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RESEARCH PAPER

The academic outcomes of first-in-family in an Australian university: An exploratory study

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Although the first-generation and first-in-family status (FIF) of university students has been of intense interest in the USA, it has received very little consideration in Australia. The present research redressed this imbalance by investigating the academic outcomes of FIF undergraduate students at a large, public, Australian university. Undergraduate students (N = 227) who were enrolled in education, nursing and liberal arts degrees completed an online survey. Data are representative of typical gender enrolment patterns for these degrees. In contrast to US research, there was no clear relationship between socioeconomic status and FIF status in this sample. Consistent with US research, FIF students had poorer academic outcomes than non-FIF students. However, this difference was only significant after the first-year of study when students were less likely to receive scaffolded learning support within courses. FIF students were more likely than non-FIF students to seek support from university services. The implications of these results for Australian universities are considered.

Keywords: first in family; under-presented students; academic outcomes

Introduction

The massification of higher education (HE) is a defining feature of the last 50 years (Teichler, 2001, 2003). Massification includes both an increase in the proportion of the population participating in HE and increased diversity of the student population. The focus on diversity has led to increased policy and research attention being paid to university students who have not traditionally been represented in higher education. These 'non-traditional' students are categorised in terms of their background characteristics, for example: low socioeconomic status (SES); membership of particular ethnic and cultural groups; non-urban dwelling; mature age; and first-in-family university status (Schuetze & Slowey, 2002). Internationally, the higher education policies of different countries (and their evidence-base) have focused on different categories of non-traditional student. For example, the UK New Labour government's (1997- 2010) widening participation policy focused on raising the aspirations of and participation in HE for students from low SES backgrounds (Gorard et al., 2006), while in Indian HE policy the caste system has been targeted (Burke, 2012). In the US, categorisations of the heterogeneity of the student population are based on SES, ethnic minority and first-generation status (Pascarella, Pierson, Wolniak, & Terenzini, 2004). In Australia, the Labor government (2008-2013) focused almost solely on increasing the participation of low SES students (Gale, 2011).

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Policy categorisations of types of non-traditional students influence government and institutional data collection. This can obscure the emergence of a nuanced picture of how aspects of social differentiation (for example, gender, social class, ethnicity and geographic location) interact to produce the experiences of non-traditional students. An over-reliance on a limited set of policy categories in research can also limit the picture. For example, for over 30 years, the first-generation status of college students has received considerable research attention in the US, with the literature indicating that they have lower retention, poorer achievement and less academic and social integration than their continuing-generation peers (Aspelmeier, Love, McGill, Elliott, & Pierce, 2012; Collier & Morgan, 2008; Pascarella et al., 2004; Rubin, 2012a). Despite these findings, there is relatively little research that explicitly focuses on first-generation students in their own right (see Thomas & Quinn, 2007). There have been few studies related to this in the Australian context (Devlin & O'Shea, 2012; Krause, Hartley, James, & McInnis, 2005; Luzeckyj, King, Scutter, & Brinkworth, 2011; O'Shea, 2013).

The present research was an exploratory study that aimed to redress this research lacuna by providing a focused investigation of the academic outcomes of Australian undergraduate students enrolled in programs which traditionally have high enrolments of first in family (FIF). In this case, degrees in nursing, liberal arts and education were targeted as they are often pathways for social mobility (Abbott-Chapman, 2011). It should be noted that these degrees often attract females (Blackmore, 1999). Although females have historically been under-represented in higher education enrolments generally, this is no longer the case in countries including England (HEFCE, 2013) and Australia (Department of Education, 2013). Teaching and nursing are also common choices for FIF students due to familiarity with the profession, attainable entry requirements and the perception that these professions provide stable employment (Snell, 2008). Australia's 2009 Labour Government acknowledged this, signalling that it would reduce HE debts for those studying teaching and nursing (Commonwealth of Australia, 2009). This makes such programs appropriate contexts for examining the experiences of non-traditional students.

