Review

Lisa J. Hayden, Sarah Y. Jeong* and Carol A. Norton

An Analysis of Factors Affecting Mature Age Students' Academic Success in Undergraduate Nursing Programs: A Critical Literature Review

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Abstract: The population of mature age students entering university nursing programs has steadily increased in both Australia and worldwide. The objective of the literature review was to explore how mature age students perform academically and to analyse the factors associated with their academic performance in nursing programs. A literature search was conducted in the following databases: CINAHL, ProQuest, Medline, Cochrane, Mosby's Index, Joanna Briggs Institute (JBI), and Scopus. Twenty-six (26) research papers published between 2000 and 2014 have met the selection criteria of this review. The key themes identified include; 1) ambiguity in definition of mature age and academic success, 2) age and academic success, 3) intrinsic factors (life experiences, emotional intelligence, and motivation and volition), and 4) extrinsic factors (peer, academic and family support; and learning style, components of the modules and mode of delivery). Current literature provides evidence that mature age nursing students perform at a higher level within the methodological issues discussed in this paper. Future research is warranted to advance the understanding of the complex relationship between extrinsic and intrinsic factors of mature age students and their academic success in higher education. Nursing educators will benefit from novel evidence, ideas and opportunities to explore and implement in nursing education.

Keywords: mature age students, adult learners, academic success, nursing education

Introduction

A large portion of mature age students comprises the student population on university campuses globally (OECD, 2012). Although what constitutes a mature age student is ambiguous, in Australia, 41% of university students are aged 25–64 years old and 59% are aged between 15 and 24 years old (Australian Bureau of Statistics (ABS), 2013). There has been a steady increase in the number of mature age students in nursing programs (Kenny et al., 2007). Mature age students are drawn to nursing because of the human-altruistic values and the financial security offered in the profession (Watson, 2008). Gaining admission to a nursing program at a university is one thing, achieving academic success in a program of study is another, given the additional responsibilities one has as a mature age student (Sogunro, 2015). There have been numerous attempts to explain how to motivate students and sustain their ability to succeed at the university level (Bannier, 2010; Malacinski & Winterman, 2012; Wilde, 2012). However, the issues in relation to mature age nursing students' performance and success in Bachelor programs are complicated and require attention from university educators.

Background

Nursing is one of the most popular university degrees chosen by mature age students (Australian Bureau of Statistics (ABS), 2013). Various studies over the past two decades have demonstrated a direct correlation between mature age students, academic achievement and the benefits of their academic success. Kenny and her colleagues (2011) found lower rates of attrition and higher levels of

*Corresponding author: Sarah Y. Jeong, School of Nursing & Midwifery, The University of Newcastle, PO Box 127, Ourimbah, NSW 2258, Australia, E-mail: Sarah.Jeong@newcastle.edu.au

Lisa J. Hayden, University of Newcastle, Teaching and Research Unit, Gosford Hospital, and Central Coast Local Health District, Gosford, NSW 2250, Australia, E-mail: Lisa.Hayden@newcastle.edu.au

Carol A. Norton, School of Nursing & Midwifery, The University of Newcastle, PO Box 127, Ourimbah, NSW 2258, Australia, E-mail: Carol.Norton@newcastle.edu.au

academic performance, compared to younger students and suggested that mature age students should be targeted for entry into nursing education due to their high success rate. Conversely, the successful completion (graduation) rate of students who are aged 21 years and over is lower at 78.1% compared to 87.5% for students who are less than 21 years old (University of Newcastle, 2014). It is also important to expect that mature age students may have shorter career spans and decreased working hours per week, ultimately intensifying the nursing shortage (Hickey, Sumsion, & Harrison, 2010).

In an attempt to investigate this contradictory argument, various explanations were identified in the authors' preliminary literature review. For example, family responsibilities, stress, relationships and economic instability are the non-academic components that affect academic performance (Freitas & Leonard, 2011). In another study, Ofori and Charleton (2002) found that self-efficacy and internal locus of control of mature age nursing students and their supportive environments are essential to their academic success. However, there is absence of detailed analysis of the characteristics of mature age nursing students and their supportive environments. There are inconsistent and contradictory assumptions and claims which require further investigation on the mature age students in nursing programs and their academic success.

