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Mediating relationships between academic motivation, academic integration and academic performance

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ABSTRACT

Using 81 first-year college students, researchers examined the indirect effects of seven types of academic motivation on academic performance when mediated by academic integration. When accounting for all other types of academic motivation in the statistical model, academic integration only mediated the relationship between intrinsic motivation to accomplish things and first-year grade point average (GPA). Therefore, students who attend college to gain a sense of accomplishment believe that college helps them develop intellectually and they perform well academically. However, when each motivation type was considered independently of the others, intrinsic motivation to know was also indirectly related to GPA, suggesting that students who enjoy learning are likely to perceive the intellectual benefits of college as well.

1. Introduction

Previous research has demonstrated how well demographic characteristics and cognitive factors predict college performance (Cohn, Cohn, Balch, & Bradley, 2004; Robbins et al., 2004; Sackett, Kuncel, Ameson, Cooper, & Waters, 2009). Although academic performance in high school and college entrance exam scores are consistently among the best predictors of college performance and degree attainment (Clark & Cundiff, 2011; Schmitt et al., 2009), other studies have shown that psychosocial factors also predict performance (Poropat, 2009; Zajacova, Lynch, & Espenshade, 2005). Of the more commonly studied psychosocial factors, motivation to achieve is one of the strongest predictors of academic performance (Robbins et al., 2004). While much of the research on students' ability to acclimate to a college setting examines its relationship with college retention (DaDeppo, 2009; Tinto, 1993), many studies have found that it also predicts academic performance (Pan, Guo, Alikonis, & Bai, 2008; Prospero & Vohra-Gupta, 2007; Ullah & Wilson, 2007). Some researchers have proposed that academic integration mediates the relationship between a variety of social factors and academic performance (Bean & Eaton, 2001; Cabrera, Nora, & Castaneda, 1993; Rivas, Sauer, Glynn, & Miller, 2007). Although previous research has established that both academic motivation and academic integration are related to academic performance, the present study focuses on how academic motivation and academic integration work together to predict academic performance. Specifically, we are interested in knowing whether or not academic motivation is among the psychosocial factors that are mediated by academic integration in its relationship to performance.

1.1. Academic motivation

Academic motivation is the driving factor that influences a person to attend school and obtain a degree. While there have been many theories of general motivation (Marsh, Craven, Hinkley, & Debus, 2003; Middleton & Toluk, 1999; Rotter, 1966), one of the best known theories of motivation is Deci and Ryan's Self-determination theory (SDT) of motivation (1985). Many motivation theories simply make distinctions between autonomous behavior, that which is done with a personal intention or choice, and controlled behavior, that which is done unwillingly or out of compliance (Heider as cited by Deci, Vallerand, Pelletier, & Ryan, 1991; Sheldon & Elliot, 1998). However, SDT is based on a hierarchical model that claims that there are three types of behavioral motivation: intrinsic motivation, extrinsic motivation, and amotivation; and four types of behavioral regulation within extrinsic motivation: external, introjected, identified, and integrated regulation (Deci & Ryan, 1985, 2002, 2008; Deci et al., 1991). Intrinsic motivation is when behaviors are done out of pleasure or for the sake of enjoyment, such as when a student studies psychology because she enjoys learning about human thinking and behavior. Extrinsic

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motivation is when behaviors are done to achieve a goal or reward beyond the activity itself. For instance, a student may attend college with the expectation of earning a higher salary with a degree, not because he enjoys learning. Amotivation is when individuals are not motivated because they do not perceive any reward for their behavior. Therefore, students do not feel responsible for outcomes that affect them. In this case, a student may attend college because he feels that he has no other alternative or is coerced to attend by his parents.

Within extrinsic motivation, external regulation is when a person engages in a behavior to obtain an external reward or avoid a punishment. For example, a student on academic probation may study several hours a night for her chemistry exam to avoid academic suspension or expulsion. Introjected regulation is when one engages in behavior to maintain personal expectations or avoid guilt. In this sense, motivation is internalized, but individuals are not engaging in activities for the pleasure of the activity itself. A student may still feel pressured to engage in an activity, but the pressure comes from him- or herself rather than another person or goal. For example, a student may attend college to prove to himself that he can obtain a college degree. Identified regulation is when a person truly values the behavior even though he or she is not doing it because he or she likes it. For example, a student may study statistics because it will help him with his research, but may not enjoy the computations. Integrated regulation is when a person engages in a behavior because the person perceives the activity as part of his or her character or identity. Although a particular activity or behavior is not done out of enjoyment; it supports other values, needs or behaviors that the individual does enjoy. For example, a student may study French because she likes to travel and find her trips to France are more enjoyable when she is able to speak French.