We begin with a review of the US literature on first-generation students and the limited Australian literature on FIF. We then report on our exploratory study of FIF students, focusing on their academic outcomes and learning experiences. We conclude with a discussion of factors that might account for differences in the academic outcomes and learning experiences of FIF and non-FIF students. The present study contributes to a deeper understanding of FIF status in the Australian higher education context, an area that is not well understood.

United States research on first-generation students

Definitions of what constitutes first-generation or first-in-family status vary (Aspelmeier et al., 2012; McConnell, 2000). In the US context, the term *first-generation* is most frequently used, while in the UK and Australia the term *first-in-family* (FIF) is more common. In the US, definitions of first-generation status vary. The two most common are: (a) students whose parents have not graduated from college or university and, (b) students who do not have any family (immediate and/or extended) who have attended university or earned a degree (Ishitani, 2006; Jehangir, 2010). The present study uses the term FIF rather than first-generation, and applies the second definition. When discussing the US literature, however, we use the term First Generation as that is most commonly used in that setting.

The US literature has identified differences between first- and continuing-generation students. Pascarella and colleagues (2004) suggested that this research falls into three categories: (1) pre-university, (2) starting university, and (3) finishing university and beyond. The pre-university category consists of studies that focus on factors such as demographic characteristics, secondary school preparation, and college choice and expectations. Pascarella et al. (2004) concluded that first-generation students are at a relative disadvantage in terms of knowledge about post-secondary education options, educational expectations and plans and academic preparation. In their summary of the pre-college literature, Aspelmeier et al. (2012) highlighted that first-generation students are more likely than continuing-generation students to come from lower SES backgrounds and certain ethnic minority groups; are generally older; and tend to have more negative attitudes towards their academic potential and lower academic self-efficacy.

Pascarella et al.'s (2004) second category of US research focuses on the transition from high school to college. They suggested that first-generation students have a more difficult transition to college and are confronted with multiple issues related to cultural, social and academic transition. First-generation students report feeling less prepared for and knowledgeable about college and more worried about failing than continuing generation students (Aspelmeier et al., 2012; Padgett, Johnson, & Pascarella, 2012). Aspelmeier et al. (2012) highlighted two studies that indicated only modest differences in adjustment to college between first-and continuing-generation students; however, they concluded that even small effects may have 'practical significance when they reflect serious outcomes that are relevant to large proportions of the population'(p. 758).

The third category of research identified by Pascarella et al. (2004) examines the persistence, academic achievement, degree attainment and labour market outcomes of first-generation students. First-generation students have higher rates of attrition from four-year degrees, and are less likely to be on track to attain a bachelor degree after three years (Pascarella et al., 2004). Nunez et al. (1998) reported that first-generation students were 40% more likely to drop-out of college within five years than their continuing-generation peers. First-generation students exhibit greater confusion regarding expectations related to academic workload and assessment (Collier & Morgan, 2008); are less likely to seek help from faculty (Jenkins, Miyazaki, & Janosik, 2009); and may not gain maximum benefit from interacting with faculty (Padgett et al., 2012).

There is contradictory evidence regarding differences in college achievement between first- and continuing-generation students. Some studies found no differences (Inman & Mayes, 1999; Strage, 1999) or that Grade Point Average (GPA) was influenced by prior academic preparation (Choy, 2001). Other studies indicated lower GPAs for first-generation students (Martinez, Sher, Krull, & Wood, 2009; Pascarella et al., 2004).

Australian research on FIF university students

The limited research on FIF students in the Australian context has covered aspects related to decision-making and enrolment patterns as well as attributions and indicators of success. A survey of 3,091 commencing university students in three South Australian universities found that 41% were FIF (Luzeckyj et al., 2011). These students were more likely to be enrolled in certain degrees (education, economics and science as opposed to law, medicine and engineering), be older, and come from a rural background. The survey found that FIF students based their expectations of university on school counsellors, teachers,

university recruitment information and websites, whereas non-FIF students were informed by parents, friends and siblings. FIF students were more likely to have made their decision to go to university towards the end of high school than non-FIF students.

