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The Relationship Between Academic Identity and Self-Handicapping

A Dissertation submitted in partial satisfaction
of the requirements for the degree of

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in

Psychology

by

Brandon Lamare Carlisle

August 2015

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ABSTRACT OF THE DISSERTATION

The Relationship Between Academic Identity and Self-Handicapping

by

Brandon Lamare Carlisle
Doctor of Philosophy, Graduate Program in Psychology
University of California Riverside, August 2015
Dr. Carolyn B. Murray, Chairperson

The purpose of the present dissertation was to examine whether, and how, behavioral academic self-handicapping and claimed academic self-handicapping differentially relate to the academic identity statuses (i.e., achieved, diffused, moratorium, and foreclosed). Self-handicapping has been defined as creating or claiming obstacles to performance in order to enhance the ability to externalize failure and internalize success. Academic identity status involves a student's decision to attend college and the extent to which the student has committed to that choice. In Study 1, three hundred seventy undergraduate students completed survey instruments measuring academic self-handicapping, academic identity, high school college-going climate, self-efficacy, and impostor feelings. The results revealed divergent associations between academic self-handicapping and academic identity status. Specifically, achieved academic identity was negatively associated with both behavioral and claimed self-handicapping, diffused academic identity and moratorium academic identity were positively associated with both types of self-handicapping, and foreclosed academic identity was only positively associated with

claimed self-handicapping. These findings are further explicated by the examination of college-going climate, self-efficacy, and impostor feelings. The purpose of Study 2 was to examine the relationships between self-handicapping, academic identity status, and studying behavior in an undergraduate course. One hundred sixty undergraduate students completed survey instruments measuring academic self-handicapping and academic identity. Participants also recorded their studying behavior (i.e., days and hours spent studying) and their affect while studying (i.e., anxiety, depression, distractedness) during the week preceding the date of an undergraduate course examination. Behavioral academic self-handicapping scores were negatively associated with number of days spent studying and number of hours spent studying; it was positively associated with depression and distractedness while studying. Claimed academic self-handicapping scores were positively associated with self-reports of anxiety, depression, and distractedness while studying. The achieved academic identity was positively associated with number of days and hours spent studying and negatively associated with depression and distractedness while studying. Overall, the results of the present dissertation suggest that developing an achieved academic identity is associated with more positive student behaviors and psychological experiences. Interventions aimed at reducing the prevalence of academic self-handicapping should consider methods that facilitate academic identity development.

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Introduction

When faced with challenging tasks of high importance, many people engage in behaviors that will increase the probability of their success. In the event of success, an individual may attribute that success to internal factors such as their ability or their preparatory efforts (e.g., Arkin & Maruyama, 1979). However, there are also many people that engage in behaviors that decrease the probability of success when faced with difficult tasks (Berglas & Jones, 1978). Theorists addressing this matter have proposed that challenging tasks can be perceived as threatening to the self-concept and it may increase feelings of self-doubt and uncertainty (e.g., Snyder, 1990). In the psychological literature, exhibiting self-defeating attitudes and behaviors in response to challenging tasks of high importance has been referred to as self-handicapping. It has been theorized that self-handicapping allows an individual to protect their self-concept in the event of failure (Berglas & Jones, 1978; Jones & Berglas, 1978).

Self-handicapping has been studied across a variety of performance settings that include academics (e.g., Midgley, Arunkumar, & Urdan, 1996), athletics (e.g., Kuczka & Treasure, 2005; Coudevylle, Gernigon, & Ginis, 2011), social interactions (e.g., Spalding & Hardin, 1999), and the workplace (e.g., Martinko, Gundlach, & Douglas, 2003). Self-handicapping has also been studied in relation to several psychological constructs such as personality (e.g., Ross, Canada, & Rausch, 2002), achievement orientation (e.g., Urdan, 2004), effort valuation (McCrae, Hirt, & Milner, 2008), and self-esteem (e.g., Spalding & Hardin, 1999). More recent research has begun studying how the prevalence of self-handicapping can depend on the domain of the performance (e.g., Schwinger, 2013).

Relatedly, researchers have also proposed that the prevalence of self-handicapping may vary in relation to how an individual identifies with a particular performance domain (Chorba, Was, & Isaacson, 2012).

