

PSYCHOSOCIAL FACTORS AND ACADEMIC PERFORMANCE

A Systematic Review of the Psychosocial Correlates of Academic Performance

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Abstract

Understanding the psychosocial factors that positively and negatively impact on academic performance are important to help students succeed and persist within higher education. In this article, we conducted a systematic review to clarify and identify the psychosocial factors affecting university students' academic performance. The initial search returned 1657 articles and 36 articles met the inclusion criteria. Inspection of the articles were conducted to identify the relationship between psychological and social variables on academic performance. We found that psychosocial factors were significantly related to university students' academic performance. Specifically, academic performance was often correlated with social support, motivation, stress, satisfaction, self-efficacy, anxiety and depression, prior academic achievement, study effort, adjustment, family, and emotions.

Keywords: Academic performance; psychosocial factors; University students; College students; Educational psychology.

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In terms of academic performance, psychosocial factors can have a positive (Akram & Ghazanfar, 2014; Alegre, 2014; Chow, 2010) and negative (Deasy et al., 2014; Gebreegziabhere Haile et al., 2017; Hyseni Duraku & Hoxha, 2018) effect. Typically, psychological factors include attitudes, motivations, perceptions, learning abilities, and emotions (Behrozi et al., 2016; Reynolds & Walberg, 1992; Zhang et al., 2020). For example, a positive psychological factor will likely improve academic performance (e.g., high levels of motivation) but a negative psychological factor will likely reduce academic performance (e.g., high levels of distress). Social factors refer to environmental, financial, socio-economic status, family history, prior education, employment, and social supports that can positively or negatively influence academic performance (Baker, 2013; Lombardi et al., 2016; Shukri, 2019). In this article, we will refer to psychosocial factors and how they have a positive and negative impact on the academic performance of university students. Further, there are some recent meta-analyses looking at individual psychosocial factors and academic performance such as motivation (Theobald, 2021), stress (Wunsch, 2021), self-efficacy (Talsma et al., 2018), and emotions (Mcann et al., 2020). However, these reviews have not specifically looked at university students and there is no comprehensive systematic review focused on the effect of psychosocial factors on academic performance more broadly.

Tinto's model (Schwartz & Tinto, 1987; Tinto, 1993, 1997, 2012) of academic persistence provides a temporal model of the processes that lead to a student's decision to drop out or persist at university. Tinto argues that a students' decision to persist is dependent on their pre-entry attributes, which inform their initial goals and commitments. A students' goals and commitments directly impact their institutional experience (academic and social) which contributes to how well they integrate into the academic and social environment of the university. Once students have established their goals and commitments, evaluated their

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institutional experiences, and integrated within the university environment, focus can be given to how much effort a student contributes to their studies; and the quality of student effort directly impacts academic performance. Students' academic performance is the penultimate factor that will directly influence their decision to dropout or persist at university.

The focus of this systematic review is to summarise, clarify, and identify the psychological and social (i.e., psychosocial) factors affecting university students' academic performance. Therefore, our research aimed to identify (1) the common types of psychosocial variables correlated with students' academic performance; (2) the general effect of psychological and social variables on academic performance in university students. Based on Tinto's model of academic persistence, we expect that psychosocial factors will be related to a students' pre-entry attributes (i.e., family background, skills and abilities, and prior academic performance), their goals and commitments (e.g., motivation), institutional experience (academic and social support), integration (sense of belonging), and the quality of study effort.

Method

Literature search

The following electronic databases were searched: EBSCO, ProQuest, PsychArticles, and PsychInfo. The search was limited to studies that used human participants and were published in English between January 2010 and the first week of December 2020. The key search terms were "*psychosocial factors*" or "*psychosocial impacts*" or "*psychosocial effects*, and "*university students*" or "*college students*" or "*undergraduate students*"; and "*grades*" or "*academic performance*" or "*academic achievement*"). The initial search returned 1657 articles (EBSCO = 735; ProQuest = 116; PsychArticles = 90; PsychInfo = 716).

Inclusion and exclusion criteria

Initially, the titles and abstracts were screened against the PICO criteria for inclusion and exclusion of articles for the systematic review (Schardt et al., 2007). That is, the

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population must include university students, the issue concerned with psychosocial factors, and the outcome was a measure of academic performance, group comparison was not a concern in the review. Two reviewers (R.T. and A.M.) screened the initial 1657 articles. To be considered for inclusion studies must have been published in a peer-reviewed journal (e.g., dissertations were excluded), must have included university students in the sample, be of a quantitative design (i.e., literature reviews, systematic reviews, and qualitative studies were excluded). Each study was also required to measure an academic outcome (i.e., GPA, grades, marks) as an outcome variable and utilise a psychosocial variable as a predictor of academic outcomes. In total, 31 articles met these criteria, and the full-text articles were reviewed by three examiners (R.T., M.A., and A. E. A. A). There was a 90% agreement in the inclusion of 31 articles, one examiner was more conservative (R.T. included 29), the two additional articles were included after discussion.