Krause et al. (2005) did not research FIF specifically, but in their large scale study of first year experience they did report two findings related to FIF students. They found that there were no significant differences in comprehension and coping between FIF students and other students. However, FIF students showed above average engagement in online activity. This was based on indications of students' use of email to contact teaching staff and friends in the cohort, online discussion groups and web-based resources or course specific information.

Devlin and O'Shea (2011, 2012) conducted interviews with 53 students who were low SES and FIF. These students attributed their success at university to their own behaviour and attitude and teacher characteristics such as availability, enthusiasm, dedication and ongoing communication with students (Devlin & O'Shea, 2012). Another recent qualitative study focused on the experiences of 17 first-year, female FIF students (O'Shea, 2013). Narratives were characterised by turning points which were related to personal transformation and learning. Turning points related to three themes including being enrolling in university study, persisting with university studies and changes in their thinking.

Research aims and hypotheses

The present research aimed to examine the influence of FIF status on the academic outcomes of students enrolled in a large, regional Australian university. Based on the US literature on academic achievement and first-generation status, we hypothesised that:
(a) FIF students would come from lower socio-economic backgrounds than non-FIF students, and
(b) FIF students would have lower levels of achievement than non-FIF students.

Method

While the study was exploratory and descriptive, it reflects a multidisciplinary approach drawing upon literature from the fields of psychology, sociology and education.

Participants

Participants were 227 undergraduate students enrolled in education, nursing and liberal arts degrees at an Australian university in 2012. These programs were targeted for inclusion because they are commonly chosen by FIF students (Bradley, Noonan, Nugent, & Scales, 2008). The sample was predominantly female (196; 86.3%), which is typical of the gender representation in Education and Nursing degrees. Participants had a median age of 25 (SD=10.15) with a total range from 18 to 62. Five participants (2.2%) identified as indigenous Australian, and fourteen participants (6.2%) indicated a non-English speaking background.

Instruments

The web survey comprised four sections: (a) demographic items; (b) university course and study information; (c) students' university experiences, well-being and goal-directedness; and (d) an open-ended question on experiences of university. The questionnaire was trialled with a small number of students prior to the study and no issues were identified that required modification.

Demographic questions

Participants were asked their age and gender and whether they identified as an indigenous Australian or as coming from a non-English speaking background. They were asked to indicate their living arrangements during the semester, whether they had carer responsibilities, how they qualified to be accepted into university, whether they were a full- or part-time student, and what year level of course they were mainly studying. Participants were also asked how often they had worried about their living and education expenses over the past month.

Socioeconomic and FIF questions

Participants answered a question indicating which suburb or town they currently resided in. This information was coded to derive a Socio-Economic Index for Areas – Index of Education and Occupation (SEIFA-IEO) score. A high score on this index indicates that many people within the area in question have high qualifications and/or highly skilled jobs. The SEIFA-IEO has a mean of 1,000 and a standard deviation of 100 (ABS, 2011). The use of SEIFA as a measure of SES mirrors the approach taken by The Australian Bureau of Statistics which considers that it is a robust measure which correlates with other measures commonly used, such as IEO and IRSD (Radisich & Wise, 2012).

Participants were asked about the highest level of education achieved by their parents. The options on this question were based on the Australian Qualifications Framework and ranged from primary education to doctorate (ABS, 2001). Participants were also asked whether they were the first in their family to attend university.

Engagement with university studies and grade point average

Students were asked three questions to assess whether they were engaged with the university environment. The first asked how many hours per week they were enrolled in lectures, tutorials, and labs. The second asked how often they attended scheduled classes and/or listened to recorded lectures (less than 50% of the time; 50-75% of the time; over 75% of the time). The third question asked how many hours per week they spent studying outside of scheduled classes.

Participants were also asked how many of each possible grade, awarded by the university, they received for their courses in the preceding semester. This information was retrospectively calculated to estimate each participant's Grade Point Average.

