



Development and initial validation of a multidimensional student performance scale



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ABSTRACT

Job performance has been recognised as multidimensional, and can be separated into task performance, organisational citizenship behaviours, and counterproductive work behaviours. These dimensions of job performance have been applied to student performance in previous research. However, the qualitatively different contexts between job and student performance mean that behaviours measuring multidimensional performance in the work context may not be applicable to the university context. In two studies we sought to investigate whether the dimensional structure of job performance could be replicated with student performance, and to develop preliminary scales to measure multidimensional student performance. Results revealed that the three-factor structure of job performance could be replicated in student performance, and that previous scales used to measure the dimensions of student performance suffered issues in relation to construct definition and concept overlap. Furthermore, we provided initial support for the validity of the multidimensional student performance scale developed in this study, and correlated the subscales with measures of personality and grade point average.

1. Introduction

Research on job performance in organisations has benefitted from expanding the performance domain beyond core task performance into extra-role behaviour (Hough & Oswald, 2008). It is now generally recognised that there are three main, broad dimensions of job performance: task performance, organisational citizenship behaviour, and counterproductive work behaviour (Rotundo & Sackett, 2002; Viswesvaran & Ones, 2000). The differentiation of these types of job performance has allowed a greater understanding of employee performance, and the investigation of their unique antecedents, including personality and individual differences (e.g., Berry, Carpenter, & Barratt, 2012; Chiaburu, Oh, Berry, Li, & Gardner, 2011) and organisational characteristics (e.g., Spector & Fox, 2010).

Task performance comprises those behaviours which contribute towards the technical core of an organisation—the production of a good or provision of a service (e.g., selling widgets; Rotundo & Sackett, 2002). Generally these behaviours are formally recognised as being part of the job or role, though due to the changing nature of job roles and the difficulty in comparing job descriptions across roles, this is not a defining characteristic (Rotundo & Sackett, 2002). Organisational citizenship behaviour is considered to be behaviour that positively contributes to an organisation's social or psychological environment and is outside of the core job tasks (Fox, Spector, Goh, Bruursema, & Kessler,

2012; Rotundo & Sackett, 2002) (e.g., staying back to do extra work to help colleagues; Spector, Bauer, & Fox, 2010). Finally, counterproductive work behaviours are behaviours that are detrimental to the well-being or goals of an organisation or its stakeholders (e.g., bullying another staff member; Ones & Dilchert, 2013). Counterproductive work behaviours do not need to be intentionally harmful, and they may arise from carelessness or habit (e.g., arriving late to work; Ones & Dilchert, 2013).

In a recognition of the importance of academic behaviours beyond grade attainment, these broad categories of job performance have begun to be investigated in tertiary education settings, transforming organisational citizenship behaviour and counterproductive work behaviour to student citizenship behaviour (SCB) and counterproductive student behaviour (CSB) respectively (e.g., Credé & Niehorster, 2009; Meriac, 2012; Schwager et al., 2014; Zettler, 2011). The definition of SCB used in this study reflects other research on SCB (e.g., Schwager et al., 2014; Zettler, 2011) and has been directly adapted from Rotundo and Sackett's (2002) definition of organisational citizenship behaviour: being behaviour which positively contributes to the university's social or psychological environment. Similarly, following common definitions of counterproductive work behaviour (Ones & Dilchert, 2013) and CSB (Schwager et al., 2014; Zettler, 2011), in this study CSB was defined as behaviours which are detrimental to the goals or well-being of the university or its stakeholders. These behaviours may reflect disrespect,

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disruption, and a disregard for university rules, processes, and norms.

However, the definition of task performance in organisations is not directly transferable to the university domain, as they are qualitatively different. For example, an intuitive approach would suggest that student task performance (STP) is approximately equivalent to fulfilling the formal degree requirements and academic achievement—this is the approach many studies have taken (e.g., Schwager et al., 2014). However, it is important to note the differences between STP and task performance in organisations. In a work setting, the employee is paid by the employer to perform their assigned duties, which directly contribute to the organisation's technical core—the production of a good or provision of a service. In contrast, in a university setting the student completes the required tasks (e.g., attending class, writing assignments, and sitting exams) without direct recompense (instead, in many countries, the student *pays the university* for the privilege of studying there), as they are considered to be related to the student's own self-improvement. Furthermore, individual academic performance does not have a direct impact upon the university's technical core, in contrast to task performance in organisations. Indeed, a large part of a university's technical core is providing a service (education) to the students.

Consequently, student task performance should not “look” the same as organisational task performance, in the same way that a customer's behaviour would not look like an employee's behaviour. Using the example of a gym (another self-improvement institution), while a gym employee's task performance may include behaviours relating to completing assigned duties, such as cleaning the equipment, a gym *client's* task performance behaviours are likely to be completing their self-imposed (or trainer imposed) exercises, not skipping gym days, adhering to a diet, and putting in effort to beat their personal best.