Interpretation of correlations

Based on empirical findings from a meta-analysis testing correlation effect sizes within psychology (Gignac & Szodari, 2016), effect sizes for correlations will be interpreted as small ($r < \pm .10$), typical ($r = \pm .11$ to $\pm .30$), and large ($r > \pm .30$).

Results

Characteristics of included studies

A summary of the independent and dependent variables for studies investigating how psychosocial factors impact academic performance is provided in Table 1. From the systematic review, we can observe that many different psychosocial variables have been investigated to identify how they impact university student's academic performance. In terms of psychosocial factors, the most studied constructs were Social support ($n = 13$), Motivation ($n = 10$), Stress ($n = 9$), Satisfaction ($n = 9$), Self-efficacy ($n = 8$), Anxiety and depression ($n = 8$), Prior academic achievement ($n = 8$), Students' study effort ($n = 6$), Adjustment ($n = 5$),

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Family ($n = 9$), and Emotions ($n = 7$). All other psychological factors were investigated by fewer than five studies.

Academic performance measures

In all studies, the dependent variable was required to be a measure of students' academic performance. Of the 42 studies included in the systematic review, the most common measures of academic performance were GPA ($n = 15$), academic achievement ($n = 6$), exam performance ($n = 3$), the remaining studies used different measure of academic performance including European Credit Transfer and Accumulation System (ECTS; $n = 1$), final grade (single subject; $n = 1$), pass/fail ($n = 1$), study success ($n = 1$), and general education performance ($n = 1$), and academic performance ($n = 1$).

Psychosocial correlates of academic performance

Social support

Across 13 studies, social support was measured 28 times. Measures of social support varied greatly and did not consistently assess the same type of social support. There were mixed findings when looking at the correlations between social support and GPA. For example, seven of the studies found weak to typical positive relationships between social support and academic performance (Demir et al., 2019; Frazier et al., 2019; Krumrei-Mancuso et al., 2013; Nelson, 2016; Newton et al., 2013; Pluut et al., 2015). However, six studies did not find a significant effect (Brouwer et al., 2016; Rodriguez et al., 2017; Sommer et al., 2011; Zhou et al., 2015), and three studies did not report correlation coefficients (Duffy et al., 2020; Grossbard et al., 2015; Tavernier & Willoughby, 2014).

Motivation

Motivation was studied within 19 times across 10 papers. However, different types of motivation were measured across the different studies, including extrinsic motivation, intrinsic motivation, and Amotivation. Of the studies measuring intrinsic motivation four

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found a significant positive correlation with academic performance (Bailey, et al., 2016, Brouwer et al., 2016, Dubuc et al., 2017., VanRooij et al., 2018), and two did not identify a significant correlation (Sommer et al., 2011; Stavroulaki et al., 2020). For extrinsic motivation, most studies did not identify a significant correlation with academic performance (Sommer et al., 2011; Stavroulaki et al., 2020), however one study did identify a significant positive association with academic performance (Dubuc et al (2017). All four studies measuring Amotivation identified a significant negative correlation with academic performance. Four studies measured motivation, without specifying the type of motivation and found positive associations with academic performance (Brouwer et al (2016) Nelson (2016) Newton et al (2013) Ribeiro et al (2019) Stavroulaki et al (2020). Generally, the literature points toward intrinsic and extrinsic motivation being positively related to student's academic performance, however intrinsic motivation seems the most robust indicator of high academic performance. In contrast, Amotivation showed when students experience a reduction in motivation, they also have lower academic performance.

Stress

The relationship between stress on academic performance was measured 16 times across 9 studies. Stress typically showed weak to typical negative correlations with academic performance (Dubuc et al., 2017; Pluut et al., 2015; Sommer et al., 2011; Travis et al., 2020; Tucker et al., 2015). However, two studies found no significant relationship (Frazier et al., 2019; Duffy et al., 2020) and another two did not report correlations (Duffy et al., 2020; Grossbard et al., 2015). Taken together, students who report higher levels of stress often have lower academic performance.

Satisfaction

Students' satisfaction was measured 14 times across 9 studies. However, the type of satisfaction measured within each varied. For example, studies measured students'

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satisfaction with life, academic satisfaction, their satisfaction with their degree and institution, and their satisfaction with people and peers. Overall, satisfaction scores were typically found to positively correlate with academic performance, and effect sizes ranged from weak to strong. More generally, the results show that students who are satisfied with life, their institution, and their social support networks also have better academic performance.