Psychometric measures

The questionnaire included the following psychometric measures:
The Mental Health Inventory-five (MHI-5). The MHI-5 was used as a measure of overall wellbeing. It consisted of five questions rated on a 6-point Likert scale (1= *all the time*, 6= *none of the time*). Each item began with the phrase 'How much of the time, during the last month…', and an example item from the scale was '…have you been a very nervous person?'. Berwick et al. (1991) found that the MHI-5 performed well for detecting the major Axis 1 disorders such as depression.

The Hope Scale (Snyder et al., 1991). The Hope Scale is a measure of student goal-directedness, and it has been found to predict student achievement (Snyder, 2002). The scale contains 12 items that are rated on a 4-point Likert scale. Two related aspects of the Hope Scale, Agency and Pathways, were assessed using four items each, with the remaining four

items acting as fillers. The four Agency items tap the overall sense of goal-directed determination. The four Pathways items pertain to people's appraisals of their independent ability to overcome goal-related obstacles. Hope scores are derived by combining the Agency and Pathways scales. An example item is 'There are lots of ways around any problem'. Internal consistency across samples for the total scale ranged from .74 to .84, with the Agency subscale ranging from .71 to .76 and the Pathways subscale from .63 to .80.
Student university experience survey (Soria & Stebleton, 2012). The student university experience survey was adapted from the Student Experience in the Research University (SERU) survey (Soria & Stebleton, 2012). Eleven items asked students about the frequency with which they had engaged in academic-related activities during the last semester. An example item is 'asked an insightful question in class'. Students responded to the survey using a 6-point Likert scale ranging from *never* (1) to *very often* (6).

Satisfaction with university questionnaire.

Students were asked how satisfied they were with their overall sense of belonging, social, and academic experience at university. Students rated each of three questions on a 6-point Likert scale ranging from *very dissatisfied* (1) to *very satisfied* (6).

Procedure

Ethics approval was granted by the University of Newcastle's Human Research Ethics Committee (H-2012-0228). Students were notified of the student survey through an announcement made on an online teaching platform. The announcement contained a hyperlink to an information sheet and a survey administered by an online survey program.

Results

Sixteen participants who had not responded to one or more sections of the survey were excluded from the analyses, reducing respondents to 211. Missing data and any scores that were more than three standard deviations from the mean were coded as missing. In the current sample, 114 (54.0%) participants indicated that they were FIF students. Ninety-seven (46.0%) students were non-FIF. These figures are similar to previous research at Australian universities (Luzeckyj et al., 2011).

Descriptive Statistics

Data was initially examined to determine whether there were any differences between FIF and non-FIF students. Categorical variables were examined using chi-squared analyses, the results of which can be found in Table 1. We identified that in our sample FIF students were more likely to be enrolled in their first year of study than non-FIF students. Furthermore, non-FIF students knew more university students before attending university themselves than FIF students did.

