Self-efficacy, grit, and perceptions of rural employment: What changes occur after graduation?

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Abstract

Purpose: General self-efficacy, occupational self-efficacy, and grit have a correlation with academic and practical success amongst nursing students. The role of these same characteristics during the first 18-24 months following the transition from student to nurse is poorly understood. In addition, when a nursing graduate begins to consider a career in a rural area is also remains unclear. This study sought to understand the change, if any, in general self-efficacy, occupational self-efficacy, grit, and rural employment importance that occurred during this transition period.

Sample: Nurses after graduating from a three-year Bachelor of Nursing degree (n=28).

Method: A follow-up study of a larger longitudinal mixed-methods cohort design used a survey to examine general self-efficacy, occupational self-efficacy, grit, and rural employment importance among novice nurses. Participants had agreed when completing the initial study as students to participate in a follow-up study 18-24-months after graduating.

Findings: Occupational self-efficacy increased as the cohort transitioned from student to professional nurse, while grit was remarkably lower between final year students and novice nurses. No change in earlier measures of general self-efficacy or importance placed on rural careers were detected.

Conclusions: Following graduation, new clinicians are focused on building professional identity and the development of foundational skills for practice. Clinical agencies have an opportunity to shift the balance between autonomy and support in order to harness these key characteristics in an effort to improve the longevity and progression of nursing graduates within the nursing profession.

Keywords: nurses, students, novice, grit, self-efficacy, community apgar

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Low levels of general self-efficacy have an impact on academic outcomes among higher education students, where lower levels of general self-efficacy lead to increased levels of attrition (Bandura & Locke, 2003; Guarnaccia et al., 2018; Luthans et al., 2004; McLaughlin et al., 2008). Likewise, lower levels of occupational self-efficacy have led to poorer employee outcomes as a result of or due to workplace stresses, limited coping abilities, and decreased job satisfaction (Bandura & Locke, 2003; Guarnaccia et al., 2018; McLaughlin et al., 2008). However, self-efficacy as a construct remains pliable and open to development and growth (Lorenz et al., 2016). Individuals have the capacity to improve their self-efficacy, which can lead to improved personal, academic, and occupational outcomes by developing efficacy through major sources such as personal mastery, the vicarious experiences of others, emotional arousal, and verbal persuasion (Bandura, 1977; Lorenz et al., 2016).

Self-efficacy, whether general or occupational specific, is the self-belief that one can perform or undertake difficult tasks and manage difficult challenges (DeWitz et al., 2009; Schyns, 2004). Self-efficacy therefore is an embedded central belief that one has the capacity to achieve a desired outcome where individuals can adapt to change (Bandura & Locke, 2003; DeWitz et al., 2009; Schyns, 2004). In this sense, self-efficacy facilitates and promotes goal setting, investing in effort to achieve, and a level of persistence to overcome barriers or to recover from obstacles or disasters (DeWitz et al., 2009; Pisanti et al., 2008; Schyns, 2004). As such, it is regarded as a positive factor that can influence success, employment satisfaction, job performance, and workplace commitment (DeWitz et al., 2009; Pisanti et al., 2008; Schyns, 2004).

Previous literature is replete with occupational self-efficacy research that demonstrates individual commitment, work values, workplace culture, and management behaviours can influence the development of occupational self-efficacy (Pisanti et al., 2008; Terry, Peck, Smith, & Nguyen, 2020a). Similarly, occupational self-efficacy research in the healthcare setting has also demonstrated that employees with lower levels of self-efficacy are susceptible to poorer coping skills, have a tendency to burnout more rapidly, and are unable to manage emotional distress (Pisanti et al., 2008; Terry, Peck, Smith, & Nguyen, 2020a).

When undertaking their self-efficacy study among nursing students, Terry, Peck, Smith, and Nguyen, (2020a), demonstrated that first year nursing students had lower levels of occupational or nursing self-efficacy than their third-year counterparts. It had been suggested that general and occupational self-efficacy have the potential to be further developed among nursing students, leading to greater levels of workplace performance and satisfaction as they enter the nursing profession; however, this hypothesis and outcome currently remains elusive. (Terry, Peck, Smith, & Nguyen, 2020a).