Previous research suggests that the degree to which students engage in self-handicapping can relate to their academic identity status (Chorba, Was, & Isaacson, 2012). The nature of this relationship deserves further attention because it is certainly plausible that student attitudes and behaviors in the academic context could be partially explained by understanding their level of commitment to academics and why they have made that commitment. The measurement of academic identity could reveal additional information with regard to why students may self-handicap and how it may manifest through particular attitudes, maladaptive behaviors, or attributional patterns.

In order to contribute to the collective understanding of academic self-handicapping, the present dissertation will focus on students' self-defeating attitudes and behaviors through the study of academic self-handicapping and identity. Understanding academic self-handicapping is important because it has been linked to poor psychological adjustment and negative academic outcomes (e.g., Zuckerman, Kieffer, & Knee, 1998). Improving graduation rates and college preparedness in the United States has become a national imperative (Barnes, Slate, & Rojas-LeBouef, 2010; Callan, Finney, Kirst, Usdan, & Venezia, 2006; Tierney & Sablan, 2014); the study of academic self-handicapping can contribute to these efforts. Specifically, by understanding academic self-handicapping, we can inform interventions that aim to reduce its prevalence among students who may be more likely to exhibit the behavior.

The objective of this dissertation is to (1) assess the four academic identity statuses that have been proposed in previous research, (2) investigate how an individual's academic identity status relates to the prevalence of academic self-handicapping tendencies, (3) examine potential gender differences in academic identity and academic self-handicapping, (4) determine how other psychological constructs relate to academic self-handicapping and academic identity, and (5) explore how academic self-handicapping and academic identity relate to self-reported studying behavior and affect while studying.

Literature Review

The theory that self-defeating tendencies serve as a form of ego-defense dates back to the work of Alfred Adler (1913) who suggested that individuals might engage in the construction of obstacles when faced with a threatening task or situation. Adler referred to this behavior as neurotic safeguarding and observed it in the clinical setting among patients. He suggested that this behavior could be beneficial from the perspective of the patient as it can protect his or her self-esteem. In the event of a negative outcome, the patient could refer to his or her symptoms as an explanation and in the event of a positive outcome, it would appear that the outcome is all the more triumphant given the patient's symptoms. Years later, Berglas and Jones (1978) presented a theory of *self-handicapping*, which specifically addressed the use of claimed or created obstacles when faced with situations that are threatening to an individual's self-concept (Higgins, 1990).

Self-handicapping has been defined as any action or inaction that enhances the ability to attribute failures to external factors and successes to internal factors (Berglas &

Jones, 1978). Berglas and Jones theorized that some people might place obstacles in their own path so that these may explain failure, rather than their individual ability. After engaging in self-handicapping, if an individual experiences failure then their perceived level of competence remains intact because the causal link between the individual and the poor performance has been weakened (Snyder, 1990). Berglas and Jones (1978) also theorized that self-handicappers do not intend to fail but they are more willing to accept the increased probability of failure if it can be explained by external circumstances. Therefore, self-handicapping is theorized to occur before an actual performance and subsequently provides a basis for external attributions (Berglas & Jones, 1978; Snyder, 1990; Urdan & Midgley, 2001).

Underlying Motivation

There are two theories in the psychological literature that address the underlying motivation of self-handicapping. The motivation of self-handicapping has been interpreted by considering its utility as an attributional defense mechanism (Higgins, 1990; Murray & Warden, 1992). An important aspect of Berglas and Jones' (1978) conceptualization of self-handicapping is that the behavior allows an individual to benefit from Kelley's (1971) discounting and augmentation principles. Therefore, engaging in self-handicapping allows the individual to discount personal responsibility in the event of failure (i.e., the obstacle provides an alternative cause for the failure), and augment personal responsibility and esteem should they succeed (i.e., the individual was successful despite an impediment to his or her performance). Murray and Warden (1992) posit that self-handicappers use attributions that are consistent with Kelley's (1971)

discounting principle. The self-handicapping literature has found evidence of individuals discounting when confronted with failure and augmenting when met with success (e.g., Feick & Rhodewalt, 1997). However, studies have only found consistent support for discounting; the evidence for augmentation has been inconsistent (e.g., Hirt, McCrae, & Boris, 2003; Murray & Warden, 1992; Rhodewalt, Morf, Hazlett, & Fairfield, 1991).