Self-efficacy

Self-efficacy was measured in 28 times within 8 paper (Fonteyne et al (2017), Frazier et al., 2019, Krumrei-Mancuso et al., 2013; Newton et al., 2013; Travis et al., 2020; VanRooy et al., 2018; Wright et al., 2013). Across all studies, self-efficacy was positively correlated with student GPA performance and effect sizes ranged from small ($r = .02$) to strong ($r = .60$). However, two individual finding showed a non-significant correlations with GPA, but were specific subtypes of self-efficacy regarding confidence in expectations and performance (Nelson, 2016). Nonetheless, self-efficacy was not only the most studied but the studies consistently demonstrated that students with higher levels of self-efficacy also have better academic performance.

Anxiety and depression

Five studies investigated the relationship between anxiety or depression with academic performance (Bailey et al., 2016; Bahmani et al ., 2018; Duffy et al., 2020; Jamieson et al., 2020; Tucker et al., 2015). Anxiety and depression were both negatively associated with academic performance, with small to typical effect sizes.

Prior academic achievement

Prior academic achievement was based on student's High school GPA, entrance exam, university credits, and prior performance at university. Prior academic achievement was positively correlated with academic performance within ten studies, and showed typical

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to strong effects (Merchan-Clavellino et al., 2019; Nelson, 2016 ; Ribeiro et al., 2019; Rodriguez et al., 2017; VanRooy et al., 2018; Wright et al., 2013; Zhou et al., 2015). Only one study showed a weak relationship between Prior academic achievement and academic performance (Bailey et al., 2016). Prior academic performance was consistently associated with current academic performance, whereby students who enter university with high GPAs continue to maintain high GPAs.

Students' study effort

Students' effort was measured by the amount of time spent on homework and study across five studies (one study did not report correlations). The relationship between study time and academic performance was positive and showed typical effect sizes (i.e., $r \leq .30$). These studies show that the more time and effort students devote to studying the higher the academic performance.

Adjustment

Adjustment was measured ten times across five studies. However, the types of adjustment measured differed across the studies. For example, three studies measured intrapersonal adjustment, three studies measured academic adjustment, and two studies also looked at social adjustment. In two studies Academic adjustment was showed typical and strong positive correlations with academic performance. Suggesting students who are able to adjust to the academic demands tend to produce better academic performance. A similar finding was observed for intrapersonal adjustment however, there was more variation in the effects, with one study finding no significant relationship, while another found a strong effect. Taken together, students who are able to adjust to the academic and social demands of university also have better academic performance.

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Family

Variables associated with the family structure were measured across nine different studies. Six of the studies looked at positive aspects of the family on academic performance including, Satisfaction with family (Bahmani et al., 2018), family support (Nelson, 2016), parental cultural capital (Ribeiro et al., 2019), parents education and employment (Rodriguez et al., 2017; Zhou et al., 2015), family acceptance (Rodriguez et al., 2017), Parenting style (Stavrulaki et al, 2020). A further three studies identified the relationship between negative aspects of family and academic performance including, family conflict (Bahrassa et al., 2011; Lee et al., 2010), family barriers (Newton et al., 2013), and parenting style (Stavrulaki et al, 2020). Students with higher levels of family support, more educated, financially stable, authoritative parents had typical positive relationships with academic performance. However, students who experience higher rates of family conflict and barriers typically reported typical to strong negative correlations with academic performance.

Emotions

In total, seven studies investigated the relationship between negative emotions, positive emotions, or emotional intelligence with academic performance. Positive affect, positive emotional functioning, and emotional intelligence showed weak to strong positive correlations with academic performance (Bahmani et al., 2018; Krumrei-Mancuso et al., 2013; Lee et al., 2010; Merchan-Clavellino et al., 2019; Song et al., 2010). In contrast, Negative emotional functioning showed strong negative relationships with academic performance and negative affect showed weak correlations with academic performance (Bahmani et al., 2018; Bailey et al., 2016).

Other psychosocial variables.

In total, we identified 82 different psychosocial constructs being measured across 31 papers. These included academic aptitude, academic support, age, agreeableness, alcohol,

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appraisal, attachment, attention, autonomy, behavioural, belonging, choice, class attendance, classroom, conflict, conscientiousness, conscientiousness, course work, depression, distress, employment, engagement, environment, expectation, expected grade, expected learning, extraversion, extrinsic motivation, financial, first in family, gender, general mental ability, generation status, habits, language skills, leadership, loneliness, mental health, meta-cognition, military, morale, nationality, neuroticism, openness, organisation, persistence, prejudice, prior achievement, quality of life, rapport, reading comprehension, resilience, resources, self-concept, self-esteem, socio-economic status, sleep, social media, strategy, study skills, study time, teacher, vocabulary knowledge, and workload. However, a majority of these additional variables were only included in a single study.