In addition to general and occupational self-efficacy and the capacity to undertake difficult tasks, manage difficult challenges, and achieve desired outcomes, grit offers the passion and capacity to persevere in order to meet long-term objectives regardless of adversity (Duckworth, 2016). As such, grit is an innate characteristic that challenges both short-term and long-term tasks that may be demanding or difficult. Grit is the capacity to continually move forward regardless of the immediate challenge that lay ahead (Duckworth, 2016; Duckworth, Peterson, et al, 2007). As setbacks, poor outcomes, disappointments, or plateaus are experienced, those individuals with higher levels of grit tend to seek other means of understanding the situation differently in order to continually move forward without deviating from goals that have been set (Duckworth, 2016; Duckworth, Peterson, et al., 2007).

It has been suggested that grit is more likely to determine success beyond intelligence and physical abilities alone (Duckworth, Peterson, et al., 2007; Eskreis-Winkler et al., 2014). For example, previous research indicates higher levels of grit are predictive of academic and non-academic achievements, more so than other innate factors or individual traits. As such, grit has been demonstrated to have a positive impact on school grades, training success, employment retention, and sporting outcomes (Duckworth, Kirby et al., 2011; Duckworth Peterson, et al., 2007; Eskreis-Winkler et al., 2014; Kelly et al., 2014; Robertson-Kraft & Duckworth, 2014). Developing or increasing grit requires a change and growth in mindset, where self-belief, clear goal setting, improved social connectedness and self-regulation or the ability to control one's behaviours, emotions, and thoughts is essential (Credé et al., 2017; Duckworth, 2016; Terry & Peck, 2020b). When growth in mindset occurs, it has been shown that individuals begin to perceive a difficulty as an opportunity for growth rather than a challenge to overcome, and where the response leads to constructive thoughts and persistent behaviours, rather than being conquered (Credé et al., 2017; Duckworth, 2016; Dweck, 2008; Terry & Peck, 2020a, 2020b).

Although widely examined, including among medical students (Reed et al., 2017), Grit remains a recent construct in both the nursing profession and specifically Australia (Terry & Peck, 2020a, 2020b). Nurses, have been shown to develop grit through their professional practice (McCabe, 2016), and among nursing students, significantly higher levels of grit have been observed among third-year students compared to their first-year counterparts (Terry & Peck, 2020a, 2020b). However, there has been limited examination of grit levels further increasing as third year student's transition to registered nurses, or if the transition itself has an impact on measures of grit.

In addition, to the limited understanding regarding the development of self-efficacy and grit as nursing students transition to registered nurses, there is also limited insight regarding the degree to which the level of importance nursing students place on pursuing rural career changes over time, particularly as they transition from student to registered nurse. To seek to overcome this, the student Nursing Community Apgar Questionnaire (NCAQ) was used to understand the level of importance nursing students place on geographic, economic, management, practice, and support factors when considering rural employment (Prengaman, Bigbee, et al., 2014; Prengaman, Terry, et al., 2017; Terry, Peck, Smith, Stevenson, Nguyen, & Baker, 2020b). Within their initial study that focused on exploring the factors that nursing students consider the most important to undertake a rural career, Terry, Peck, Smith, Stevenson, Nguyen, and Baker (2020b) found that patient safety, high-quality care, autonomy or respect, as well as staff cohesion and morale were considered more important than salary, social networking, and recreational opportunities.

The NCAQ, as an evidence-based tool and program, seeks to provide measurable insights to understand current performance, while better informing nursing recruitment and retention activities in rural areas. Overall, the tool seeks to develop a greater understanding of the unique factors that impact rural recruitment and retention of nurses from the perspective of the health

service and its health professionals (Prengaman, Bigbee, et al., 2014; Prengaman, Terry, et al., 2017; Terry, Peck, Smith, Stevenson, & Baker, 2019; Terry, Peck, Smith, Stevenson, Nguyen, & Baker, 2020b). Although the NCAQ has been used to understand what students perceive to be important in their decision to uptake rural employment, our understanding of how or if these levels of importance placed on undertaking rural employment changes over time, particularly as students transition to the role of Registered Nurses.

