social Policy Issues* (pp. 152-173). Boston: Auburn House Publishing Company.
- Robins, L. N. (1991). Conduct Disorder. *Journal of Child Psychology and Psychiatry and Allied Disciplines*, 32, 193-212.
- Rodd, J. (1996). *Understanding Young Children's Behaviour: A guide for early childhood professionals*. Sydney: Allen & Unwin.

- Rodd, J., & Clyde, M. (1991). A Code of Ethics: Who needs it? *Australian Journal of Early Childhood*, 16(1), 24-34.
- Rodd, J., & Holland, A. (1990). Am I doing the right thing? What else could I do?: Approaches to child management. *Australian Journal of Early Childhood*, 15(4), 28-34.
- Rogosa, D., Floden, R., & Willett, J. B. (1984). Assessing the stability of teacher behavior. *Journal of Educational Psychology*, 76(6), 1000-1027.
- Rohe, W., & Patterson, A. H. (1974). The effects of varied levels of resources and density on behavior in a day care center. In D. H. Carson (Ed.), *Man-Environment Interactions: Evaluations and Applications, Part II* (pp. 161-171). Stroudsburg PA: Dowden, Hutchinson & Ross.
- Rolfe, S. A. (2000, Autumn). The brain research phenomenon. *Every Child*, 6(1), pp. 8-9.
- Rolfe, S. A., & Crossley, S. A. (1997). Using the method of ethology to study Australian preschool children's play and social behaviour. *Australian Journal of Early Childhood*, 22(1), 6-11.
- Roopnarine, J. L. (1984). Sex-typed socialization in mixed-age preschool classrooms. *Child Development*, 55, 1078-1084.
- Roper, R., & Hinde, R. A. (1978). Social behavior in a play group: Consistency and complexity. *Child Development*, 49, 570-579.
- Rose, S. A., Feldman, J. F., Rose, S. L., Wallace, I. F., & McCarton, C. (1992). Behavior problems at 3 and 6 years: Prevalence and continuity in full-terms and preterms. *Development and Psychopathology*, 4(3), 361-374.
- Rosén, L. A., Booth, S. R., Bender, M. E., McGrath, M. L., Sorrell, S., & Drabman, R. S. (1988). Effects of sugar (sucrose) on children's behavior. *Journal of Consulting and Clinical Psychology*, 56(4), 583-589.
- Rothbaum, F., Rosen, K. S., Pott, M., & Beatty, M. (1995). Early parent-child relationships and later problem behavior: A longitudinal study. *Merrill-Palmer Quarterly*, 41(2), 133-151.
- Rotter, J. B. (1981). The psychological situation in social-learning theory. In D. Magnusson (Ed.), *Toward a Psychology of Situations: An Interactional Perspective* (pp. 169-178). New Jersey: Lawrence Erlbaum Associates.
- Rotton, J., & Frey, J. (1985). Air pollution, weather, and violent crimes: Concomitant time-series analysis of archival data. *Journal of Personality and Social Psychology*, 49, 1207-1220.
- Routh, D. K., Schroeder, C. S., & O'Tuama, L. A. (1974). Development of activity level in children. *Developmental Psychology*, 10(2), 163-168.
- Rutter, M. (1982). Social-emotional consequences of day care for preschool children. In E. F. Zigler & E. W. Gordon (Eds.), *Day Care: Scientific and social policy issues* (pp. 3-32). Boston: Auburn House.

- Rutter, M. (1990). Commentary: Some focus and process considerations regarding effects of parental depression on children. *Developmental Psychology*, 26(1), 60-67.
- Rutter, M., & Garmezy, N. (1983). Developmental Psychopathology. In P. H. Mussen (Ed.), *Handbook of Child Psychology* (4th ed., Vol. 4, pp. 775-911). New York: John Wiley & Sons.
- Rutter, M., Tizard, J., & Whitmore, R. (1979). *Education, health, and behavior*. New York: John Wiley & Sons.
- Saifer, S. (1993). *Practical Solutions to Practically Every Problem: The Early Childhood Teacher's Manual (Australian ed.)*. Castle Hill NSW: Pademelon Press.
- Sameroff, A. J., & Fiese, B. H. (1990). Transactional regulation and early intervention. In S. J. Meisels & J. P. Shonkoff (Eds.), *Handbook of early childhood intervention* (pp. 119-149). New York: Cambridge University Press.