[Table 1]

Discussion

This systematic review aimed to identify the psychosocial correlated of academic performance in university students. Our results have shown that many psychological and social variables are related to academic performance. The results strongly emphasise that academic performance can be significantly impacted by students' social support, motivation, stress, satisfaction, self-efficacy, anxiety and depression, prior academic achievement, study effort, adjustment, family, and emotions.

Studies investigating the impact of psychological impacts on university student's academic performance were related to students' intrinsic and extrinsic motivation. The findings from multiple studies show that intrinsic motivation is correlated positively with academic performance. However, there were mixed findings regarding extrinsic motivation. Nonetheless, these studies do show that intrinsic motivation is a key factor in improving university student's academic performance. Self-efficacy is also a common factor associated with academic performance. The systematic review confirms that self-efficacy is related to

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academic performance (Honicke & Broadbent, 2016; M. Richardson et al., 2012; Robbins et al., 2004). That is, students with high levels of academic self-efficacy tend to have better academic performance, are more motivated to learn, and utilise more effective study methods (Honicke & Broadbent, 2016).

Most of the social factors were focused on the impact of social support from family, friends, and academic staff on academic performance. Generally, social support was associated with better academic performance. Taken together, social factors had a small but significant impact on university students' academic performance. However, only a few studies investigated the impact of the learning environment on academic performance. Given that 35% of universities in the USA (Dziuban et al., 2018) and 12.2% of universities in Australia (Tertiary Education Quality and Standards, 2018) are using blended learning (i.e., the combination of both online and face-to-face teaching; (Graham, 2013) there is need for more research to identify the impact of blended learning on university students academic performance.

The findings of this systematic review confirm Tinto's model of academic persistence by showing that a student's pre-entry attributes (e.g., prior academic achievement family), goals and commitments (e.g., motivation), social and academic experiences (social support, social and academic adjustment), integration (satisfaction with institution, peers, and staff) and quality of student effort, impact on students' academic performance. However, beyond what would be expected within Tinto's model, we have also identified that academic performance among university students is also impacted by psychological factors such as stress, anxiety, depression, and emotional affect. These findings suggest that more focus needs to be given to supporting the psychological needs of university students. Tinto (2017) argues that while institutions are concerned with retaining students; students are more concerned with their ability to persist and remain motivated to complete their degree. By

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addressing the psychosocial factors university students identified in this review, institution can further assist students to improve their academic performance and persist with their degree.

Limitations

There are several limitations of this review. First, there were only a small number of studies that were eligible for inclusion. Due to the varying definitions of psychosocial, and the narrow population focus, it was difficult to obtain studies that had looked at the direct relationship between psychosocial variables and academic performance. Second, there was much variability in the constructs that were being measured but also variation in the scales that were being used to measure each construct. It is possible that combining the studies could account for the considerable heterogeneity in our findings. Third, we only included studies from peer-reviewed, English language journals, in our search, there were several studies excluded as they were written in languages other than English (e.g., Spanish, Arabic, and Japanese). Finally, the search terms used in this study were limited to “psychosocial factors “. Based on the findings of our systematic review, we have shown that the term psychosocial encompasses a wide range of psychological and social constructs. Studies may have investigated psychosocial variables without using the term “psychosocial”. For example, anxiety and depression has been extensively studied among university students but only four studies were identified under the search terms for “psychosocial. However, a novel component of this systematic review, is that we have provide a starting point to begin defining psychosocial constructs. Given the wide scope of psychosocial variables identified, it would be impractical to conduct a meta-analysis including all psychosocial variables¹.

¹ Assumptions for a meta-analysis were tested on the data extracted from the studies identified in this systematic review. However, due to the number of different psychosocial variables there was considerable heterogeneity in the data.

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However, future systematic reviews and meta-analyses could be conducted on any one of the psychosocial variables identified in this review.

Conclusion

This systematic review indicates that psychosocial factors do impact university students' academic performance, although the effect sizes are typically small. Furthermore, there is a need for a more systematic approach to defining *psychosocial factors* to provide a more robust theoretical framework to identify the factors that are contributing to students' wellbeing and academic performance at university.

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Figures

Figure 1: *Prisma flow diagram for meta-analysis identifying the psychosocial factors predicting university students academic performance*