Overall, with the limited understanding of general and occupational self-efficacy, grit, and the level of importance placed on pursuing a rural career as students transition to registered nurses, the purpose and aims of the study were to examine:

1. If general self-efficacy, nursing self-efficacy, and levels of grit improved as students transition from student to nurse over an 18 to 24-month period; and
2. If the level of importance placed on rural employment among students changed over 18 to 24 months as they became nurses.

Therefore, within this context the hypothesis was that general self-efficacy, nursing self-efficacy, and grit would increase over an 18 to 24-month period as individuals transitioned from student to registered nurse. In addition, it was further hypothesised that the level of importance placed on rural careers would demonstrate little change over time.

Methods

This paper reports on an 18 to 24-month follow-up study of a larger longitudinal mixed-methods cohort design that examines Bachelor of Nursing student's career choice, career trajectory and longevity within the profession over a 10-year period post-graduation. The longitudinal study collects periodic data about a number of factors including the importance students place on nursing in rural areas, their attitudes towards living and working in rural locations, the student's exposure to and contact with rural and remote clinical placement, as well as their nursing career pathway. The aim here is to examine self-efficacy, grit, and

importance placed on undertaking rural employment among former students who had graduated with a Bachelor of Nursing degree in an Australian university in 2018.

Sample

All nursing students (n=62) who had agreed to participate in an 18 to 24-month follow-up study after completing a three-year Bachelor of Nursing degree were included. Participants were invited to complete an online questionnaire examining general and nursing self-efficacy, passion and perseverance (grit) and the level of importance placed on undertaking rural employment. Among participants, 10 were lost to follow-up, while 28 fully or partially completed a questionnaire (response rate 53.8%).

Data Collection Tool

Data were collected using a questionnaire that included 21 demographic items such as gender, year of birth, current and past place of residence, employment status, income, nursing role, and undertaking postgraduate education. The follow-up questionnaire included a number of questions posed to the same group in 2018 (Terry, Peck, Smith, Stevenson, & Baker, 2019). The same questions were used to detect changes over time. Each set of demographic questions was examined for their reliability and validity and used in other student healthcare research previously (Smith, et al., 2018; Terry, Peck, Smith, Stevenson, & Baker, 2019; Terry, Peck, Smith, Stevenson, Nguyen, & Baker, 2020b).

In addition to demographic data, the questionnaire included the same scales from the 2018 data collection period. These scales included the General Self-Efficacy Scale (GSE-10) used to measure the general belief that an individual has the capacity to succeed, accomplish tasks, and bounce back from setbacks (Schwarzer & Jerusalem, 2010; Terry, Peck, Smith, Nguyen, 2020a); the Occupational or Nursing Self-Efficacy Scale (NSE-8), which is similar to the GSE-10, however, measures an individual's occupation self-efficacy in terms of ability to succeed, meet occupational specific tasks and bounce back (Schyns & von Collani, 2002;

Terry, Peck, Smith, Nguyen, 2020a); the Nursing Community Apgar Questionnaire (NCAQ) developed by Prengaman, Bigbee, et al. (2014), used to measure the level of importance nurses or nursing students place on taking up rural practice (Prengaman, Terry, et al., 2017; Terry, Peck, Smith, Stevenson, Nguyen, & Baker, 2020b); and the eight-item Short Grit Scale (Grit-S) developed by Duckworth and Quinn (2009), used to measure trait-level perseverance and passion for long-term goals among participants (Duckworth & Quinn, 2009). All scales were examined for their reliability and validity and have been used in other student healthcare research previously (Terry, Peck, Smith, Stevenson, & Baker, 2019; Terry, Peck, Smith, Stevenson, Nguyen, & Baker, 2020b).

Lastly, additional open-ended questions were included in the questionnaire, which pertained to the benefits and challenges now that the former students were working as Registered Nurses. Overall, the whole questionnaire tool took between 15-25 minutes to complete.

Data Collection

Data collection occurred between 4 February and 31 March 2020, where all participants were invited via email. The invitation included a web link directing participants to an Information Statement, outlining the voluntary nature of the study, any associated risks, and a link to the online questionnaire. A follow-up recruitment email was sent in weeks 2, 4, 6 and 8 until adequate response rate (53.8%) was achieved. Once collected, data were matched to responses provided by participants in 2018 using birthdate and postcode, if provided. It must be noted the Grit-S was not used in the 2018 data collection round; therefore, follow-up data were compared with 3rd-year student grit levels in the 2019 data collection round (Terry & Peck, 2020a).