- Sandoval, J. (1981). Format effects in two teacher rating scales of hyperactivity. *Journal of Abnormal Child Psychology*, 9(1), 203-218.
- Sanson, A., & Di Muccio, C. (1993). The influence of aggressive and neutral cartoons and toys on the behaviour of preschool children. *Australian Psychologist*, 28(2), 93-99.
- Sanson, A. V., Prior, M., Smart, D. F., & Oberklaid, F. (1993). Gender differences in aggression in childhood: implications for a peaceful world. *Australian Psychologist*, 28(2), 86-92.
- Sanson, A. V., Smart, D. F., Prior, M., & Oberklaid, F. (1993). Precursors of hyperactivity and aggression. *Journal of the American Academy of Child and Adolescent Psychiatry*, 32(6), 1207-1216.
- Sanson, A. V., Smart, D. F., Prior, M., Oberklaid, F., & Pedlow, R. (1994). The structure of temperament from age 3 to 7 years: age, sex, and sociodemographic influences. *Merrill-Palmer Quarterly*, 40(2), 233-252.
- Sarason, I. G., & Sarason, B. R. (1983). Person-situation interactions in human development: Cognitive factors and coping strategies. In D. Magnusson & V. L. Allen (Eds.), *Human Development: An Interactional Perspective* (pp. 187-198). New York: Academic Press.
- Satter, E. (1999, November 1). Iron: helping your child get enough. *Clinical Reference Systems*, p. 798.
- Scarr, S. (1998). American child care today. *American Psychologist*, 53(2), 95-108.
- Schachar, R., Sandberg, S., & Rutter, M. (1986). Agreement between teachers' ratings and observations of hyperactivity, inattentiveness, and defiance. *Journal of Abnormal Child Psychology*, 14(2), 331-345.
- Schindler, P. J., Moely, B. E., & Frank, A. L. (1987). Time in day care and social participation of young children. *Developmental Psychology*, 23(2), 255-261.

- Schleifer, M., Weiss, G., Cohen, N., Elman, M., Cvejic, H., & Kruger, E. (1975). Hyperactivity in preschoolers and the effects of methylphenidate. *American Journal of Orthopsychiatry*, 45(1), 38-50.
- Schmitz, S., Fulker, D. W., & Mrazek, D. A. (1995). Problem behavior in early and middle childhood: An initial behavior genetic analysis. *Journal of Child Psychology and Psychiatry and Allied Disciplines*, 36(8), 1443-1458.
- Schneider, A. (1986). Children with special needs in day care: A service delivery model. *Australian Journal of Early Childhood*, 11(1), 43-48.
- Schuster, S. O., Murrell, S. A., & Cook, W. A. (1980). Person, setting, and interaction contributions to nursery school social behavior patterns. *Journal of Personality*, 48(1), 24-37.
- Schwartz, M. S., & Schwartz, C. G. (1969). Problems in participant observation. In G. J. McCall & J. L. Simmons (Eds.), *Issues in Participant Observation: A Text and Reader* (pp. 89-104). New York: Random House.
- Schwarz, J. C., Strickland, R. G., & Krolick, G. (1974). Infant day care: Behavioral effects at preschool age. *Developmental Psychology*, 10(4), 502-506.
- Sciarillo, W. G., Alexander, G., & Farrell, K. P. (1992). Lead exposure and child behavior. *American Journal of Public Health*, 82(10), 1356-1360.
- Scott, C. (1998). An exploration of the development of young children's understanding of time concepts. *Australian Journal of Early Childhood*, 23(2), 6-12.
- Scott-Little, M. C., & Holloway, S. D. (1992). Child care providers' reasoning about misbehaviors: Relation to classroom control strategies and professional training. *Early Childhood Research Quarterly*, 7(4), 595-606.
- Sebastian, P. (1986). *Handle with care: A guide to early childhood administration*. Melbourne: AE Press.
- Sebastian, P. (1988). Toddler environments: Planning to meet their needs. In A. Stonehouse (Ed.), *Trusting Toddlers* (pp. 33-44). Canberra: Australian Early Childhood Association.
- Sells, S. B. (1963). An interactionist looks at the environment. *American Psychologist*, 18, 696-702.
- Shaheen, S. J. (1984). Neuromaturation and behavior development: The case of childhood lead poisoning. *Developmental Psychology*, 20(4), 524-550.