The aims of the literature review were; (1) to explore how mature age students perform academically in undergraduate nursing programs; (2) to investigate the factors that affect mature age students' academic success, and (3) to discuss critically their relevance in undergraduate nursing education.

Methodology

The eligibility criteria for articles to be included in this review were that participants must include mature age nursing students, the research had to address an account of academic success, and the setting was to be only at a university level. The articles also had to be research papers only. Articles excluded were those published prior to 2000, non-English papers, non-research papers (i. e. discussions, literature reviews, and theoretical frameworks), papers focusing on the post graduate level, online programs, perceptions of other stakeholders (e. g. clinicians) and research settings other than university.

The strategy for this literature review consisted of a database search of peer-reviewed scholarly articles from

2000 to 2014. Seven (7) databases were searched: Cumulative Index to Nursing and Allied Health (CINHAL), ProQuest, Medline, Cochrane, Mosby's Index, Joanna Briggs Institute (JBI), and Scopus. The scope of the search was conducted from January 2000 and April 2014 for peer-reviewed, English written scholarly journals. The search included the keywords of mature age students, adult learners, academic success and nursing education and resulted in four hundred and seventy-four (474) journal articles. Due to the large number of articles, the articles were further narrowed by major subject categories: academic performance, student retention, student experiences, student dropouts, age factors, academic achievement, education-nursing, baccalaureate, education (general), nursing, and student attitudes. Duplicate articles and the journal articles that did not address the aim of literature review were excluded from the search. In addition, twelve (12) journal articles were obtained from a secondary informal document search.

In total, there were fifty-eight (58) articles that were assessed using Critical Review Forms and 'Guidelines for critical review – Quantitative studies' (Law et al., 1998a, 1998b) or 'Guidelines for critical review – Qualitative studies' (Letts et al., 2007a, 2007b). A total of twenty-six (26) of the fifty-eight (58) articles that described, examined, and evaluated the various reasons or factors that allow adult learners to succeed in university nursing programs were selected. There were thirteen (13) quantitative studies, seven (7) qualitative studies and six (6) mixed method studies included in the review. Figure 1 provides a decision flow diagram.

Results

The articles were analysed using thematic analysis by the primary and other authors. Discussion among the authors included an agreement of the themes and interpretation of the findings in the journal articles. This process of peer review ensured rigour and trustworthiness of thematic analysis.

Table 1 provides a summary of the literature reviewed. The key themes identified in this review include; 1) ambiguity in definition of mature age students and academic success, 2) age and academic success, 3) intrinsic factors (life experiences; and motivation and volition), and 4) extrinsic factors (peer, academic and family support; and learning style, course content and mode of delivery).

Figure 1: A decision flow diagram: mature age nursing students and academic success.

Ambiguity in definition of 'mature age' and 'academic success'

A review of the literature indicates that 12 of the 26 selected articles did not clearly define the term 'mature age' student (See Table 1). While two articles (Fleming, McKee, & Huntley-Moore, 2011; O'Brien, Keogh, & Neenan, 2009) defined mature students as individuals who are 23 years of age or over, five of the articles defined 'mature age' as over the age of 21 years (Boelen & Kenny, 2009; Clarke, Miers, Pollard, & Thomas, 2007; Drury, Francis, & Chapman, 2008; Kenny et al., 2011; Trotter & Cove, 2005). One article defined the range between 21 and 50 years old as mature age (Lee, Chollowski, & Williams, 2002). In the United Kingdom, mature age is defined as 26 years and older before the first year of university (Kevern & Webb, 2004; McCarey, Barr, & Rattray, 2007).