Table 1: Descriptive Statistics of Categorical Variables for FIF Students

Variable	FIF (%)	Non-FIF (%)	χ^2(df)
Course Level			
First Year	65 (57.0)	42 (43.4)	3.946(1)*
Second Year and Above	49 (43.0)	55 (56.7)	
Living Arrangements[a]			
At home with parents	29 (25.4)	25 (25.8)	4.133(9)
With partner	14 (12.3)	12 (12.4)	
With partner and child/ren	26 (22.8)	19 (19.6)	
With child/ren	11 (9.6)	10 (10.3)	
Boarding	3 (2.6)	3 (3.1)	
Renting away from home (shared)	17 (14.9)	17 (17.5)	
Renting away from home (alone)	5 (4.4)	4 (4.1)	
In University student accommodation	5 (4.4)	1 (1.0)	
Couch Surfing	0 (0.0)	1 (1.0)	
Other	4 (3.5)	5 (5.2)	
Do you have carer responsibilities?			
Yes	42 (36.8)	37 (38.1)	.038(1)
Nor4	72 (63.2)	60 (61.9)	
Before you came to university how many university students did you know?			
0-4	66 (57.9)	35 (36.1)	17.446(3)**
5-9	24 (21.1)	19 (19.6)	
10-14	8 (7.0)	6 (6.2)	
15+	16 (14.0)	37 (38.1)	
How did you qualify to be accepted into your university course?[a]			
School Qualification (ATAR, TER, UAI etc.)	44 (38.6)	47 (48.5)	4.450(4)
TAFE	11 (9.6)	11 (11.3)	
Enabling Programs	38 (33.3)	20 (20.6)	
Other	21 (18.4)	19 (19.6)	
Are you a full time or part time student?			
Full time	91 (79.8)	80 (82.5)	.239(1)
Part time	23 (20.2)	17 (17.5)	
How often would you attend lectures and tutorials/labs?			
Less than 50% of the time	12 (10.5)	5 (5.2)	4.790(2)
50-75% of the time	17 (14.9)	8 (8.2)	
Over 75% of the time	85 (74.6)	84 (86.6)	

Notes: *=p<.05; **=p<.01; [a]=Due to rounding some percentages add up to 99.9% or 100.1%; FIF=First-in-family; non-FIF=non first-in-family.

Differences between FIF and non-FIF students on continuous variables are listed in Table 2. The difference between students enrolled in first year, compared to these enrolled in the second year and above of their degree, is listed under 'Cohort' in the table. Significant differences were found with regard to: levels of parental education; concerns about education and living expenses; hours per week enrolled in classes; the Pathways scale for ability to find ways to overcome obstacles; and frequency of accessing support services.

Table 2: Descriptive Statistics of Continuous Variables

Variable	Mean	SD	Skew	Kurt	α	FIF (t)	Cohort (t)
Social Class Measures							
SEIFA IEO	975.56	70.00	.85	.39		.664	-.341
Parental Educational Attainment	4.80	1.94	-.08	-1.12		-10.914**	-1.796
Financial Concerns							
Worry about living expenses	2.72	1.10	-.19	-1.33		2.310*	2.968**
Worry about education expenses	2.63	1.09	-.18	-1.26		2.063*	2.768**
Engagement with University Study							
Hours Per Week Enrolled in Class	12.55	6.48	1.72	7.63		-.241	4.688**
Hours Per Week in Independent Study	17.84	12.60	.94	.95		-.034	.666
Dispositions							
Mental Health (MHI-5)	19.91	5.09	-.42	-.47	.86	-.493	-.944
Agency (Hope Scale)	24.25	4.83	-1.30	2.44	.80	-1.617	-1.740
Pathways (Hope Scale)	24.55	4.37	-1.26	3.35	.84	-2.774**	.140
Satisfaction/Engagement							
Overall Satisfaction	0	1	-.59	.01	.79	.354	-1.03
Tutor Interactions	0	1	-.31	-.04	.84	-1.243	-1.07
Services Access	0	1	2.11	7.22	.69	2.084*	1.242
Grade Point Average							
GPA	5.10	1.36	-1.64	3.50		-.885	-.166
Hours of Study (Observed – Expected)	-19.94	19.87	-.89	3.581		-.144	-3.816*