- Shantz, C. U. (1975). The development of social cognition. In E. M. Hetherington (Ed.), *Review of Child Development Research* (Vol. 5, pp. 257-305). Chicago: University of Chicago Press.
- Shantz, C. U. (1987). Conflicts between children. *Child Development*, 58, 283-305.
- Sharp, D., Hay, D. F., Pawlby, S., Schmucker, G., Allen, H., & Kumar, R. (1995). The impact of postnatal depression on boys' intellectual development. *Journal of Child Psychology and Psychiatry and Allied Disciplines*, 36(8), 1315-1336.

- Shaw, D. S., Vondra, J. I., Hommerding, K. D., Keenan, K., & Dunn, M. (1994). Chronic family adversity and early child behavior problems: A longitudinal study of low income families. *Journal of Child Psychology and Psychiatry and Allied Disciplines*, 35(6), 1109-1122.
- Shellshear, I. (1988). Effects of salbutamol. *Medical Journal of Australia*, 149(1), 56.
- Shepherd, W., & Eaton, J. (1997, September). Creating environments that intrigue and delight children and adults. *Child Care Information Exchange*, (9), pp. 42-47.
- Sherburne, S., Utley, B., McConnell, S., & Gannon, J. (1988). Decreasing violent or aggressive theme play among preschool children with behavior disorders. *Exceptional Children*, 55(2), 166-172.
- Sherman, L. W. (1975). An ecological study of glee in small groups of preschool children. *Child Development*, 46, 53-61.
- Sherman, L. W., & Oppenheimer, L. (1989). Affordance in preschool lesson structures and socially competent task-related behaviors: A Gibsonian ecological re-interpretation, *Paper presented at the International Conference on Event Perception and Action* Oxford: (ERIC Documents Reproduction Service No. ED 346 948).
- Sims, M. (1997). Gender segregation in child care: What is it and what can we do about it? *Australian Journal of Early Childhood*, 22(3), 35-39.
- Sims, M., & Hutchins, T. (1996). The many faces of child care: Roles and functions. *Australian Journal of Early Childhood*, 21(1), 21-26.
- Skinner, B. F. (1953). *Science and Human Behavior*. London: Collier-Macmillan.
- Slaughter-Defoe, D. T. (1995). Revisiting the concept of socialization. *American Psychologist*, 50(4), 276-286.
- Slee, P., Murray-Harvey, R., & Ward, H. (1996, Summer). Stressed out and growing up. *Every Child*, 2(4), pp. 18-19.
- Slee, P. T., & Cross, D. G. (1990). A comparative study of mother and child characteristics in families of normal and behaviour problem children. *Australian Journal of Early Childhood*, 15(4), 36-40.
- Sluckin, A. M., & Smith, P. K. (1977). Two approaches to the concept of dominance in preschool children. *Child Development*, 48, 917-923.
- Smith, C., & Lloyd, B. (1978). Maternal behavior and perceived sex of infant: revisited. *Child Development*, 49, 1263-1265.
- Smith, P. K., & Connolly, K. J. (1980). *The Ecology of Preschool Behaviour*. Cambridge: Cambridge University Press.
- Snodgrass, J., Russell, J. A., & Ward, L. M. (1988). Planning, mood and place-liking. *Journal of Environmental Psychology*, 8, 209-222.

- Snyder, J., Edwards, P., McGraw, K., Kilgore, K., & Holton, A. (1994). Escalation and reinforcement in mother-child conflict: Social processes associated with the development of physical aggression. *Development and Psychopathology*, 6, 305-321.
- Sommer, R. (1969). *Personal Space: The Behavioral Basis of Design*. New Jersey: Prentice-Hall.
- Sonuga-Barke, E. J. S., Lamparelli, M., Stevenson, J., Thompson, M., & Henry, A. (1994). Behaviour problems and pre-school intellectual attainment: the associations of hyperactivity and conduct problems. *Journal of Child Psychology and Psychiatry and Allied Disciplines*, 35(5), 949-960.
- Sorensen, G. (1997, Autumn). Dealing with conflicts in the workplace. *Rattler*, (41), pp. 5-6.
- Soto, L. D., Fernandez, C., & Cantieri, P. (1990). Towards an ecological approach of observing in early childhood settings. *Australian Journal of Early Childhood*, 15(2), 19-24.
- Spivack, G., Marcus, J., & Swift, M. (1986). Early classroom behaviors and later misconduct. *Developmental Psychology*, 22(1), 124-131.