The literature has also interpreted self-handicapping as an impression management strategy (Kolditz, Thomas, & Arkin, 1982; Higgins, 1990; Urdan & Midgley, 2001), such that a self-handicapper is primarily concerned with managing the perceptions others have of their individual ability. Kolditz et al. found evidence to support this interpretation when their study revealed that participants were more likely to self-handicap when the experimenter was present and when they believed the experimenter would have access to their score on an analogies test. Tice and Baumeister (1990) found that people with high self-esteem tended to practice less when they believed the amount of time they spent practicing would be shared among others. When considering the goal of managing the perceptions of others, theorists have argued that it becomes necessary for the individual to take on the perspective of the target audience and anticipate their response (e.g., Weinstein, 1968). Furthermore, while the presence of an audience may elicit self-handicapping, it does not necessarily achieve the desired self-presentational goal. Previous research has provided evidence that self-handicapping behavior can be maladaptive at the interpersonal level (Luginbuhl & Palmer, 1991; Rhodewalt, Sanbonmatsu, Tschanz, Feick, & Waller, 1995; Smith & Strube, 1991).

Higgins (1990) proposed that the concept of self-handicapping involves an integration of attributional defense motives and impression management motives as "self-handicappers accomplish their impression-management goals by capitalizing on a 'naïve' awareness of the processes through which people form causal explanations" (p. 9). Higgins also added that people who self-handicap have ego-defensive motives that outweigh achievement motives; this imbalance can directly interfere with self-presentation goals because the behaviors that derive from ego-defensive motives can undermine performance.

Uncertainty

To determine when self-handicapping behaviors are most prevalent, many researchers have examined the effect of uncertainty. The underlying assumption is that individuals who self-handicap are uncertain of their competency. Berglas and Jones (1978) speculate that people who are confident in their abilities and certain of their capability to complete challenging tasks are less likely to "hide behind the attributional shield of self-handicapping" (p. 406). In addition, they propose that people who are uncertain of their abilities are more likely to pursue the most attainable objectives in order to avoid failure. It is not necessarily the case that uncertainty about personal ability and past chronic failure leads to increased instances of self-handicapping. Previous studies suggest that upon completion of a task, subjects who receive positive feedback, but remain uncertain as to why they did well, are more likely to self-handicap in additional trials of the task (e.g., Berglas & Jones, 1978; Higgins & Harris, 1988).

To investigate self-handicapping experimentally, researchers create uncertainty through noncontingent success. For example, in Berglas and Jones' (1978) original study, participants were told that they would complete two analogy tests. They were randomly assigned to one of two possible conditions (i.e., contingent or noncontingent success). In the contingent condition, participants received a majority of solvable problems; in the noncontingent condition, participants received a majority of unsolvable problems. Regardless of condition, participants received positive feedback in the form of the experimenter describing their performance as one of the best documented in the laboratory. Noncontingent success increases the likelihood of self-handicapping because the positive feedback establishes high expectations for future performance that the participant may perceive as beyond their ability. Furthermore, receiving positive feedback after completing a test of unsolvable problems also establishes the condition of uncertainty because it is unclear as to why the performance was so exceptional. When given an opportunity, people who are managing noncontingent, positive feedback tend to increase their use of self-handicapping. When the time comes to replicate their "exceptional" performance, they may attribute their failure to a relevant handicap.

While manipulating uncertainty has been one of the core components of assessing self-handicapping, there is evidence to suggest that the behavior is observable without creating uncertainty. The underlying assumption of this methodology is that self-handicappers may hold positive, yet tentative, perceptions of the specific ability being assessed. This experimental design aims to effectively arouse concerns about the maintenance of that fragile self-image. It has been theorized that merely presenting

participants with a difficult task can imply probable failure in future attempts and this probability can elicit self-handicapping without ever introducing noncontingent success (Smith, Snyder, & Perkins 1983; Snyder, Smith, Augelli, & Ingram, 1985).