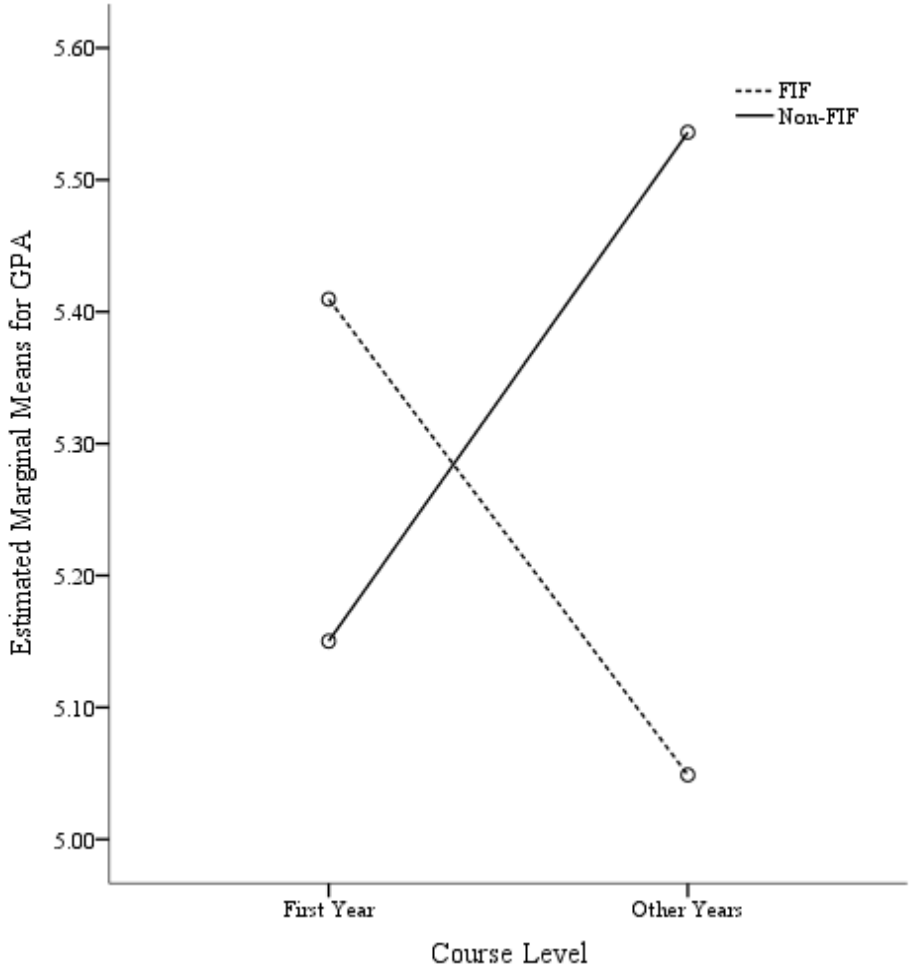
Notes: *=p<.05; **=p<.01; Cohort=First year students as a group compared to 2nd year and above university students; Overall satisfaction, Tutor Interactions and Services Access all based on factor scores calculated from EFA analyses; Hours of Study (observed – expected) calculated by multiplying enrolled hours per week be three and subtracting from observed hours of independent study; SD=Standard Deviation; Skew=Skewness; Kurt=Kurtosis; α=Cronbach's alpha; SEIFA IEO=Socio-Economic Indexes for Areas Index of Education and Occupation (ABS, 2011).

Differences between FIF Students in Different Year Cohorts

A two-way ANOVA with course year level and FIF status as fixed effects was conducted to examine the effect of these variables on GPA. The main effects of FIF status and course year level were non-significant (p = .427 and p = .930 respectively). However, the interaction between course year level and FIF status was significant, $F(1,189) = 6.78$, p = .01. It is important to note that the two-way interaction between course year level and FIF status persisted after adding ICSEA, SEIFA IRSD and IEO indices as covariates in the model, $F(1,163)=4.646$, p=.033. This indicates that FIF status influences achievement at university separately from the effects of socioeconomic status.

To investigate the two-way interaction effect further, effects within each course year level were examined separately to determine whether there were differences in academic performance between FIF and non-FIF students in the first-year cohort versus the subsequent-years cohort. Examination of the data for the first-year cohort indicated that FIF students (M = 5.41, SD = .85) did not perform significantly differently from their non-FIF peers (M = 5.15, SD = 1.21), $t(93)=1.23$, p = .224. However, for students who were taking second-year courses and above, FIF students had significantly lower GPAs (M = 5.05, SD = .97) than non-FIF students (M = 5.54, SD = .95), $t(96) = -2.51$, p = .014. These mean GPA values are plotted in Figure 1.