As such, in order to incorporate the difference in context between an organisational and academic setting, and consistent with the focus on performance *behaviours*, rather than outcomes, in the present study STP is defined as behaviours which are recognised as being part of the role or requirements of a student, or that directly contribute to individual academic performance. This definition has parallels to items used to measure task performance in organisations (e.g., “performs tasks that are expected of him/her”, “engages in activities that will directly affect his/her performance evaluation”; Williams & Anderson, 1991).

This difference in context between an organisational and academic setting causes different motivations and behavioural indicators across all of the dimensions of student performance. For instance, some organisational citizenship behaviour scales contain items reflecting effort beyond that which is required (e.g., “Brought work home to prepare for next day”, Fox et al., 2012). Extra effort in job-related tasks may be considered an organisational citizenship behaviour as it positively contributes to a supportive work environment when it is beyond the core job tasks (e.g., “Consistently takes the initiative to pitch in and do anything that might be necessary to help accomplish team or organizational objectives, even if such actions are not normally part of own duties”, Poropat & Jones, 2009), and as such may be considered to positively contribute to the organisation's psychological and social functioning. In contrast, a student putting in extra effort into their assessment (or a gym client putting in extra effort to beat their personal best), impacts the student but has negligible direct impact on the wider university functioning. As such, the type of behaviours which would fit into each of the performance dimensions is likely to be different across organisational and university settings.

Consequently, there are two main issues with the scales currently used to measure CSB and SCB. Firstly, some scales used were originally developed in the work context and adapted to the university context (e.g., Allison, Voss, & Dryer, 2001; LeBlanc, 2014; Poropat, 2011). As mentioned previously, behaviours measuring multidimensional performance in the work context may not be transferable to the university context. Secondly, previous scales have typically been developed to only measure single dimensions of student performance (e.g., Gehring, 2006; Hakstian, Farrell, & Tweed, 2002). However, the development

and use of unidimensional scales to measure CSB or SCB *separately* means that the scales have not been validated against other dimensions of student performance, causing a potential lack of clarity in constructs, and concept overlap. For instance, some items measuring SCB (e.g., “I often complete study-related tasks last minute [r]”; Gehring, 2006) and CSB (e.g., “Turned in work that was of poor quality—lower than your true potential or ability”; Hakstian et al., 2002) appear to both represent poor work standards. While it is possible to develop scales separately, and then ensure lack of concept overlap after scale development, this has not yet been done for SCB and CSB scales.

This problem is not restricted to the measurement of student performance, as conceptual and empirical overlap of items has also been found in the job performance literature (Spector, 2010). For instance, the organisational citizenship behaviour item “Takes undeserved work breaks (r)” (Williams & Anderson, 1991) is tapping a similar construct to the counterproductive work behaviour item “Taken a longer break than you were allowed to take” (Bennett & Robinson, 2000). This causes concerns about conceptual definitions of the constructs, and raises questions on the broader construct validity of the scales or concepts (Fox et al., 2012; Spector, 2010). For example, recent research has suggested that OCB-conscientiousness, one of the dimensions of organisational citizenship behaviour originally outlined by Organ (1988), has items/behaviours which overlap with counterproductive work behaviour (Fox et al., 2012) and has conceptual and empirical overlap with task performance (Poropat & Jones, 2009), which calls into question its validity as an organisational citizenship behaviour dimension.

These overlapping items or constructs also have the effect of biasing relationships. For instance, in a meta-analysis, Dalal (2005) found that when organisational citizenship behaviour and counterproductive work behaviour scales that contained overlapping items were removed from the analysis, the correlation between organisational citizenship behaviour and counterproductive work behaviour decreased from -0.32 to -0.19 . Even more strikingly, Spector et al. (2010) meta-analytically examined the effect of overlapping items, rating format (agreement versus behavioural frequency), and rating source (self versus supervisor) on organisational citizenship behaviour and counterproductive work behaviour relationships. When controlling for these method factors, correlations between organisational citizenship behaviour and counterproductive work behaviour changed from negative, to zero or even *positive*. Similarly, when using scales specifically designed to avoid overlapping items and using a behavioural frequency rating format, Fox et al. (2012) found a *positive* correlation between organisational citizenship behaviour and counterproductive work behaviour.

As such, the investigation and measurement of multidimensional student performance currently faces two main concerns. Firstly, there have been no studies which have investigated whether the job performance dimensions of task performance, organisational citizenship behaviour, and counterproductive work behaviour can be replicated in the academic domain. Related to this, it is not clear whether behaviours classified on a job performance dimension would also fit into the corresponding student performance dimension. Secondly, current scales used to measure SCB and CSB have been developed independently of each other, and there are concerns about conceptual overlap of items. Therefore, we conducted two studies to address our two aims: first, to investigate whether the multidimensional structure of job performance could be replicated in student performance; and second, if multidimensional student performance was found, to develop preliminary scales to measure these concepts. Study 1 sought to develop a set of three brief, unidimensional scales, collectively titled the Multidimensional Student Performance Scale (MSPS), to measure multidimensional student performance. Study 2 sought to confirm the factor structure of the MSPS, compare it with current scales used to measure SCB and CSB, and provide evidence for the validity for the new MSPS with respect to personality and grade point average (GPA).

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