Provided the experimental evidence that self-handicapping can be elicited without experimentally manipulating feedback, Snyder (1990) proposed that in order to understand the "driving force" behind self-handicapping it is important to understand whether or not an individual experiences uncertainty and to consider factors, other than noncontingent success, that elicit uncertainty. For example, situational factors such as completing a novel task, perceiving ambiguous expectations of others, and performing in different environments can elicit uncertainty. Individual differences are also important because people can feel uncertain of their ability in a specific performance domain or they may feel uncertain across a variety of performance domains.

Categorical Distinction

Numerous actions or inactions may qualify as self-handicapping. In order to improve theoretical clarity and the precision of measurement, Arkin and Baumgardner (1985) made a distinction between types of self-handicapping by categorizing them as either "acquired" (e.g., failing to practice, ingesting alcohol) or "claimed" (e.g., self-reported anxiety or illness). Acquired handicaps can be thought of as observable actions or inactions that interfere with individual performance. Claimed handicaps, on the other hand, can be thought of as self-reported impediments to performance, which may or may not be true, but can be perceived as a reasonable explanation for potential failure. In accordance with this theoretical distinction, Leary and Shepperd (1986) argued that the

use of a single term (i.e., self-handicapping) to describe both acquired and claimed handicaps might conceal important differences between the two phenomena. The present dissertation will remain mindful of this distinction by referring to observable behavior that impedes performance as behavioral self-handicapping and the use of self-reported handicaps that may interfere with performance as claimed self-handicapping.

Leary and Shepperd (1986) discussed how behavioral self-handicapping and claimed self-handicapping can serve a common purpose. Specifically, each form of self-handicapping is theorized to occur before receiving evaluative feedback and can allow an individual to protect their sense of self in the event of failure. However, Leary and Shepperd emphasized that behavioral self-handicapping involves the construction of handicapping conditions (e.g., choosing to perform under adverse conditions) that decrease the probability of success. In contrast, claimed self-handicapping involves only claiming that an impediment exists; making this claim does not involve actually engaging in a behavior that establishes a handicapping condition. Therefore, an individual may engage in claimed self-handicapping by claiming to be anxious but making such a claim does not necessarily increase the difficulty of the performance or decrease the probability of success in the same way as behavioral self-handicapping (Leary & Shepperd, 1986).

The theoretical distinction between behavioral and claimed handicaps has been widely accepted in the self-handicapping literature. Hirt, Deppe, and Gordon (1991) provided empirical evidence for this distinction through an experimental investigation in which participants were informed that they would be completing a task designed to measure problem-solving ability and general intelligence. The task involved solving a

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series of arithmetic problems and remembering their solutions without writing anything down. Based on responses given in a prior survey, participants were led to believe that they were in the high intelligence group. Prior to beginning the experimental task, participants were given the opportunity to practice (the precise amount of practice was their decision) and instructed to complete a stress inventory.

In order to reveal any self-handicapping tendencies, the researchers manipulated information regarding the effect of practice and the effect of stress on the experimental task. In one condition, participants were informed that amount of practice would not influence performance but that stress could negatively affect performance. In a second condition, participants were informed that stress did not affect performance but additional practice would improve the likelihood of a higher score. In a third condition, participants were informed that both stress and practice could affect performance. In a fourth condition, participants were told that neither stress nor amount of practice would affect their performance. The researchers found that when stress was the only viable self-handicapping option, people high in self-handicapping behavior were more likely to report higher levels of stress. Furthermore, when stress was not a viable option, high self-handicappers and low self-handicappers did not significantly differ in levels of reported stress. Similarly, when amount of practice was the only viable self-handicapping option, high self-handicappers were less likely to increase their amount of practice. They also found that when both stress and amount of practice were viable self-handicapping options, high self-handicappers were more likely to report higher levels of stress rather than reduce their amount of practice. The interpretation of this finding suggested self-

handicappers may engage in claimed self-handicapping rather than behavioral self-handicapping because the former is less likely to actually hinder performance but still fulfill the self-protective motive theorized to underlie self-handicapping.

