Learning and Individual Differences 45 (2016) 268–274

Contents lists available at ScienceDirect

Learning and Individual Differences

journal homepage: www.elsevier.com/locate/lindif

Coping with University Education: The relationships of Time Management Behaviour and Work Engagement with the Five Factor Model Aspects

Heather E. Douglas [a,*], Miles Bore [b], Don Munro [b]

[a] Centre for Health Systems and Safety Research, Macquarie University, Australia
[b] School of Psychology, University of Newcastle, Australia

ARTICLE INFO

Article history:
Received 24 April 2015
Received in revised form 21 October 2015
Accepted 12 December 2015

Keywords:
Big five aspects
Time management behaviour
Work engagement
Construct validity
Self-regulated learning

ABSTRACT

We examined the construct validity of time management behaviour and work engagement, defined as a positive work-related state of mind. Two-hundred and eighty-one participants completed the Time Management Behaviour Scale, the Utrecht Work Engagement Scale — Student Version, and the Big Five Aspect Scales. Linear regression analyses revealed that time management behaviour was positively predicted by the Conscientiousness aspects, Industriousness and Orderliness. Work engagement variables were also predicted by Industriousness, and both aspects of Openness/Intellect. Openness significantly predicted vigor and dedication, while Intellect predicted absorption. These findings indicate that those higher in both time management behaviour and work engagement are more likely to use time effectively and minimise distractions. While individuals higher on time management behaviour are more likely to work in an orderly fashion, individuals higher in work engagement might be quicker to understand information. The implications for supporting students at university to learn more effectively are discussed in light of these findings.

1. Coping with University Education: The relationships of Time Management Behaviour and Work Engagement with the Five Factor Model Aspects

Using time more efficiently is widely assumed to be a key skill for students (Claessens, van Eerde, Rutte, & Roe, 2007; Kelly & Johnson, 2005; MacCann, Fogarty, & Roberts, 2012). However, the evidence indicating that students who plan their time achieve better grades is mixed (Britton & Tesser, 1991; Burt & Kemp, 1994; Macan, Shahani, Dipboye, & Phillips, 1990; Trueman & Hartley, 1996). In contrast, university students who engage more with their studies might achieve higher grades (Salamonson et al., 2013). A number of interventions have been designed to improve university students' engagement with their studies (Wolters & Hoops, 2015). However, personality traits might confer a higher likelihood of using self-regulated learning strategies in the first place. The aim of this study was to examine the trait antecedents of time management behaviour (Macan et al., 1990) and work engagement (Schaufeli, Salanova, Gonzalez-Roma, & Bakker, 2002) in order to determine which students might benefit more from self-regulated learning interventions. A secondary aim of this study was to establish evidence for the discriminant validity of both constructs in a tertiary student sample.

1.1. Work Engagement

Work engagement is defined by Schaufeli, Salanova, et al. (2002) as a "…positive, fulfilling, work-related state of mind" (p. 74). Work engagement consists of three affective-cognitive states. Vigor is characterised by high levels of mental resilience while working, a willingness to invest effort in work, and persistence with work activities. *Dedication* refers to a sense of enthusiasm, pride, and challenge towards work. *Absorption* refers to being concentrated and engrossed in work. Schaufeli, Salanova, et al. (2002) found that all three work engagement constructs were negatively associated with the three dimensions of burnout (emotional exhaustion, depersonalisation, and lack of personal accomplishment) in both student and employed samples. Vigor was positively associated with academic performance as measured by the number of exams passed (Schaufeli, Martinez, Pinto, Salanova, & Bakker, 2002).

1.2. Time Management Behaviour

Claessens et al. (2007) defined time management behaviour as "behaviours that aim at achieving an effective use of time while

* Corresponding author at: Centre for Health Systems and Safety Research, Australian Institute of Health Innovation, Macquarie University, Level 6, 75 Talavera Road, NSW, 2109, Australia.
E-mail address: Heather.Douglas@mq.edu.au (H.E. Douglas).

http://dx.doi.org/10.1016/j.lindif.2015.12.004
1041-6080/

performing certain goal-directed activities" (p. 36). It can be broken down into the behaviours of planning tasks, prioritising, making to-do lists, and limiting the influence of interruptions. A recent review indicated that time management has an unclear relationship with student learning outcomes (Claessens et al., 2007). Some evidence indicates that time management behaviours are related to cumulative grade point average (Britton & Tesser, 1991; Hamdan, Nasir, Rozainee, & Sulaiman, 2013; Macan et al., 1990; MacCann et al., 2012).

1.3. Self-regulated learning and personality functioning

Time management behaviour and work engagement are both examples of processes underlying self-regulated learning. Self-regulated learning has been defined as the self-beliefs and self-directive processes that enable learners to transform their mental abilities into an academic performance skill (Zimmerman, 2008). Zimmerman (1990) described self-regulated learners as students who "…plan, set goals, organise, self-monitor, and self-evaluate…report high self-efficacy, self-attributions, and intrinsic task interest" (pp. 4–5). According to the work of Pintrich and colleagues (Pintrich, 2004; Pintrich & De Groot, 1990; Pintrich, Wolters, & Baxter, 2000; Pintrich & Zusho, 2002; Wolters, 2003; Wolters, Pintrich, & Karabenick, 2005), self-regulated learning includes at least four areas of learning. Of these four, the motivation and behaviour areas are directly relevant to the current study. Motivation refers to the process through which goal-directed behaviour is initiated and sustained, as well as an individual's willingness to persist at academic tasks. Behaviours under self-regulated learning refer to the actual participation, conduct, or other physical actions are required to complete learning tasks (Wolters & Taylor, 2012). The motivation and behaviour aspects of self-regulated learning correspond to the definitions of work engagement and time management behaviour respectively.