One article divided mature age students into two separate categories where 'mature age' students are

between 21 and 25 years old while the 'older mature age' students are greater than 25 years old (El Ansari, 2002). Ofori (2000) categorized mature aged students into five subdivisions: 'Non-mature' – less than 20 years old; 'Maturing' – between 20–24 years old; 'Mature' – 25–29 years old; 'More Mature' – 30–34 years old; and 'Very Mature' – greater than 34 years old. The finding illustrates an inconsistent definition for the age group of 'mature age'.

'Academic success' was not clearly defined in 19 of 26 journal articles (See Table 1). In four of the articles (Fernandez et al., 2012; Jones-Schenk & Harper, 2014; Madigan, 2006; Nagelsmith et al., 2012), grade point average (GPA) was used as a measurement of academic success at various times throughout the mature age student's academic studies. Other articles (McCarey et al., 2007; Ofori, 2000; Salamonson & Andrew, 2006) used assignments, university examinations or exit examinations as measurements or definitions of academic success.

Table 1: A summary of literature reviewed.

Author/Year/Country	Definition: mature age/ academic success	Aim	Research design/ sample/data collection	Key findings	Limitations
1. Anderson, E., & Thorpe, L. /2008/United Kingdom	No/No	To evaluate Interprofessional Learning Event (IPE) with different student age groups in three different universities.	Mixed Method: Quantitative (n = 754) health and social students: Qualitative (n = 81): nursing students	Mature entrants needed a more demanding, challenging & relevant set of learning resources that are sensitive to prior life experience.	No details of the mature students previous engagement with and experience of interprofessional values.
2. Boelen, M., & Kenny, A. /2009/ Australia	Mature aged (>21 years)/ No	To evaluate one-week transition science course for enrolled nurses to study at university level course	Quantitative: n = 70 students (enrolled nurses registered for BN program)	Students built social networks, developed learning strategies and connected with other students.	Small sample size at one university within a short period of time.
3. Bowden, J. /2008/United Kingdom.	No/No	To explore factors affecting the students to leave the programme	Mixed Method: Quantitative: Survey (n = 46) Qualitative: interviews (n = 8) Age range: 19–42	Mature students found tutors to be most helpful followed by Peers, family and friends.	Small sample size, eight interviews-not a good representative of the cohort
4. Clarke, B., Miers, M., Pollard, K., & Thomas, J. /2007/ United Kingdom	Mature aged (>21 years)/No	To examine group dynamics between interprofessionals undergraduate groups in health and social care.	Qualitative: Non-Participant Observations/ Focus Groups/ Semi-structured Student Interviews n = 33, Age Range: 18–40+	Mature age students play a more active role; take more responsibility for discussion, and aware of their ability to learn through discussion.	Age differences created difficulties for group: reason not discussed
5. Drury, V., Francis, K., & Chapman, Y. /2008/ Australia	Mature aged (>21 years)/No	To understand how mature aged people reconstruct themselves as nursing students	Qualitative: Grounded theory n = 14 mature age nursing students	Mature Age students have different needs such as academic and pastoral support.	Qualitative constructed grounded theory: findings cannot be generalised.
6. El Ansari, W. /2002/United Kingdom	Mature students 21±25; & older mature students >25 /No	To investigate the effects of demographic variables on students' perceptions and satisfaction	Quantitative: Cross-Sectional Survey n = 460 student participants Mean student age: 30 years (range 18 ± 53 years)	Age was both positively and significantly correlated with the grade achieved (r = 0.277, p < 0.0001).	Limitations inherent in questionnaire Design; Self-selection and self-report
7. Fernandez, R. et al. /2012/Australia	No/GPA obtained at the end of six months	To examine association between emotional intelligence and learning strategies on academic performance	Quantitative: Prospective Survey Design n = 81 1st year nursing students Mean age: 29 years old.	El is a significant predictor of academic achievement (b = 0.25; p = 0.023).	All women and international students Self-report
8. Fleming, S., McKee, G. /2005/Ireland	>23 years of age or over/No	To develop and evaluate 'Welcome Programme' for mature students	Quantitative: Questionnaires Average age: 31.7 years old	Mature age students identified need for knowledge of course, biology and financial issues.	