Ethical Considerations

Ethical approval for the study was provided by the Federation University Australia Human Research Ethics Committee (Approval #18-017). No incentives were offered to participants and completing the online questionnaire implied participant consent.

Data Analysis

The Statistical Package for the Social Sciences (SPSS, Version 25.0) assisted data analysis the data. Given the low number of participant data, both parametric and non-parametric tests were performed, which included paired sample t-test and Wilcoxon signed rank test to identify differences within the cohort over time. In addition, independent sample t-tests and Mann-Whitney U tests were used to identify differences between groups. Significance was determined at two-tailed $p \leq .05$.

Results

Responses from the questionnaire identified more than half (n=17) of participants indicated they were female, two-thirds (n=18) were aged between 20 and 39 years, with more than half (n=16) living in a large regional centre. The majority (n=24) were in part-time employment in diverse areas of the nursing profession, and on average spent 25.2 minutes (range 3-60) traveling to work (Table 1).

Table 1

Participant demographics

Demographic information	**Frequency**	**Percentage (%)**
Gender (n=28)		
- Female	17	60.7
- Male	5	17.8
- Not stated	6	21.4
Age (years) (n=23)		
- 20-30 years	9	32.2
- 30-39 years	9	32.2
- 40-49 years	2	7.1
- 50 years and over	5	17.8

- Not stated	3	10.7
Where currently living (n=28)		
- Inner City Metropolitan	5	17.8
- Outer Suburb Metropolitan	6	21.4
- Large Regional Centre	16	57.2
- Small Town	1	3.6
Employment status (n=28)		
- Casual employee (no guaranteed hours of work)	4	14.3
- Part-time employee (less than 38hrs week)	24	85.7
Location of employment (n=28)		
- Metropolitan/city	11	39.3
- Urban/Suburban	10	35.7
- Rural	7	25.0
Length of time to travel to work (n=25)	25.2 minutes (range 3-60 minutes)	
Area of nursing (n=28)		
- Acute care	2	7.1
- Aged care	5	17.8
- Emergency care	7	25.0
- Intensive care	1	3.6
- Medical care	5	17.8
- Mental Health	2	7.1
- Neonatal care	2	7.1
- Nursing pool	1	3.6
- Oncology	1	3.6
- Not stated	2	7.1

Although the majority of participants were working part-time, this was not considered unusual given the average hours work by Registered Nurses remains at 33.5 hours a week (Commonwealth of Australia, 2020).

When examining the differences between general self-efficacy and nursing self-efficacy, these data suggest that participants had similar levels of general self-efficacy compared to nursing self-efficacy, t(19) =-.335, p=.74. In addition, when examining participant's general self-efficacy levels as a nursing student, it was found to be at similar levels, now they were working as registered nurses 18 to 24 months after graduation. However, when comparing participant's levels of nursing self-efficacy as a student with more recent scores now 18 to 24

months after graduating, levels were indicated to be significantly higher, as outlined in Table 2.

Beyond self-efficacy among participants, a comparison was made between the level of importance placed on taking up rural practice among nurses. It was shown that there was little variation between scores while participants were students compared to now as registered nurses. Lastly, a comparison was made among participants regarding the levels of perseverance and passion (grit) for long-term goals. As such, it was indicated that the 18 to 24 months post-graduation participants had significantly lower levels of grit than their 2019 student counterparts, as outlined in Table 2.