- Sroufe, L. A. (1988). A developmental perspective on day care. *Early Childhood Research Quarterly*, 3, 283-291.
- Stake, R. E. (1995). *The Art of Case Study*. Thousand Oaks CA: Sage.
- Stallard, P. (1993). The behaviour of 3-year-old children: Prevalence and parental perception of problem behaviour: A research note. *Journal of Child Psychology and Psychiatry and Allied Disciplines*, 34(3), 413-421.
- Stebbins, R. A. (1971). The meaning of disorderly behavior: Teacher definitions of a classroom situation. *Sociology of Education*, 44(2), 217-236.
- Stebbins, R. A. (1973). Physical context influences on behavior: The case of classroom disorderliness. *Environment and Behavior*, 5(3), 291-314.
- Stein, A. H. (1996). The self-organizing psyche: Nonlinear and neurobiological contributions to psychoanalysis. In W. Sulis & A. Combs (Eds.), *Nonlinear dynamics in human behavior* (Vol. 1, pp. 256-275). Singapore: World Scientific Publishing.
- Stephen, H. (1993). *Conflict Resolution with Young Children*. AECA Resource Book Series, No. 2. Canberra: Australian Early Childhood Association.
- Stephens, K. (1996a, May). YOU can make circle time developmentally appropriate. *Child Care Information Exchange*, (109), pp. 40-43.
- Stephens, K. (1996b, September). Responding professionally and compassionately to challenging behavior. *Child Care Information Exchange*, (111), pp. 45-48.
- Stern, G. G. (1964). B=f(P,E). *Journal of Personality Assessment*, 28(2), 161-168.

- Sternberg, K. J., Lamb, M. E., Hwang, C., Broberg, A., Ketterlinus, R. D., & Bookstein, F. L. (1991). Does out-of-home care affect compliance in preschoolers? *International Journal of Behavioral Development*, 14(1), 45-65.
- Stocker, C. M. (1995). Differences in mothers' and fathers' relationships with siblings: Links with Children's behavior problems. *Development and Psychopathology*, 7, 499-513.
- Stokols, D. (1981). Group x place transactions: Some neglected issues in psychological research on settings. In D. Magnusson (Ed.), *Toward a Psychology of Situations: An Interactional Perspective* (pp. 393-415). New Jersey: Lawrence Erlbaum Associates.
- Stokols, D. (1987). Conceptual strategies of environmental psychology. In D. Stokols & I. Altman (Eds.), *Handbook of Environmental Psychology* (Vol. 1, pp. 41-70). New York: John Wiley and Sons.
- Stokols, D. (1990). Instrumental and spiritual views of people-environment relations. *American Psychologist*, 45(5), 641-646.
- Stonehouse, A. (1994). Is appropriate practice the same whatever the setting? In A. Stonehouse (Ed.), *Not Just Nice Ladies: A Book of Readings on Early Childhood Care and Education* (pp. 74-85). Castle Hill, NSW: Pademelon Press.
- Stonehouse, A., & Creaser, B. (1991). A Code of Ethics for the Australian early childhood profession: background and overview. *Australian Journal of Early Childhood*, 16(1), 7-10.
- Stormont-Spurgin, M., & Zentall, S. (1995). Contributing factors in the manifestation of aggression in preschoolers with hyperactivity. *Journal of Child Psychology and Psychiatry and Allied Disciplines*, 36(3), 491-509.
- Stränger, J., & Hommel, B. (1995). The perception of action and movement. In W. Prinz & B. Bridgeman (Eds.), *Handbook of Perception and Action* (Vol. 1, pp. 397-441). New York: Academic Press.
- Strassberg, Z., Dodge, K. A., Pettit, G. S., & Bates, J. E. (1994). Spanking in the home and children's subsequent aggression towards kindergarten peers. *Developmental Psychopathology*, 6(3), 445-462.
- Stratton, P., & Hayes, N. (1988). *A Student's Dictionary of Psychology*. London: Edward Arnold.
- Strauss, A., Schatzman, L., Bucher, R., Ehrlich, D., & Sabshin, M. (1969). Field Tactics. In G. J. McCall & J. L. Simmons (Eds.), *Issues in Participant Observation: A Text and Reader* (pp. 70-72). New York: Random House.
- Strayer, F., & Strayer, J. (1976). An ethological analysis of social agonism and dominance relations among preschool children. *Child Development*, 46, 980-989.