Figure 1: Estimated Marginal Means Plot of GPA as a function of FIF Status and Year of Study



Discussion

Some US literature indicates that first-generation students have lower achievement than their continuing-generation peers (Martinez et al., 2009; Pascarella et al., 2004). The present study indicates that the achievement outcomes of FIF and non-FIF are similar in the first year of study, but that achievement decreases for FIF in subsequent years of study.

Several factors may explain this decrease in achievement. Firstly, following international trends (Engstrom & Tinto, 2008), many Australian universities (including the setting for this study) have adopted 'first-year experience' strategies (Kift, 2008). This includes enacting principles in 'transition' curriculum and pedagogy designed to scaffold students into university study (Kift, 2009; Kift, Nelson, & Clark, 2010). FIF students in the present study have experienced aspects of transition pedagogy. It may be that in the first year of study, transition pedagogy does effectively scaffold the academic achievement of FIF students. However, in subsequent years of study, when scaffolds are progressively withdrawn and students are less inclined to attend class, the learning quality of FIF decreases and they do less well than their non-FIF peers.

Another factor that may explain the difference in achievement of FIF and non FIF is the nature of academic expectations in the university and school contexts. One of the key characteristics of learning in the university context is independence, which means that the

responsibility for learning lies with the individual. In order to succeed in university study individuals need to be self-regulated and self-directed learners, however a significant proportion of students do not possess these skills (Cantwell, Scevak, & Spray, 2014). Hope (Agency & Pathways) is also an indicator of self-regulation and is correlated with academic success (Snyder, 2002). FIF students' Hope scores in this study indicated they were less able than non-FIF peers to independently generate one or more pathways towards desired goals in learning and reach those goals.

Another factor is the importance of social networks to expectations and learning. FIF students knew significantly fewer people who had attended university than non-FIF. In their Australian study, Luzeckyj et al (2011) found that FIF students based their expectations of university on sources removed from their familial and friendship networks, while non-FIF students were informed by these networks. Recent research in the US indicates that first-generation students exhibit greater confusion regarding expectations related to academic workload and assessment (Collier & Morgan, 2008). Having an extensive familial and friendship network of people with direct experience of university study would assist with the ongoing adjustment to expectations about university study and provide an invaluable resource for learning support throughout a degree (Rubin, 2012b).

In contrast to US literature (Jenkins et al., 2009), FIF students in the present study were more likely to seek support from university services and actively sought help from faculty. Morosanu et al. (2010) describe two types of student support; that 'from above' and that 'from below'. 'From above' includes official sources such as student support services, faculty interaction and university-produced information. 'From below' includes the personal contacts made at and outside of university. Australian qualitative research indicates that FIF students attribute university success to teacher availability (Devlin & O'Shea, 2012). Accessing academic support 'from above' is crucial given FIF students have fewer people with experience of university study to draw on 'from below' (Rubin, 2012b). If FIF prefer to receive personalised support from faculty, there may be difficulties in an era characterised by the intensification of academic work (Ogbonna & Harris, 2004). This intensification has resulted in reduced time to deliver support to individual students and possibly to unrealistic expectations by FIF students about the type of learning support offered by tutors and lecturers.

The removal of learning support scaffolds after first year might exacerbate the frustration felt by FIF students regarding a real or perceived lack of personalised support from academics and could negatively impact on learning outcomes. FIF lower pathways scores indicate a lower appraisal of their ability to overcome goal-related obstacles than their non-FIF peers. This would make surmounting an obstacle like a lack of personal learning support from academic staff more difficult to achieve, particularly if there were no or few people with experience of this to draw on for 'from below'.