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Table 1: (continued)

Author/Year/Country	Definition: mature age/ academic success	Aim	Research design/ sample/data collection	Key findings	Limitations
9. Freitas & Leonard/ 2011/United States	No/No	To identify the factors contributing to student nurse success	Quantitative: Survey n = 190 entry-level students Average age: 28.7 years.	Older respondents reported greater ability to meet their needs than did younger respondents.	Small sample size No significant relationship between GPA and any of the demographic data.
10. Jones-Schenk, J. & Harper, M.G./ 2014/United States	No/GPA	To determine the relationship between students' EI and their likelihood of success in nursing school	Quantitative: Survey n = 116 students Mean age: 36.21	EI characteristics of successful students scored significantly higher on the Intrapersonal scale and the Stress Tolerance subscale.	Study Participants are enrolled in an online program.
11. Kenny, A. et al. /2011/ Australia	Defined as >21 years of age/No	To identify specific needs of mature age nursing students	Mixed Method: Action Research Study	Mature age students need specific information directed towards their learning.	Questionnaire not tested for reliability and validity
12. Kevern, J. & C. Webb/2004/ United Kingdom	>26 years before the first year course/No	To explore the experiences of mature nursing students in higher education	Qualitative: Exploratory Research n = 32 female participants Mean age: 41 years old	Maturity and life experience provides useful time-management and multitasking skills	Gender specific No generalizable due to small sample size & qualitative
13. Lee, W., et al. /2002/ Australia	Between 21 and 50 years old /No	To explore the perceived characteristics of effective clinical educators as rated by students and educators	Qualitative: Survey 2nd year nursing students (n = 104) Clinical educator (n = 17) Man age: 24 years	Mature age group valued academic guidance; need for performance feedback	Second year students only Small sample size
14. Madigan, V. /2006/Australia	Mature-entry students (≥ 20 years)/ GPA	To identify factors relating to academic performance in predicting first-year academic success	Quantitative: Retrospective review: Six predictors of academic performance were examined n = 135	Mature aged students pass and complete the first year; however, perform better if they have previous healthcare experience	Incomplete data re: GPA for some students. Small sample size
15. McCarey, M., et al. /2007/ United Kingdom	≥ 26 years old/ year three assignments and examinations	To explore if academic performance in year three be predicted from: (a) entry qualifications (b) gender (c) age (d) attendance (e) academic performance	Quantitative: Student record data Nursing students (n = 154)	Mature age students achieved better marks in course work and examinations; more motivated to succeed; committed to study; and more willing to participate in discussion.	Students 26 years and older tend to have higher marks, but not statistically significant

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Table 1: (continued)

