



## Strategies for success in education: Time management is more important for part-time than full-time community college students<sup>☆</sup>

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### ABSTRACT

This paper examines relationships between the Big Five personality factors, time management, and grade-point-average in 556 community colleges students. A path model controlling for vocabulary, gender, and demographic covariates demonstrated that time management mediates the relationship between conscientiousness and students' academic achievement at community college. Separate modeling for part-time ( $n = 147$ ) and full-time students ( $n = 409$ ) showed that this mediation was moderated by enrollment status. Thus, time management was a significant mediator for part-time students but not for full-time students. The greater importance of time management for part- versus full-time students suggests that noncognitive constructs such as time management may be more critical for non-traditional students. These findings gather fresh currency as ever increasing numbers of students are enrolling part-time in post-secondary education across the globe.

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### 1. Introduction

Comprehensive meta-analyses have established that academic success is best predicted by cognitive ability and the personality trait of conscientiousness (O'Connor & Paunonen, 2007; Poropat, 2009; Trapmann, Hell, Hirn, & Schuler, 2007).<sup>1</sup> However, this research has rarely focused on community college students (Townsend, Donaldson, & Wilson, 2004). In addition, little research has focused on part-time students, or the ways in which the trajectory for success may differ for part-versus full-time students (Williams & Kane, 2010). We aimed to address these poorly understood areas of research by considering how noncognitive constructs predict academic success within a community college sample, and whether such pathways differed for part- versus full-time students. In addition to the Big Five personality factors, we also considered the role of time management. Our broad goals were to determine whether: (a) The prediction of academic achievement from

conscientiousness and from time management generalizes to the community college sector; (b) time management mediates the conscientiousness–achievement relationship; and (c) the positive benefits of time management are stronger for part- versus full-time students.

#### 1.1. Personality and academic achievement

The previously cited meta-analyses demonstrate that conscientiousness predicts students' university grades at a similar level to cognitive ability. Poropat (2009) found a meta-analytic correlation of .23 and O'Connor and Paunonen (2007) suggest a value of .22. When the focus is mainly on European samples, the value is estimated to be slightly higher ( $\rho = .27$ ; Trapmann et al., 2007). Poropat (2009) also reported that the relationship between cognitive ability and college grades was .23, suggesting that conscientiousness is at least as important as cognitive ability in predicting students' achievement. Of note, conscientiousness is also a ubiquitous predictor of workplace performance, training proficiency, and health outcomes (e.g., Barrick & Mount, 1991; Barrick, Mount, & Judge, 2001; Bogg & Roberts, 2004). Given the wide range of outcomes for which conscientiousness is important, it is hypothesized that conscientiousness will also predict success in community college; a sector of the educational community that is ignored in the meta-analyses described above.

#### 1.2. Time management and academic achievement

The advantages associated with effective time management in education are reportedly numerous and form the crux of many advisory

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<sup>1</sup> Note that these three meta-analyses are not independent observations, as they reference many of the same data sets.

pieces and counseling services given both to incumbent and at-risk students (e.g., Rowh, 2004). Moreover, poor time management practices – such as not allocating time properly for work assignments, cramming for exams, and failing to meet deadlines set by academic staff – are frequently cited as a major source of stress and poor academic performance (e.g., Gall, 1988; Longman & Atkinson, 2004; Macan, Shahani, Dipboye, & Phillips, 1990). In addition, empirical evidence suggests that effective time management is associated with greater academic achievement (e.g., Britton & Tesser, 1991; Macan et al., 1990; McKenzie & Gow, 2004; Trueman & Hartley, 1996). In the present study, we use R. D. Roberts, Schulze, and Minsky's (2006) measure of time management, which assesses several broad time management competencies. These competencies include setting goals, meeting deadlines, using time management aids such as list-making, coping with change, making plans, and effectively organizing one's time. R. D. Roberts et al. provide evidence for the instruments' structural validity and reliability.

### 1.3. Time management and conscientiousness

It is clear from past research that both time management and conscientiousness predict students' achievement at school (e.g., Britton & Tesser, 1991; Macan et al., 1990; O'Connor & Paunonen, 2007; Poropat, 2009; Trapmann et al., 2007; Trueman & Hartley, 1996). What is less clear is the particular ways in which conscientiousness and time management combine to predict academic success.