Behavioral. Research designed to specifically examine behavioral self-handicapping gave participants the choice of ingesting drugs or alcohol (Berglas & Jones, 1978; Tucker, Vuchinich, & Sobell, 1981), choosing between performance-enhancing or performance-inhibiting conditions (Rhodewait & Davison, 1986; Shepperd & Arkin, 1989), and an opportunity to increase or reduce practice (Baumeister, Hamilton, & Tice, 1985; Ferrari & Tice, 2000). For example, Ferrari and Tice allotted their participants fifteen minutes between mathematic performance trials and gave them the choice of either spending their time practicing math problems or playing an unrelated video game. Similarly, Tice and Baumeister (1990) allowed participants to practice as much as they wanted while keeping record of how much time they practiced and how many practice problems they completed. By allowing participants to choose between a performance-enhancing task versus an unrelated or performance-inhibiting task, researchers have been able to demonstrate that some people are willing to make an informed and intentional decision to self-sabotage if it weakens the causal link between the individual's competency and failure.

Claimed. The literature dedicated to the study of claimed self-handicapping has targeted self-reported impediments such as test anxiety (Smith, Snyder, & Handelsman, 1982), social anxiety (Snyder, Smith, Augelli, & Ingram, 1985), poor state of mind (Baumgardner, Lake, & Arkin, 1985), and traumatic life events (DeGree & Snyder,

1985). More recently, Coudevylle, Gernigon, and Ginis (2011) developed a measure of claimed self-handicapping that included eleven possible impediments (e.g., bad mood, tiredness) that may be used to explain potentially poor performance. In their study, participants responded by identifying any impediments that were relevant to them and specified the degree to which the impediment impacted their performance. The researchers utilized this measure to examine claimed self-handicapping tendencies among athletes prior to completing a task relevant to their sport. In addition to the claimed self-handicapping measure, participants completed measures of self-esteem and self-confidence. The study found that self-confidence was a significant, negative predictor of claimed self-handicapping. This finding lends support to the theory that self-confidence, or lack thereof, results in a higher frequency of self-reported impediments.

Academic Self-Handicapping

Studying self-handicapping in the academic setting is appropriate because it provides a natural setting in which students are faced with challenging tasks (e.g., assignments, exams, presentations) that involve formal, or informal, assessment. These challenging tasks are of considerable importance because they often influence real world outcomes (e.g., high school graduation, college admission). The academic setting can pose threats to the self-concept because information about individual ability and intelligence are often on public display. Some students may find it necessary to manipulate the perceptions of their audience (e.g., parents, teachers, peers) or use defensive attributional patterns to protect their self-esteem from the implications of failure. Due to the unique, rigorous environment that the academic setting can provide,

researchers have studied self-handicapping among students since its introduction in the psychological literature.

Previous research has indicated that self-handicapping can be fairly common among students. For example, Strube (1986) found that undergraduate students that are more likely to exhibit self-handicapping tend to claim more excuses before course examinations. Prior research has also indicated that academic self-handicapping is positively associated with test anxiety and fear of failure (e.g., Schraw, Wadkins, & Olafson, 2007); this may explain why some students feel the need to make excuses prior to an examination. Self-handicapping among students has also been linked to extrinsic motivation (Urdan & Midgley, 2001) and lower self-esteem (e.g., Ferrari, 1991). Additionally, the existing literature has found a consistent relationship between self-handicapping and personality traits; specifically, self-handicapping tends to be positively associated with neuroticism and negatively associated with conscientiousness (Bobo, Whitaker, & Strunk, 2013; Conrad & Patry, 2012; Ross, Canada, Rausch, 2002).

Behaviors that may be classified as academic self-handicapping include choosing not to study, purposefully withdrawing effort, procrastination, and failing to seek help or supplemental instruction when it is needed (Urdan & Midgley, 2001). Behaviors such as these diminish the probability that a student will perform well on tasks that are important, however, getting a clear communication that one lacks ability is potentially more threatening and is of greater concern to someone who self-handicaps (Riggs, 1992). When considering the impact of student performance on highly emphasized, evaluative tasks (e.g., Scholastic Achievement Test; Atkinson, 2001), academic self-handicapping

can potentially cripple, or even derail aspirations of attending college and working toward the completion of a degree.