Author/Year/Country	Definition: mature age/ academic success	Aim	Research design/ sample/data collection	Key findings	Limitations
16. Nagelsmith, L., Bryer, J., & Yan, Z. /2012/ United States	No/ Current GPA drawn from student database.	To identify the relationship among motivation, volition and academic success for adult students	Quantitative: Survey AVSI & MSLQ n = 303 Nursing students Mean age: 46.75 years Mean for total GPA: 3.15	Significant relationships between motivation, volition and academic success.	GPA as the single measure for academic success
17. Newton, J. M., Kelly, C., Kremser, A., Jolly, B., & Billet, S./2009/ Australia	"Older (i. e. those aged 28 years and over)"/No	To identify what motivates individuals to engage in a nursing career.	Longitudinal multi method: Interviews, surveys and field work observations n = 26 second and third year student nurses, Ages 19- to mid-50s	Older students reported higher levels of intrinsic motivation to learn.	Data gathered from one healthcare organization and university Self-report study
18. O'Brien, F., Keogh, B., Neenan, K. /2009/Ireland.	>23 years /No	To explore the experiences of pre-registration mature BSc Nursing students	Qualitative: Focus Groups n = 28 Mature age nursing students	Peer support helped mature age students to remain motivated and continue with programme.	One cohort of students from one university
19. Ofori, R./2000/ United Kingdom	Five subdivisions/ Grades <40 % and >40 %	To explore age on the performance in nursing modules.	Quantitative: Assessment results and questionnaire n = 222 students: Mature age or non-traditional (>25.y.o.): 44.6 %	Mature students more motivated by intrinsic goals; prior life experience gives mature students a deep approach to studying.	Exploratory study, variables not controlled
20. Ofori, R. & Charlton, J.P./2002/United Kingdom	No/No	To build & test a model of psychological processes underlying nursing students' academic performance	Quantitative: Co-relational Design n = 315 pre-registration nursing students Age range 18–50 years old Mean age of 26 years old.	Older students had stronger internal control beliefs. Relationship between age and academic performance is positively correlated by support seeking.	
21. Pitt, V., Powis, D., Levett-Jones, T., & Hunter, S. /2014/Australia.	No/No	To provide a description of personal qualities of newly enrolled Bachelor of Nursing students	Quantitative: PQA assessment n = 138 nursing students Mean age: 27 years old	Older students have a higher measure of self-control, resilience, empathy, and more communitarian in attitude.	Small sample size in one university
22. Rassool, G. H. and S. Rawaf/ 2007/United Kingdom	No/No	To determine the predominant learning style preferences of UG nursing students.	Quantitative: Survey n = 110 nursing Students Mean age: 32.91	Mature students have learned to be adaptive in their learning and developed skills to meet the demanding requirements of the course.	Honey and Mumford's (2000) learning styles questionnaire: not tested for reliability.

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Table 1: (continued)

Author/Year/Country	Definition: mature age/ academic success	Aim	Research design/ sample/data collection	Key findings	Limitations
23. Salamonson, Y. & Andrew, S./2006/ Australia.	No/ Total assessment score in subject matter	To examine the influence of age, ethnicity and part-time employment on nursing students' academic performance	Quantitative: Survey n = 267 nursing students Mean age: 25	Students who were older performed better academically in pathophysiology and nursing subjects.	Focused on second year nursing students in one university
24. Steele, R, Lauder, Caperchione, C. & Anastasi, J, /2005/Australia	No/No	To explore the problems of mature students undertaking an access to nursing course and to describe their coping strategies	Qualitative: In-depth interviews n = 8 students Age range: 26 years old or over	Students reported difficulty during their course; Finance, Academic, and balance work/life. Coping strategies adopted: Support Network; Prioritisation & organisation; Positive expectations and attitudes for the Future.	Small sample size at one university
25. Stewart, L. et al. /2001/ Australia	No/No	To identify knowledge and use of learning support services	Mixed Method: Quantitative: Surveys (n = 150) Qualitative: interviews (n = 12) mature age students (<25 years)	Older students tend to self-refer to learning support. Younger students (<25 years) often lack effective learning strategies	First year students only; small sample size
26. Trotter, E. and G. Cove/2005/United Kingdom	>21 years old/No	To determine the issues that impact on students' early experience of university	Mixed Method Quantitative: Program documents Qualitative: Interview n = 35 first-year healthcare & social students.	Complexity in learning styles requires teaching styles that are applicable for younger and mature age students.	Small sample size limited to one university

Age and academic success

There are several studies that demonstrate a strong relationship between age and academic success. El Ansari (2002) found that age is both positively and significantly correlated with grade achieved ($r = 0.277$, $p = 0.0001$). In similar results, Salamonson and Andrew (2006) conducted a survey ($n = 267$ of second year nursing students) to identify the influence of age, gender, ethnicity and part-time employment on nursing students' academic performance. Results indicated that age was positively related with academic performance based upon total assessment score in subject matter.

In contrast, McCarey et al. (2007) observed that mature age students (>26 years old) did not achieve higher marks in coursework and examinations irrespective of entry university qualifications in a study of 154 nursing diploma students at a Scottish University. In another quantitative study conducted by Freitas and Leonard (2011) based upon Maslow's hierarchy of needs, no significant relationship was found between GPA and age (Freitas & Leonard, 2011).