FIF students' greater use of services in the current study might indicate a preference for interdependent rather than independent learning. The culture of higher education is based on independent norms reflected in values such as unencumbered autonomy and expressive individualism (Leathwood, 2006; Stephens, Fryberg, Markus, Johnson, & Covarrubias, 2012). These different norms can contribute to a cultural mismatch for working class students entering university (Stephens et al., 2012). In the present study, FIF students are not all from low SES backgrounds; however, their FIF status may indicate that they come from families

where working-class norms of interdependence are common. As others have argued, socio-economic status and social class are related but different constructs (Marks, 1999). Many of the FIF students in our study might be classified as middle and high SES, although their parents have either a high school or a vocational education; a characteristic of working class culture. Additionally, despite the individual SES of the FIF student, their social networks are far less populated by people who have attended university. It may be that FIF students have been socialised into working class interdependent norms and that they bring these norms to university, experiencing a clash of culture in the help-seeking process.

Limitations

The present research has a number of limitations. First, the research was conducted at a single institution and involved a small sample of predominantly female non-school-leaver students from nursing and education degree programs, typically used as social mobility pathways (Bradley et al., 2008). In order to test the generality of our results, future research should investigate the interaction between FIF status and course level at other institutions and involving a more gender-balanced sample of students from a greater variety of degree programs.

Second, we used a self-report measure of academic performance (GPA) in the present study. Although self-report measures of GPA have a high degree of correspondence with actual, objective GPA (Frucot & Cook, 1994; Lounsbury et al., 2005), future research should use an objective measure of GPA.

Third, some students answered that they were not FIF despite having parents who had not attended university. This indicated that some students were probably including their extended family when answering this question. Future research will need to define the term ‘first in family’ to ensure that all students are answering in the same way. Despite this issue, having a family member who has attended university might be equally important to students, even if that family member was not a parent.

Lastly, our only measure of socioeconomic status in this study was the aggregate SEIFA Index of Education and Occupation (ABS, 2011). Marks (1999) pointed out that the SES of an individual in an area is not always synonymous with the area in which he or she lives, and recommends the use of multiple indicators of SES in order to capture aspects of socioeconomic background not encompassed by a single measure. We used a single, aggregate-level indicator of an individual’s SES using the SEIFA indices. Therefore our results involving this variable should be interpreted with caution. Future research will be required in a more extensive cohort, and with multiple SES indicators, to determine whether being FIF is truly independent of socioeconomic status.

Implications

The present research suggests that policy should consider including a defined measure of FIF status. With respect to our findings that FIF students were accessing university support, more institutional attention may need to be paid to types of learning support preferred by students, particularly FIF students. Few support services in Australian universities have been subject to formal quantitative evaluation (James et al., 2008) to determine effectiveness in meeting students’ needs.

In the first year of study, transition pedagogy ensures that FIF are scaffolded in their learning. The dismantling of this scaffolded approach after first year may indicate that FIF have not developed the academic skills that enable them to meet independent learning norms expected by the institution. Some universities may disagree with the principle of providing continually high levels of academic support on the grounds that they aim to produce graduates who are independent learners and problem-solvers, and that high levels of student support are not conducive to this.

A second option is to encourage FIF students to develop rich support networks during their first-year at university. As argued by Rubin (2012b), university friends can act as study buddies, explain assignments, remind about due dates, act as role models, and provide a sense of community and institutional identification. This support 'from below' is relatively inexpensive and it is available beyond the first year of study because it is travels with students as they progress from year to year. However, students beyond the first year of study are not attending classes as much as in first year, and this absence may prevent them from forming support networks.

Conclusion

The present research provides a first step in identifying the needs and characteristics of FIF students at Australian universities. The research revealed three key findings. First, FIF status has a bigger impact on academic outcomes after the transitional scaffolding of the first-year experience has been removed and students are left to fend for themselves in the second-year and beyond. Future research should measure the differential effects of this type of support on FIF and non-FIF as they progress through their university career. Second, FIF students were more likely to seek support from university services. Future research should consider investigating the potential benefits of this support. Third, not all FIF students in the current study were from low SES backgrounds. However, future research needs to confirm this finding using more sensitive measures of SES in various contexts.

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