Table 2

Comparison of mean scale items

Scale item	Mean (SD)	Test (df) Statistic	*p*
NSE-8 (2018) NSE-8 (2020)	23.81(1.79) 25.57(2.50)	t(15) = -2.673	.017*
GSE-10 (2018) GSE-10 (2020)	32.25(3.51) 31.68(2.82)	t(15) = 0.517	.613
NCAQ (2018) NCAQ (2020)	3.34 (0.27) 3.30 (0.29)	t(9) = 0.612	.556
Grit (2019) Grit (2020)	3.89 (0.59) 3.43 (0.28)	t(19) = -7.165	.000**

*p<0.05, **p<0.000

Many of the open-ended responses from participants related to and were in line with nursing self-efficacy, where it was demonstrated that participants had developed their capacity to succeed, accomplish key tasks, and had the ability to bounce back from a number of setbacks or challenges. For example, seventeen participants had indicated the positives of working as a registered nurse since graduating was the further development of skills since being a student, being challenged, gaining confidence, developing autonomy, and progressing in their careers. Many statements were interwoven into a discussion of working with colleagues who facilitated their development as nurses.

One participant indicated a positive aspect of their employment was that they were "consolidating skills learned at university, being able to problem-solve, and critically think independently" (Participant 24). Another two participants indicated the positives of their experiences were about "improving clinical skills and developing knowledge" (Participant 28) and developing their "hands-on experience, exposure, and responsibilities, while working with other Registered Nurses" (Participant 6).

In addition, nearly all participants indicated they had developed the capacity to bounce back from the challenges they had experienced since graduation. Examples where participants had learned and developed, included recognising their poor acknowledgment and understanding of end of life care, having the capacity to keep moving forward when mentally and physically exhausted after a challenging shift, working through the transition shock experienced as a new graduate, and developing skills to cope with shift work. Although experiencing minor setbacks, most remained committed to the nursing profession. However, one participant indicated they were not sure if they would continue in the profession long term. Interestingly this participant demonstrated the highest levels of grit and self-efficacy when compared to their counterparts.

Discussion

Previous research is awash with evidence that there is a large chasm to a leap as individuals transition from student to registered nurse. This transformation from student to professional within nursing has been widely shown to constitute transition shock and occurs at various stages over an18 to 24-month period which requires both personal and professional adjustments (Duchscher, 2009; Hoffart et al., 2011). This transition period has been shown to be a challenging time that leads to feelings of self-doubt, fear, confusion, and even the contemplation of leaving the profession altogether (Pennbrant et al., 2013).

Although transition shock may also be interwoven through participant's experiences within this study, the focus here, and what has been highlighted is that despite any level of transitional shock the participants may or have experienced since graduating, the level of nursing self-efficacy has increased over this time. This suggests that participants, regardless of other personal or professional factors at play, after they have or as they end traversing their transition experience, have a propensity to experience higher levels of self-belief in terms of performing nursing specific practice or coping with challenges that may arise in the nursing context when compared to their time as students (Pennbrant et al., 2013).

Although this may be considered unremarkable, the significant increase between the period of being a novice student and now a registered nurse requires a level of growth and development. This occurs within the transition period which is a time of great development in self-belief, personal mastery, emotional arousal, and development of self through the vicarious experiences of others (Bandura, 1977; Lorenz et al., 2016; Pennbrant et al., 2013). It is through this transitional period where an individual learns, develops their skills, and masters the profession by undertaking a number of difficult tasks. The individual is also required to manage difficult challenges with the realization that outcomes and adapting to change can be achieved (Bandura & Locke, 2003; DeWitz et al., 2009; Schyns, 2004).

Pennbrant et al. (2013), has indicated that greater development of occupational self-efficacy within nursing is also impacted by supportive co-workers, supervisors, and nurse managers along with a positive workplace environment (Gloudemans, 2013; Tynjälä, 2008). In addition, Duchscher (2009), has also indicated individuals who are more prepared for the professional environment while learning as students have a greater propensity to experience new things and are more prepared for the transition process. Overall, as occupational self-efficacy determines job satisfaction, performance within the workplace, with commitment and

persistence, this would suggest those participants have developed a greater capacity to meet the demands of their workplace than they did as students.

It must be noted that over this same time period, the level of general self-efficacy remained relatively unchanged, which suggests that within the personal lives of individuals, beyond their occupational nursing roles, participants did not experience the same levels of challenge that led to growth and development. There was no remarkable development of self-belief, self-mastery or difficult challenges that would lead to an increase in an individual's general self-efficacy levels in the 18-24-month post-graduation and through the transition to employment. From current literature, it may be suggested that while fledgling nurses experience transition shock, the demands of clinical practice, learning new clinical skills and knowledge, while juggling new employment schedules has a significant impact on personal lives. For example, the nursing profession and employment for new graduates initially takes precedence or requires greater balance over personal matters such as connection with family, friends, and time for recreation (Duchscher, 2009).