Identity

In the psychological literature, the concept of identity has been theorized and studied within several contexts (e.g., social, developmental, individual differences). Marcia (1980) described identity as an "internal, self-constructed, dynamic organization of drives, abilities, beliefs, and individual history" (p. 159). Marcia also proposed that as this organization becomes more developed, the individual can achieve a heightened awareness of their unique identity and how it may relate to the identity of others. Relatedly, Markus (1977) defined identity as the need for a sense of self while facing dynamic and overwhelming social contexts. These conceptualizations of identity speak to the complexity and importance of its development; consequently, researchers have studied the process and the implications of this development for decades.

According to Erikson's (1968) psychosocial model of development, adolescence (i.e., 12-18 years old) is a time of identity crisis where individuals need to make choices regarding personal values, beliefs, and goals. Resolving this crisis of identity can be a dynamic and complex process because identity is a multidimensional construct and individuals must determine the personal importance of distinct social identities (e.g., ethnicity, gender, occupation, religion) that may intersect (Howard, 2000). The process of establishing an identity plays an important role when coping with adversity, interacting with others, making decisions about vocation, and employing strategies to overcome challenges. Erikson (1956, 1959) proposed that the identity crisis that manifests during

adolescence could result in developing an identity or experiencing identity diffusion. While identity crisis was originally theorized to occur in adolescence, Erikson (1980) later proposed that identity crisis could extend into young adulthood.

Marcia (1966) expanded upon Erikson's theory of identity development by proposing two criteria that can determine the status of an individual's identity. Specifically, Marcia emphasized the importance of an individual engaging in *exploration* and the extent to which an individual has made a *commitment*. Exploration involves considering and evaluating options when determining one's direction in life. Commitment involves making a personal investment in a particular task, career, or endeavor. According to Marcia, an individual may reside in one of four identity statuses; arriving at a conclusion as to which status an individual resides in requires consideration of exploration and commitment. The identity statuses outlined by Marcia include diffused, moratorium, foreclosed, and achieved.

The *diffused identity* describes an individual who has not engaged in meaningful exploration of options or consideration of their direction in life; the diffused identity also involves a lack of commitment or personal investment in a task or endeavor (Marcia, 1966). The diffused identity is generally considered to be the least mature identity status (Côté & Schwartz, 2002). The lack of maturity associated with the diffused identity has been linked to important outcomes. For example, Jones and Hartmann (1988) conducted a survey study of substance abuse among adolescents and found that adolescents with a diffused identity were significantly more likely to have experimented with substances such as cigarettes, alcohol, marijuana, and cocaine. The diffused identity has also been

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associated with lower grade point averages and being in poor academic standing (Boyd, Hunt, Kandell, & Lucas, 2003; Was & Isaacson, 2008).

The *moratorium identity* describes an individual who has not made a commitment but has proactively engaged in an exploration of options. The deliberate exploration associated with the moratorium identity suggests that the individual is in a stage of psychosocial transition (Côté & Schwartz, 2002). While exploring options and considering alternatives, individuals with a moratorium identity can experience psychological experiences that reflect a lack of clear direction. Kidwell, Dunham, Racho, Pastorino, and Portes (1995) examined the relationship between identity exploration and personality and found that adolescents who were actively engaged in identity exploration were more likely to report personality patterns consisting of self-doubt, confusion, and impulsive thinking. Furthermore, upon comparing the identity statuses and their relation to psychological well-being, Meeus (1996) provided evidence that the moratorium identity is associated with being less happy.

The *foreclosed identity* describes an individual who has made a commitment without engaging in a meaningful exploration of alternatives. For people with a foreclosed identity, failing to consider options and alternatives can result in committing to tasks or endeavors that lack personal significance. An individual's decision to commit without exploration may stem from a desire to fulfill the expectations of parents or valued peers (Marcia, 1966). Consistent with this theory, Côté and Levine (1983) found that the foreclosed identity was associated with being more neurotically dependent. Relatedly, Berzonsky (1989) found that the foreclosed identity was positively associated with

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conforming to the standards of significant others. Furthermore, empirical evidence also suggests that people with a foreclosed identity have the lowest autonomy and the highest social desirability concerns (Orlofsky, Marcia, Lesser, 1973).