Nevertheless, eight out of 12 studies that examined the relationship between age and academic performance found that mature age nursing students perform better academically (El Ansari, 2002; Fernandez et al., 2012;

Madiagn, 2006; McCarey et al., 2007; Nagelsmith et al., 2012; Ofori, 2000; Salamonson & Andrew, 2006; Ofori & Charlton, 2002). The factors that positively affect mature age nursing students' academic success can be classified as intrinsic and extrinsic. The following section presents each of these factors.

Intrinsic factors: Life experiences, emotional intelligence, motivation and volition

A research study composed of educators, state government agents, industry members and student representatives within the State of Victoria in Australia concluded that despite the difficulty in balancing life and study, mature age students were academically successful because of their life experience (Kenny et al., 2011). Self-control and resilience in mature age students allows them to overcome obstacles during the journey of a nursing student (Pitt et al., 2014). Kevern and Webb (2004) conducted group interviews with mature age female nursing students ($n = 32$) with a mean age of 41 years. Despite the struggles mature age nursing students faced in returning to university and maintaining a family life, they reported that life experience gave them the skills they needed to succeed in their studies, in particular, 'persistence' (Kevern & Webb, 2004; Newton et al., 2009).

Other studies (Fernandez et al., 2012; Jones-Schenk & Harper, 2014) have found that emotional intelligence (EI) is significantly related to academic achievement. Fernandez et al., (2012) examined the relationship using Motivated Strategies for Learning Questionnaire (MSLQ) between Emotional Intelligence (EI) and academic success among 81 mature age students enrolled in an accelerated nursing programme at an Australian University with a mean age of 29 years. The students scored 148 out of 204 in EI, which was significantly higher than a cohort of traditional high school leavers. Researchers also found a significant correlation between EI scores and critical thinking ($r = 0.41$; $p < 0.001$), help seeking ($r = 0.33$; $p < 0.003$) and peer learning ($r = 0.32$; $p < 0.004$), which indicated that EI is a significant predictor of academic achievement ($\beta = 0.25$; $p = 0.023$).

Nagelsmith et al. (2012) measured how volition and motivation correlated with academic success by utilising Academic Volitional Strategies Inventory (AVSI) and Motivated Student Learning Questionnaire (MSLQ). Acceptable measures of validity and reliability have been established for AVSI (McCann & Turner, 2004). MSLQ motivational scales demonstrated an acceptable level of validity on expectancy component ($\alpha = 0.93$),

however; the value-component-extrinsic goal orientation ($\alpha = 0.62$) was less reliable. The study consisted of 303 baccalaureate nursing students who responded to a questionnaire consisting of 20 statements in AVSI and 31 statements in MSLQ describing actions or reasons behind their intent to study. The mean age of participants was 46.8 years and mean GPA was 3.15 out of 4.0. The results indicated that there is a significant relationship between motivation and volition, and academic success.

Extrinsic factor 1: Peer, academic and family support

The support from peers, academics and family was identified as a foundation to success in mature age nursing students. Peer networks and support help students meet demands, deadlines, and challenges of the courses (Boelen & Kenny, 2009; Kevern & Webb, 2004; Steele et al., 2005). Fleming and McKee (2005) observed that an extensive network supported mature age students ($n = 130$) which includes other mature age students (45%), friends (17.5%) and family (12.5%). This finding is supported by a qualitative study (three focus groups with 28 students) conducted by O'Brien et al. (2009) that a positive peer support system assists the students to remain motivated and to continue through the demands of a nursing program.

Academic staff and learning support provide educational support and encouragement building an additional layer to a support system. When mature age students work closely with academic staff who are committed to their jobs, the mature age students demonstrated a deeper understanding of their needs, allowing more opportunities to succeed (Bowden, 2008; Steele et al., 2005). Older students are more likely to seek learning support from campus services (Ofori & Charlton, 2002; Stewart et al., 2001). Ofori (2000) found that mature age students utilize one-on-one tutorials and build relationships with teachers to further develop study skills. This type of approach develops a student for academic success and for a deeper life-long learning. Ofori and Charlton (2002) noted a direct relationship between support seeking, age, and academic performance among 315 pre-registration nursing students in a university in United Kingdom (UK). They concluded that the ability to seek outside help for academic support reinforced internal control beliefs of the mature age students.