Previous research with middle and high school students demonstrates that time management shares a strong empirical relationship with conscientiousness, with reported correlations of .57 (Liu, Rijmen, MacCann, & Roberts, 2009) and .65 (MacCann & Roberts, 2010), respectively. Students who are highly conscientious tend to use more time management strategies, particularly those related to meeting deadlines, organization, and planning. However, we would argue that time management is distinct from conscientiousness for both conceptual and empirical reasons. Conceptually, time management is a set of habits or learnable behaviors that may be acquired through increased knowledge, training, or deliberate practice. By contrast, conscientiousness is a broad personality domain thought to be at least partly genetic, and is arguably less susceptible to environmental influences (e.g., Costa & McCrae, 2006; Luciano, Wainwright, Wright, & Martin, 2006). That is, conscientiousness is a broad and over-arching trait, while time management is a set of acquired habits. Second, although time management and conscientiousness are strongly empirically linked, factor analytic evidence suggests that these are psychometrically distinct constructs (Kelly & Johnson, 2005).

Crede and Kuncel (2008) suggest that the relationship between personality and academic performance is mediated by study attitudes and habits such as time management practices. Under this conceptualization, the link between conscientiousness and achievement is due to the behavioral expression of conscientiousness in the form of habits and behaviors that benefit learning. That is, one reason conscientiousness relates to achievement is that conscientious students use more and better time management strategies, which helps them to succeed academically. Time management appears as a behavioral expression of high conscientiousness.

The second aim of the current study is to statistically model this proposed mediation. Previous research has not yet explored whether time management mediates the effects of conscientiousness on students' grades. Although McKenzie and Gow (2004) found that learning strategies, including a time management component, mediated the conscientiousness/achievement relationship, they did not isolate time management as a specific mediator and used only a very brief measure of time management. In the current study, we use a comprehensive, multi-faceted measure of time management. In addition, we

control for cognitive ability in the mediation model, as cognitive ability is clearly a major predictor of academic achievement.

### 1.4. Differences between part-time and full-time students

Over the last 30 years there has been a global increase in the proportion of students studying part-time (Kember, 1999; O'Toole, Stratton, & Wetzel, 2003; Williams & Kane, 2010). In fact, 38% of students enrolled at degree-granting institutions in the US were enrolled part-time in 2007 (Chen & Carroll, 2007). Community colleges have an even greater intake of part-time students than standard four-year colleges (McCormick, Geis, & Vergun, 1995). Despite these changing patterns of enrolment, most basic research still focuses on full-time students, and very few studies address whether the predictors of achievement may be different for part-time students (Williams & Kane, 2010). One exception is Fish and Wilson (2009) who found that different cognitive ability variables were predictive of MBA grades for part- versus full-time students. Although no studies have directly compared the importance of noncognitive factors for part- versus full-time students, McKenzie and Gow (2004) found that learning strategies were nearly twice as predictive of grades for mature-age college students compared to traditional-age college students. This result suggests that noncognitive constructs such as time management may be more important for some sub-groups than others. Moreover, it suggests that noncognitive constructs may be more important for part-time students, who are frequently older than full-time students.

As well as age, part-time students differ from full-time students in several other key ways. Demographically, part-time students are more likely to be female and to be employed full-time (Chen & Carroll, 2007; O'Toole et al., 2003). Thus, part time students are more likely than full-time students to have competing demands from work and children that may displace study time. Moreover, part-time students who attrite frequently cite lack of time as their primary barrier to success (Kember, 1999). Given the greater time demands on part-time students, it is feasible that time management may be particularly important for this identifiable sub-group, both as a predictor of achievement and as a mediator of the conscientiousness-achievement relationship.

### 1.5. Summary of hypotheses

There are four hypotheses. First, both time management and conscientiousness will be significantly correlated with students' GPA. Second, the relationship between time management and GPA will be significantly greater for part-time than full-time students. Third, time management will mediate the relationship between conscientiousness and achievement. Fourth, this mediation will be more pronounced for part-time students than full-time students (i.e., a moderated mediation).

## 2. Method

### 2.1. Participants

A total of 556 community college students (323 female) participated in the study. The mean age of the respondents was 25.02 years ( $SD = 9.40$ ; median = 20). In terms of ethnicity/race, 47% reported being White, 17% African-American, 20% Hispanic, 6% Asian, while 9% indicated "other." In order to obtain something of a representative sample of community colleges, these students were drawn from 20 institutions from all four regions of the USA. The sample size per institution ranged from 10 to 58. Of those permissible cases, 42% came from large/midsize cities, 24% from the outskirts of a large/midsize city/town, and 34% from small towns/rural areas.

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