Identifying the personality traits that confer a higher likelihood of using TMB and WE might assist us to identify those students more likely to achieve at university. According to a cybernetic model of personality, traits determine an individual's most likely strategy for dealing with certain classes of goals and rewards in the environment (Van Egeren, 2009). Instead of the usual question "how does trait X control action Y", cybernetic models ask instead how traits provide the controls for the required action, in other words "what about action Y needs to be controlled, and how does trait X provide the controls" (Van Egeren, 2009, p. 94). For students at university, self-regulated learning processes might be more effectively deployed if the individual in question has higher levels of a particular trait. In line with a cybernetic model of personality, in this study we conceive of both TMB and WE as an outcome of traits. Consequently, below we review the previous literature exploring the relationships of both TMB and WE with traits.

1.4. The Five Factor Personality Model

The antecedents of goal-directed behaviour have been explored by the literature linking personality and work engagement (Akhtar, Boustani, Tsivrikos, & Chamorro-Premuzic, 2015). The personality antecedents of time management behaviour have not been as consistently explored (Claessens et al., 2007; MacCann et al., 2012). The Five Factor Model (FFM) is arguably the current dominant paradigm in personality, and consists of five factors labelled Agreeableness (A), Conscientiousness (C), Extraversion (E), Neuroticism (N), and Openness/Intellect (O/I) (Costa & McCrae, 1992, 1995; Digman, 1990; Goldberg & Rosolack, 1994; Norman, 1963). This model has also been referred to as the big five or the Five-Factor approach (DeYoung, Quilty, & Peterson, 2007).

1.4.1. The Big Five Aspects

Research on the FFM has typically focused on a two-level hierarchy of traits, with the five domains each subsuming six narrower traits, labelled "facets" (Costa & McCrae, 1992). However, more than two levels can be identified (Digman, 1997), including a level between the domains and the facets, referred to as "aspects" (DeYoung et al., 2007). Agreeableness has the aspects of Politeness and Compassion; Conscientiousness has the aspects of Industriousness and Orderliness; Extraversion facets are Enthusiasm and Assertiveness; Neuroticism has Volatility and Withdrawal as aspects; and the Openness/Intellect domain consists of the aspects called (rather confusingly) Openness and Intellect (DeYoung et al., 2007). The advantage of the aspect-level traits as opposed to the facets is that they are broader and more parsimonious, while still allowing trait differentiation within the big five domains. Only one study that we are aware of (Woods & Sofat, 2013) has investigated the aspect-level correlates of either time management behaviour (TMB) or work engagement (WE), though the study did not use the Big Five Aspect Scales created by DeYoung et al., nor did they investigate all ten aspects. Furthermore, research on both TMB and WE constructs typically concentrates on the higher-order scores instead of treating both TMB and WE as multi-dimensional constructs. Measuring all ten aspects of the big five confers the advantage of examining TMB and WE while allowing for trait differentiation within the five domains. Because we are examining a specific skill that might lead to increased overall performance, using similarly specific and narrow measures of personality traits will provide us with a more fine-grained understanding of the individual more likely to engage in TMB and WE (Ones & Viswesvaran, 1996). It will also allow us to better discriminate the trait antecedents of TMB versus WE, which as we review below appear to have overlapping trait associations.

1.5. FFM aspects as antecedents

Preliminary evidence suggests that work engagement might be characterised by high Conscientiousness, high Openness/Intellect, and low Neuroticism (Akhtar et al., 2015), and the literature on time management behaviour suggests that it is associated with higher Conscientiousness and lower Neuroticism (Claessens et al., 2007).

1.5.1. Conscientiousness

Conscientiousness has been described as the tendency to be organised, planful, reliable, responsible and thorough (McCrae & John, 1992). Conscientiousness has been positively associated with work engagement in adult workers from a range of industries (Akhtar et al., 2015; Kim, Shin, & Swanger, 2009), and even among unemployed adults (Van Hoye & Lootens, 2013). In a study of undergraduate students a positive relationship between time use efficiency and Conscientiousness was identified (Kelly & Johnson, 2005). Individuals more likely to engage in short- and long-term planning were also more likely to have a preference for a planned, orderly, and controlled way of living (Williams, Verble, Price, & Layne, 1995)

The Conscientiousness aspect of Industriousness reflects a tendency to settle into work quickly, stay focused on the task at hand, and carry out plans while the aspect of Orderliness describes an individual who prefers keeping things tidy, follows a routine, and pays attention to detail (DeYoung et al., 2007). Work engagement characterises an individual more likely to be absorbed, resilient during tasks, difficult to distract and able to focus their mind on the task at hand. This suggests that Work engagement is more likely to be positively associated with Industriousness (Woods & Sofat, 2013). In contrast, time management behaviour reflects an individual who prefers to plan and structure their time. An individual who exhibits more of these behaviours might be more likely to also demonstrate high levels of Orderliness.

H1. Both Conscientiousness aspects will be significant predictors of time management behaviour.

H2. Work engagement will be significantly predicted by Industriousness but not Orderliness.