Since it was formulated, SDT has been organized using a variety of different structures as it applies to academic motivation. Some of these alternative structures include: (a) a three-factor structure using only the three motivation types (Komarraju, Karau, & Schmeck, 2009); (b) a four-factor structure (Sheldon & Elliot, 1998; Smith, Davy, & Rosenberg, 2012); and (c) a hierarchical structure using Deci and Ryan's (1985) three types of motivation as the higher-order factors and six lower-order factors (Vallerand, Blais, Brière, & Pelletier, 1989; Vallerand et al., 1992). Sheldon and Elliot's model includes: autonomous intrinsic motivation, autonomous identified motivation, controlled extrinsic motivation, and controlled introjected motivation. Although the construct labels are different from those in Deci and Ryan's model, the meanings are much the same. Autonomous intrinsic motivation is similar to Deci and Ryan's intrinsic motivation; autonomous identified motivation is similar to identified motivation; controlled extrinsic motivation is similar to extrinsic motivation; and controlled introjected motivation is similar to introjected motivation. Other than using four factors instead of six, the only other clear difference between Sheldon and Elliot's model and Deci and Ryan's model is that Sheldon and Elliot classify intrinsic and identified motivations as autonomous, such that students feel that they are in control of their educational choices; and extrinsic and introjected motivations are controlled by others, such that students feel that they are persuaded to attend college.

When Vallerand et al. (1989) adapted SDT to their academic motivation scales, they found only three distinct regulations of extrinsic motivation emerged from a factor analysis: external, introjected, and identified regulations. However, three subfactors for intrinsic motivation were also identified: intrinsic motivation to know (IM to know), intrinsic motivation toward accomplishments (IM to accomplish things), and intrinsic motivation to experience stimulation (IM to experience stimulation). IM to know is when a person engages in a behavior for the primary purpose of learning or exploring something new. For example, a student may read about European history because he finds the subject fascinating. IM to accomplish things is when a behavior is done for the satisfaction of accomplishing a task, to feel competent or to create something. For example, a student may write an optional senior thesis as means of meeting a challenge that is not required. IM to experience stimulation is when a person engages in a behavior because he or she thinks it is exciting or stimulating. For instance, a student may attend an acting class because the roll playing exercises are fun and exciting.

1.2. Academic motivation's influence on academic performance

Several researchers have found that academic motivation predicts academic performance among college students (Robbins et al., 2004; Tavani & Losh, 2003). However, many studies are not consistent in terms of how each type of motivation relates to performance. While some studies have found that students with higher levels of intrinsic motivation had higher college GPAs (Cokley, 2003; Davis, Winsler, & Middleton, 2006; Komarraju et al., 2009), others did not find this relationship (Baker, 2003; Prospero & Vohra-Gupta, 2007; Turner, Chandler, & Heffer, 2009). Although Komarraju et al. found that intrinsic motivation was positively related to academic performance using a three-factor model, they found that only IM to accomplish things predicted performance using a seven-factor model. Cokley also found that among the three types of intrinsic motivation, only IM to accomplish things was positively correlated with GPA.

Relationships between external motivation and academic performance are even less consistent. Among broadly defined samples of college students, researchers found no relationship between extrinsic motivation and academic performance (Baker, 2003; Prospero & Vohra-Gupta, 2007; Turner et al., 2009). However, among first-generation college students, Prospero and Vohra-Gupta found that extrinsic motivation predicted lower GPAs. Whereas, Cokley (2003) found that one of the measures of extrinsic motivation, external regulation, was *positively* related to academic performance when using a predominately African-American sample.

In most studies that were reviewed, students who lacked academic motivation demonstrated poor academic achievement (Cokley, 2003; Turner et al., 2009). However, other studies did not find that amotivation predicted GPA (Baker, 2003; Komarraju et al., 2009) or that a relationship was conditional on other factors. Like for extrinsic motivation, Prospero and Vohra-Gupta (2007) found that amotivation predicted lower GPAs among first-generation college students, but not for non-first-generation students.

1.3. Institutional integration

Institutional integration refers to a student's ability to adapt to and assimilate into educational environments, such as a high school or college. Tinto (1975), Pascarella and Terenzini (1980), and Astin (1975) propose that there are two main types of institutional integration: academic integration and social integration. Academic integration is a student's potential to benefit from academic experiences, which are based on that student's academic performance and intellectual development, within an educational setting (Pascarella & Terenzini). This requires that the student is able to meet the institution's educational demands and that the institution is able to meet the student's educational desires (Tinto, 1975, 1993). Therefore, academic integration is often based on the amount of energy put into learning and obtaining good grades and interactions with faculty. Social integration is a student's social involvement and interactions with other students (Pascarella & Terenzini). This would include developing friendships, joining clubs and organizations, and informal interactions with faculty and staff to discuss or support social issues (e.g. joining a gay rights support group or protesting against sexual assault). While both academic and social integration may involve interactions with students and faculty, the distinction is usually between the contexts of those interactions. That is academic integration focuses on intellectual pursuits and social integration supports emotional and psychological well-being.