In the context of the current study, it could be argued that the all-consuming focus of a new nursing role provides the necessary conditions for an expansion of nursing self-efficacy while doing less to build general self-efficacy over the same period due to the emphasis among new nurses needing to develop professionally or where the adaption of the new professional self is most required (Bandura & Locke, 2003; DeWitz et al., 2009; Duchscher, 2009; Pennbrant et al., 2013; Schyns, 2004). In this sense, general self-efficacy is observed not to increase, as there is little need or impetus for self-efficacy growth due to perhaps only incremental change or adaptation that is required. Conversely, nursing self-efficacy at this time is observed to increase due to the demand placed on the individual to develop, adapt, and master new skills, roles and understandings.

Beyond these findings, it was noted that the current grit levels amongst the participants were significantly lower when compared to the grit levels among their third-year student counterparts from 2019. In their findings, Terry and Peck (2020b) found that grit levels increased as students moved from first to second years and surmised that grit levels had increased as a function of the challenges encountered as they transition between the first and second year of their nursing program. It was noted grit levels remained relatively similar between second- and third-year students of the program.

In the current study, as participants moved from the role of student nurse to nursing professional, it is noted the grit levels comparatively decreased which may suggest the cohort may have lower levels of perseverance and passion to achieving longer-term goals. It is reasonable to assume that the Bachelor of Nursing qualification represented a long-term goal that had recently been achieved and having done so the individuals may have been 'content' in their newfound employment and role without having already re-established new endeavours requiring ongoing higher levels of grit. In addition, Duckworth (2016) and Terry and Peck (2020b) have indicated that grit is forged and developed within a crucible of demand and support; however, what may be observed here is there may be an imbalance of demands required on new graduates in the workplace compared to the level of supports provided to allow them to learn, develop, and reach their goals, having a direct impact on levels of grit.

However, given nursing self-efficacy had increased over time, there may be other factors which have an impact on the lower levels of grit. For example, it may be beyond the support provided or the demand required but may be relative to the time period at which the questionnaire was undertaken. Most participants had either just completed their graduate year or were only just commencing a new nursing position elsewhere. As such, they were undergoing additional stressors of a new position or navigating new challenges associated with changing workplaces or employment. As such, the capacity to preserve, be passionate and

remain committed may potentially decreased due to the change in circumstances. Participants are now novice nurses, who in most cases were in positions or employment and as such had lesser levels of support available to them when compared to their year as a graduate nurse. Alternatively, among participants, nursing self-efficacy questions in the questionnaire may have been viewed as nursing skills, while grit questions were viewed as how participants encountered challenges and setbacks (Duckworth, Kirby, et al., 2011; Duckworth, Peterson, et al., 2007).

In this sense, participants demonstrated they had improved their occupational skills, work and their identity as a nurse throughout their transition period, however, were encountering 'new' challenges which may have brought into question their own level of optimism and resilience. Pennbrant et al. (2013) has indicated new nurses feel they need more time to develop their own identity and to meet the demands of their new role, which at the time of the questionnaire, was still in the development. Overall, it may be surmised that grit at the time was lower than anticipated. However, is predicted to increase over time, particularly as participants become more settled with current employment arrangements, their identity as a registered nurse, and they set their sights on an area of nursing specialisation.

Lastly, it was indicated that the level of importance nursing students place on pursuing a rural career over time has not changed from when they were a student nurse. However, given that relatively little time had passed since graduating, it is likely that the personal circumstances of the student may have also only changed very little over this time. This is important because a significant change in life circumstances has been shown to be an impetus for making a change to a rural career. It follows, therefore, that the views of individual students with regard to what they see as important in their future and their subsequent desire to practice in a rural environment remains the same (Cosgrave, Malatzky, et al., 2019; Cosgrave, Maple, et al., 2018). This suggests that views of students regarding rural nursing employment or careers will

change very little in the immediate years following graduation and that views or what is considered important as a student transition into the nursing profession. It may be inferred that if an individual is not 'sold' on the idea of a rural career while undertaking training as a student, then the possibility of a rural career after graduation may be an even harder sell, when personal, social, economic circumstances and life stages begin to impact the longer-term decision-making (Cosgrave, Maple, et al., 2018; Fisher & Fraser, 2010). This is particularly evident among the more mature participants, who may be well established already with financial responsibilities, family commitments, and socially embedded which precludes their capacity to contemplate more rural employment (Cosgrave Maple, et al., 2018).