- Streissguth, A. N., Martin, D. C., Barr, H. M., Sandman, B. M., Kirchner, G. L., & Darby, B. L. (1984). Intrauterine alcohol and nicotine exposure: Attention and reaction time in 4-year-old children. *Developmental Psychology*, 20(4), 533-541.

- Styczynski, L. E., & Langlois, J. H. (1977). The effects of familiarity on behavioral stereotypes associated with physical attractiveness in young children. *Child Development*, 48, 1137-1141.
- Sullivan, L. (1997). Child care - feminism and middle-class culture. In K. Healey (Ed.), *Child Care* (pp. 25-26). Sydney: The Spinney Press.
- Sundstrom, E., Town, J. P., Rice, R. W., Osborn, D. P., & Brill, M. (1994). Office noise, satisfaction and performance. *Environment and Behavior*, 26(2), 195-222.
- Susa, A. M., & Benedict, J. O. (1994). The effects of playground design on pretend play and divergent thinking. *Environment and Behavior*, 26(4), 560-579.
- Susman, E. J. (1993). Psychological, contextual, and psychobiological interactions: a developmental perspective on conduct disorders. *Development and Psychopathology*, 5, 181-189.
- Swedo, S. E., Allen, A. J., Glod, C. A., Clarke, C. H., Teicher, M. H., Richter, D., Hoffman, C., Hamburger, S. D., Dow, S., Brown, C., & Rosenthal, N. E. (1997). A controlled trial of light therapy for the treatment of pediatric seasonal affective disorder. *Journal of the American Academy of Child and Adolescent Psychiatry*, 36(6), 816-821.
- Sylva, K., Roy, C., & Painter, M. (1980). *Childwatching at Playgroup and Nursery School*. London: Grant McIntyre.
- Talay-Ongan, A. (2000). Neuroscience and early childhood: A necessary partnership. *Australian Journal of Early Childhood*, 25(2), 28-33.
- Tannock, R. (1998). Attention Deficit Hyperactivity Disorder: Advances in cognitive, neurobiological, and genetic research. *Journal of Child Psychology and Psychiatry and Allied Disciplines*, 39(1), 65-99.
- Taylor, J. C., & Romanczyk, R. G. (1994). Generating hypotheses about the function of student problem behavior by observing teacher behavior. *Journal of Applied Behavior Analysis*, 27(2), 251-265.
- Taylor, M. (1997). The role of creative control and culture in children's fantasy/reality judgements. *Child Development*, 68(6), 1015-1017.
- Thompson, D. J. (1996). The tape recorder as a mediating factor in research. *Australian Educational Researcher*, 23(3), 1-12.
- Thompson, R. A. (1988). The effects of infant day care through the prism of attachment theory: A critical appraisal. *Early Childhood Research Quarterly*, 3, 273-282.
- Thomson, G. O. B., Raab, G. M., Hepburn, W. S., Hunter, R., Fulton, M., & Laxen, D. P. H. (1989). Blood-lead levels and children's behaviour - results from the Edinburgh Lead Study. *Journal of Child Psychology and Psychiatry and Allied Disciplines*, 30(4), 515-528.
- Thornburg, K. R., Pearl, P., Crompton, D., & Ispa, J. M. (1990). Development of kindergarten children based on child care arrangements. *Early Childhood Research Quarterly*, 5, 27-42.

- Tieger, T. (1980). On the biological basis of sex differences in aggression. *Child Development*, 51, 943-963.
- Tinbergen, N. (1968). On war and peace in animals and man. *Science*, 160, 1411-1418.
- Tisak, M. S., Nucci, L. P., & Jankowski, A. M. (1996). Preschool children's social interactions involving moral and prudential transgressions: An observational study. *Early Education and Development*, 7(2), 137-148.
- Touchette, P. E., MacDonald, R. F., & Langer, S. N. (1985). A scatter plot for identifying stimulus control of problem behavior. *Journal of Applied Behavior Analysis*, 18, 343-351.
- Trancik, A. M., & Evans, G. W. (1995). Spaces fit for children: Competency in the design of daycare center environments. *Children's Environments*, 12(3), 311-319.
- Tremblay, R. E., Masse, B., Perron, D., Leblanc, M., Schwartzman, A. E., & Ledingham, J. E. (1992). Early disruptive behavior, poor school achievement, delinquent behavior, and delinquent personality: Longitudinal analyses. *Journal of Consulting and Clinical Psychology*, 60(1), 64-72.