Family support is another factor of academic success in mature age students. Steele et al (2005) explored the problems of mature age nursing students with family/life

balance. The fine art of balancing family life and academic requirements to complete the nursing program was reinforced by the mature age students' motivation to provide a secure financial future for their families. Kenny et al. (2011) concluded that an informed, supportive family system would provide positive reinforcement to mature age students.

Extrinsic factor 2: Learning style, course content and mode of delivery

The academic success of mature age students may be explained by preferred learning style, course content, and mode of delivery. Rassool and Rawaf (2007) examined the predominant learning style preferences of undergraduate nursing students ($n = 110$) using the learning styles questionnaire developed by Honey and Mumford (2000). Whilst 'reflector' is the preferred learning style of younger age undergraduate nursing students, mature age students adapt and excel with dual learning styles due to the fact that nurses are both people-orientated (reflector) and scientific (theorist). Rassool and Rawaf (2007) stated that their research may be limited as their original questionnaires were not tested for reliability. Nevertheless, internal consistency in their study was quite high and the study provided nurse academics with the insight that mature age nursing students' preferred learning style is different to that of younger cohorts.

El Ansari (2002) established the importance of course content and mode of delivery, for academic success in higher education among mature age nursing students. A quantitative study design was applied to collect information regarding student satisfaction with healthcare modules in Term 1 of their first academic year at Oxford Brookes University (UK). Older mature students (>25 years old) and mature students (21–25 years old) who had achieved a higher score also had a higher satisfaction with the modules than the younger cohorts (<21 years old). The findings suggest that satisfaction with course content is vital to the success of a mature age student. The older students found that satisfaction was based upon the following components of the modules: well-presented and organised material, readily available information about module, subject matter relevant to their career and insight into the nursing profession.

Mature age students require an academically challenging environment that respected their life experiences and achievements, and this should be reflected in mode of delivery. Anderson and Thorpe (2008) found that mature age students ($n = 754$) who participated in an

inter-professional learning event (IPE) at three universities in England often looked bored as they were already aware of how to do teamwork. In addition, Clarke et al. (2007) found that mature age students (>21 years old) accepted more responsibility for class discussion by encouraging all members to participate. However, at times they may have dominated the group, impeding younger students' participation (Clarke et al., 2007).

Discussion and recommendations

It is convincing that mature age nursing students are more likely to succeed than a younger age cohort. However, it is not yet conclusive for several reasons. Despite the numerous studies suggesting mature age students succeed academically, there are conflicting definitions of 'mature age' student or the measurement of 'academic success'. The lack of consensus leads to questionable results of some of the recent research literature on mature age nursing students. First of all, the terms 'mature age student' or 'adult learner' in studies examining academic success of mature age nursing students are often defined using different age groups depending on the research study, higher institution, or country. In this review, half of the articles did not provide a definition for mature age student. This inconsistency may possibly affect the statistical comparisons or data analysis of a student population study. Secondly, it is apparent that the definition of 'academic success' varies among researchers and academics. The measure of academic success is traditionally the grade point average (GPA) (Timer & Clauson, 2011). However, no evidence was found in this review that indicates that the GPA is a valid measurement of academic success despite its use for research purposes. Lastly, the methodological issues noted include that half of the studies were quantitative with small sample sizes, which reduced statistical significance, and the reliability and validity of the tools used in those quantitative studies are either in question or not discussed. In order for future research in this topic to be valid, it is recommended that consensual definitions of 'mature age students' and 'academic success' be developed. Use of measurement tools with high reliability and validity, and larger samples is also warranted.

Studies reviewed in this paper suggest that mature age students are academically successful despite the difficulty in balancing family commitment, work, and study. The key factors associated with academic success in mature age students include a number of extrinsic factors such as additional support from peers, academic staff

and family members. It is also noted that high achieving mature age students reported a high level of satisfaction with well-designed courses. In addition to extrinsic factors, intrinsic factors derived from students' own life experiences, motivation, and volition also play an important role in their success.