Therefore, it remains vital for rural training experiences to occur while student nurses are in training. It has been indicated that to improve rural career pathway outcomes among health professionals, including recruitment and retention, undergraduate training must focus more closely on developing individuals with an existing rural background, which remains significant a predictor of rural career choice (Kondalsamy-Chennakesavan et al., 2015; MacQueen et al., 2018). In addition, students, regardless of geographical background, who undertake rural placements are also more likely to undertake rural practice after graduating, while high-quality clinical placements and clinical supervision further impact on rural practice uptake (MacQueen et al., 2018; Playford et al., 2006; Smith et al., 2018).

Limitations

A limitation of this study is that student respondents of the survey may not be representative of the whole student cohort. The overall response rate was at 53.8% which is strong for an online survey and across a longitudinal study such as this and supports the ability to generalize the findings beyond this cohort. This round of data collection included the measure of grit. Given that we did collect grit measures from this current cohort of now

practicing nurses when they were students, we used grit measures from the current cohort of final year Bachelor of Nursing students to provide a comparison which may not be as reliable.

Conclusion

At 18-24 months after graduating from a Bachelor of Nursing program both general and occupational self-efficacy had changed in the period between being a final year university student and now a professional Registered Nurse working in clinical practice. The statistically significant change identified in occupational self-efficacy suggests, unsurprisingly, that the clinical environment offers a series of unique contextual challenges and experiences that foster the development of these attributes. Given the links that have been shown between higher levels of occupational self-efficacy and performance and satisfaction with a nursing career, it would seem logical that education providers in and outside a health service take opportunities to build this capacity amongst students early within the program. Perhaps providing weekly clinical experiences rather than block experiences might help to promote these essential capabilities as one solution. However, there does remain work to be done to understand the essence of what it is in clinical practice that helps or forces the development of occupational self-efficacy.

Given the strong links between grit and achievement in a multitude of settings and disciplines of study, it makes sense to seek opportunities to harness this characteristic amongst nursing graduates in an effort to improve their longevity and progression within the nursing profession. The results of the present study are suggestive of grit levels significantly waning in the early months and years of the nursing profession. While further research is needed to ascertain the mechanisms that drive this downturn in grit, we have hypothesised some areas that might be valuable to pursue in furthering our understanding. For example, increasing the level of support and feedback across the graduate year, or to provide a formal education program that runs along-side of the graduate program may work to sustain the levels of grit we saw amongst final year students.

There is a growing need to understand the key points across a nurse's career that will provide both education and clinical provider's opportunities to capitalise on enticing prospective healthcare workers to a career in a rural area. At the 18-24-month time-point, we have not found any significant difference compared to the same cohort's final year Bachelor of Nursing levels of importance placed on a rural career. While there are characteristics that are well recognised as having strong links to a career in rural practice (e.g. living in a rural area, having family in a rural area) there are other less tangible elements that have been shown to yield an influence, such as, opportunities for professional development, staff morale and other factors that are within the direct remit of rural health providers to change and market to potential candidates (Terry, Peck, Smith, Stevenson, & Baker, 2019).

This study has highlighted that at the 18-24-month period of a new graduate's nursing career, the focus of their attention is on building their identity as a nurse and developing foundational skills required for entry level practice. There are two possibilities as to why graduate grit has reduced. One, to be successful in their graduate programs, individuals may not have the need for high levels of grit. Two, the clinical setting, where the graduate first commences, may not afford the support and new-found autonomy required to bring out this key characteristic. While focusing on developing skills that are basic to the nursing profession there is less attention being paid to those other aspects of professional life that we know are attractive in rural areas and will become important as we continue to follow this cohort across their nursing career.

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