- Turner, P. J. (1991). Relations between attachment, gender, and behavior with peers in preschool. *Child Development*, 62(6), 1475-1488.
- Vasta, R. (1992). Preface. In R. Vasta (Ed.), *Six Theories of Child Development* (pp. ix-x). London: Jessica Kingsley.
- Vaughn, B. E., & Langlois, J. H. (1983). Physical attractiveness as a correlate of peer status and social competence in preschool children. *Developmental Psychology*, 19(4), 561-567.
- Vaughn, B. E., & Waters, E. (1981). Attention structure, sociometric status, and dominance: interrelations, behavioral correlates, and relationships to social competence. *Developmental Psychology*, 17, 275-288.
- Vidich, A. J. (1969). Participant observation and the collection and interpretation of data. In G. J. McCall & J. L. Simmons (Eds.), *Issues in Participant Observation: A Text and Reader* (pp. 78-87). New York: Random House.
- Viemerö, V. (1992). Changes in patterns of aggressiveness among Finnish girls over a decade. In K. Björkqvist & P. Niemelä (Eds.), *Of Mice and Women: Aspects of Female Aggression* (pp. 99-106). San Diego: Academic Press.
- Vlietstra, A. G. (1981). Full- versus half-day preschool attendance: Effects in young children as assessed by teacher ratings and behavioral observations. *Child Development*, 52, 603-610.
- Wahler, R. G. (1990). Who is driving the interactions? A commentary on "Child and parent effects in boys' conduct disorder". *Developmental Psychology*, 26(5), 702-704.
- Waldman, I. D. (1996). Aggressive boy's hostile perceptual and response biases: The role of attention and impulsivity. *Child Development*, 67(3), 1015-1033.

- Walling, L. S. (1977). Planning an environment - a case study. In S. Kritchevsky, E. Prescott, & L. Wallings (Eds.), *Planning Environments for Young Children: Physical Space* (2nd ed., pp. 44-55). Washington, DC: National Association for the Education of Young Children.
- Walsh, P. (1989, Summer). Providing a quality environment in the child care centre. *Rattler*, (12), pp. 18-22.
- Walsh, P. (1997, Winter). Are we providing children with the right physical environments? *Rattler*, (42), pp. 14-15.
- Wangmann, J. (1988, Winter). The floor and the ceiling: Regulations and standards for children's services. *Rattler*, (6), pp. 4-5.
- Warren, K. (1996, Winter). Preschool children and the superheroes: Some gender implications. *Rattler*, (38), pp. 14-15.
- Waters, E., Posada, G., Crowell, J., & Lay, K. (1993). Is attachment theory ready to contribute to our understanding of disruptive behavior problems? *Development and Psychopathology*, 5, 215-224.
- Watkins, K. P., & Durant, L. (1992). *Complete Early Childhood Behavior Management Guide*. West Nyack, NY: The Centre for Applied Research in Education.
- Watts, B. H. (1987). Changing families - changing children's services. Where are the children going? Are kindergarten teachers ready to go too? *Australian Journal of Early Childhood*, 12(3), 4-12.
- Weatherburn, D., & Lind, B. (1998). *Poverty, parenting, peers and crime-prone neighbourhoods*. Canberra: Australian Institute of Criminology.
- Weinstein, C. S., & David, T. G. (1987). Preface. In C. S. Weinstein & T. G. David (Eds.), *Spaces for Children: The Built Environment and Child Development* (pp. xiii-xv). New York: Plenum Press.
- Wellisch, M. (1996, Autumn). Staff appraisals the painless way. *Rattler*, (37), pp. 21-23.
- Wener, R. (1989). Advances in evaluation of the built environment. In E. H. Zube & G. T. Moore (Eds.), *Advances in environment, behaviour, and design* (Vol. 2, pp. 287-313). New York: Plenum Press.
- Werner, S. (1996, May). Need a barometer for assessing the climate of your centre? *Child Care Information Exchange*, (109), pp. 29-33.
- Wicker, A. W. (1987). Behavior settings reconsidered: Temporal stages, resources, internal dynamics, context. In D. Stokols & I. Altman (Eds.), *Handbook of Environmental Psychology* (Vol. 1, pp. 613-653). New York: John Wiley and Sons.