With this in mind, there have been suggestions that age be factored into entry qualifications for a nursing program and there have been attempts to build evidence. For example, the findings from a recent survey ($n = 138$, mean age 27) conducted by Pitt et al. (2014) using Personal Quality Assessments (PQA) proposed the new argument that personal qualities are age and gender specific. They found significant correlations with older students having a higher measure of self-control, resilience, empathy, and a more communitarian attitude, which were identified as intrinsic factors for academic success. Personal qualities were unchanged over the three years of their nursing program. This finding is consistent with the significant relationship between a student's ability to control frustration in academic pursuits and obtaining a high GPA (Wilde, 2012).

An argument emerging in relation to mature age nursing students and their academic success is that a student with higher emotional intelligence (EI) exhibits self-awareness and self-reflection that are prominent characteristics of a mature age nursing student. A number of authors (Codier & Odell, 2014; Fernandez et al., 2012; Jones-Schenk & Harper, 2014) have suggested that EI is a strong predictor of academic achievement. More interestingly, Benson et al (2012) suggest that EI changes little over the course of a nursing program. This indicates that EI presents a compelling adjunct to current selection criteria for nursing students (Benson et al., 2012). However, the lack of research prevents widespread adoption of this criterion (Jones-Schenk & Harper, 2014). Future studies should focus on a greater understanding of mature age students' intrinsic motivation and EI, and how these personality traits are reinforced by supportive networks to ensure success in academic pursuit.

The searching for a relationship between 'mature age nursing students and academic success' is problematic due to the dichotomy of extrinsic versus intrinsic. First of all, the extrinsic factors of dedicated academic staff, adult learning styles, and well-designed courses are only one part of the equation to academic success in mature age nursing students. The problem is that these extrinsic factors need to be coupled with the intrinsic determination of a mature age student. For example, the extrinsic factor of course content and mode of delivery needs to be aligned with the teaching component that

provides insight into the mature age student's style of learning and motivation (Shelton, 2012). This is well captured in a study by Sogunro (2015) that established eight motivating factors for adult learners in higher education: quality of teaching and curriculum, relevance and pragmatism, interactive classrooms, effective management practices, progressive assessment and timely feedback, self-directedness, learning environment, and effective academic advising practices. A positive peer support system and meaningful relationships with academic staff influences the mature age nursing students' motivation to continue and succeed in a nursing program (Bernard, 2015; Moe et al., 2009; O'Brien et al., 2009). The combination of extrinsic and intrinsic factors of mature age students is relevant for successful academic achievement. Hence, further research is recommended to explore this comprehensive and inclusive relationship to capture the whole picture of mature age students and their academic performance.

It is inevitable that there will be younger age cohorts in a learning setting despite the increasing number of mature age students in nursing programs. Theoretically, mature and younger cohorts in same classroom complement the learning capabilities of each other. An academic environment needs to be developed to simultaneously challenge the older students and support the younger students to engage in the learning process. Nurse educators need to create an environment where senior mature age students could mentor junior students with coping strategies such as resilience as way of passing on their knowledge of university work/life balance (Drury et al., 2008; Taylor & Reyes, 2012). Further investigation is necessary in order to understand the requirements of successful academic performance of both the mature and younger age cohorts.

Limitations

The search strategy may not have identified all the relevant literature on this topic since the review was restricted to published and English language studies only. This paper aims to be a comprehensive but not an exclusive review of the current available research on mature age nursing students and academic success.

Conclusions

It is apparent that there is no clear consensus regarding the definition of mature age students and academic

success. Life experiences, motivation, and volition are prominent elements of academic success; however, there are necessary external factors to reinforce these elements among mature age students. Given the complexity of both the extrinsic and intrinsic factors, the analysis of factors affecting mature age students' academic success in nursing programs provides nursing academics with promising evidence, emerging ideas and new opportunities to explore and implement in education and further research.

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