- Wilder, S. (1996, Winter). Befriending power ranger number three... *Rattler*, (38), pp. 12-13.
- Willems, E. P. (1974). Behavioral technology and behavioral ecology. *Journal of Applied Behavioral Analysis*, 7(1), 151-165.

- Willems, E. P. (1977). Relations of models to methods in behavioral ecology. In H. McGurk (Ed.), *Ecological Factors in Human Development* (pp. 21-35). New York: North-Holland Publishing.
- Wittmer, D. S., & Honig, A. S. (1994). Encouraging positive social development in young children. *Young Children*, 49(5), 4-12.
- Wohlwill, J. (1983). Physical and social environment as factors in development. In D. Magnusson & V. L. Allen (Eds.), *Human Development: An Interactional Perspective* (pp. 111-129). New York: Academic Press.
- Wohlwill, J. F., & Heft, H. (1977). Environments fit for the developing child. In H. McGurk (Ed.), *Ecological Factors in Human Development* (pp. 125-137). New York: North-Holland Publishing.
- Wohlwill, J. F., & Heft, H. (1987). The physical environment and the development of the child. In D. Stokols & I. Altman (Eds.), *Handbook of Environmental Psychology* (Vol. 1, pp. 281-328). New York: John Wiley and Sons.
- Wolfe, M., & Rivlin, L. G. (1987). The institutions in children's lives. In C. S. Weinstein & T. G. David (Eds.), *Spaces for Children: The Built Environment and Child Development* (pp. 89-114). New York: Plenum Press.
- Wolraich, M. (1998). Attention deficit hyperactivity disorder. *Professional Care of Mother and Child*, 8(2), 35-37.
- Woolley, J. D. (1997). Thinking about fantasy: Are children fundamentally different thinkers and believers from adults? *Child Development*, 68(6), 991-1011.
- Wright, H. F. (1967). *Recording and Analyzing Child Behavior*. New York: Harper & Row.
- Wright, H. F., Barker, R. G., Nall, J., & Schoggen, P. (1951). Toward a psychological ecology of the classroom. *Journal of Educational Research*, 45, 187-200.
- Wright, R. O., Bhole, G., Pilipovic, L., Amarasiriwardena, C., Hu, H., & Maher, T. (2000). Effects of iron deficiency and lead poisoning on memory and dopamine concentration. *Journal of Toxicology: Clinical Toxicology*, 38(5), 530.
- Wyver, S. R., & Spence, S. H. (1995). Cognitive and social play of Australian preschoolers. *Australian Journal of Early Childhood*, 20(2), 42-46.
- Yin, R. K. (1994). *Case Study Research* (2nd ed.). Applied Social Research methods Series. Thousand Oaks CA: Sage.
- Youcha, V., & Wood, K. (1997, March). Enhancing the environment for ALL children. *Child Care Information Exchange*, (114), pp. 45-49.
- Zahn-Waxler, C. (1993). Warriors and worriers: Gender and psychopathology. *Development and Psychopathology*, 5, 79-89.
- Zahn-Waxler, C., Cole, P. M., Welsh, J. D., & Fox, N. A. (1995). Psychophysiological correlates of empathy and prosocial behaviors in preschool children with behavior problems. *Development and Psychopathology*, 7, 27-48.

- Zahn-Waxler, C., Iannotti, R. J., Cummings, E. M., & Denham, S. (1990). Antecedents of problem behaviors in children of depressed mothers. *Development and Psychopathology*, 2(3), 271-291.
- Zajonc, R. B., Markus, H., & Markus, G. B. (1979). The birth order puzzle. *Journal of Personality and Social Psychology*, 37(8), 1325-1341.
- Zeece, P. D., & Crase, S. J. (1982). Effects of verbal warning on compliant and transition behavior of preschool children. *Journal of Psychology*, 112, 269-274.
- Zeegers, S. K., Readdick, C. A., & Hansen-Gandy, S. (1994). Daycare children's establishment of territory to experience privacy. *Children's Environments*, 11(4), 265-271.
- Zigler, E. F., & Turner, P. (1982). Parents and day care workers: a failed partnership? In E. F. Zigler & E. W. Gordon (Eds.), *Day Care: Scientific and social policy issues* (pp. 174-182). Boston: Auburn House.
- Zoccolillo, M. (1993). Gender and the development of conduct disorder. *Development and Psychopathology*, 5, 65-78.