The *achieved identity* describes an individual who has explored options and has arrived at a commitment of personal importance. Marcia (1980) described people with an achieved identity as being self-directed and highly adaptive. Orlofsky (1978) found that people with an achieved identity scored higher in achievement motivation and self-esteem. Empirical evidence also suggests that people with an achieved identity are more likely to seek out, process, and evaluate information before arriving at a decision (Berzonsky, 1989). The achieved identity is theorized to be the most mature identity status because it indicates that exploration has taken place and the individual has made a commitment or has invested in an endeavor based upon that exploration (Côté & Schwartz, 2002).

While identity statuses may change over time, it is important to note that people do not necessarily experience a clear, linear development from diffused identity to achieved identity (Meeus, van de Schoot, Keijsers, Schwartz, & Branje, 2010). An overview of available findings revealed that identity statuses are more likely to remain stable than to change but when change does occur, people tend to make progressive developmental changes (Klimstra, Hale, Raaijmakers, Branje, & Meeus, 2010; Meeus, et al., 2010; van Hoof, 1999). Identity statuses are also theorized to be domain-specific (Marcia, 1966). For example, an individual may have an achieved identity in relation to their occupation, a diffused identity in relation to their religion, and a foreclosed identity

in relation to their political ideology (e.g., Schacter, 2005). In accordance with this possibility, researchers have examined identity as a multidimensional construct and recommend measuring domain-specific identity statuses in order to capture more information (e.g., Goossens, 2001).

Academic Identity

In order to determine the extent to which students identify with the academic domain, Was and Isaacson (2008) applied Marcia's theory of identity statuses. More specifically, Was and Isaacson focused on the decisions that late adolescents and young adults make as they transition out of high school and into college. When considering the dynamics of an academic identity as students transition from high school to college, Was and Isaacson focused on ten topics that include (a) choosing a college, (b) reasons for college, (c) classroom attention, (d) priorities, (e) academic goals, (f) responsibility, (g) interests and motivation, (h) discipline and volition, (i) responding to failure, and (j) persistence when faced with failure. These topics are theorized to represent key concerns adolescents and young adults may have when transitioning to college.

The academic identity of a student is theorized to influence how an individual would address any of the aforementioned concerns. A *diffused academic identity* would involve a lack of exploration and commitment in relation to pursuing a college education; students in this identity status may not set academic goals, worry about their grades, or establish clear priorities. A *moratorium academic identity* would involve proactive exploration but a lack of commitment; in the academic setting, this may lead to fluctuating motivation to complete academic tasks or experiencing inconsistent

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enthusiasm about learning. A *foreclosed academic identity* would consist of making a commitment to academics but without engaging in exploration; in this case, students may attend college because their parents expected them to go or they want to make their parents proud. An *achieved academic identity* would consist of exploring different options and ultimately committing to academics; students with an achieved academic identity would likely have clearer academic goals and a motivation to complete academic tasks even when they are challenging (Was & Isaacson, 2008).

Was and Isaacson (2008) developed the Academic Identity Measure (AIM) to assess the academic identity statuses of students. The AIM was administered to undergraduate students who were in their first year or second year of college. They also collected academic performance data in order to assess the final course grade for each student participating in the study. A confirmatory factor analysis indicated that a four-factor solution provided the best fit to the data. The results revealed that the academic identity statuses shared significant inter-correlations. The foreclosed academic identity was positively associated with the moratorium academic identity and the diffused academic identity; the moratorium academic identity was positively associated with the diffused academic identity; and the achieved academic identity was negatively associated with each of the other identity statuses. Furthermore, the foreclosed, moratorium, and diffused academic identities each shared a negative association with final course grade. The achieved academic identity was positively associated with final course grade. Was and Isaacson proposed that the significant correlations between the academic identity

statuses and final course grade provide evidence that academic identity could be an important factor in academic achievement.

Previous research has provided evidence that identity status can influence strategies adopted in learning contexts (e.g., Berzonsky & Kuk, 2000). The academic identity of a student may partially explain the strategies implemented in the academic domain. While many students implement strategies that will increase the probability of success, there are also many students that will procrastinate or engage in other task avoidant behaviors (e.g., skipping classes, failing to complete assignments). Chorba, Was, and Isaacson (2012) utilized the AIM to determine how academic identity statuses relate to self-handicapping behavior. Their results indicate that self-handicapping is positively associated with foreclosed, moratorium, and diffused academic identities. The achieved academic identity was negatively associated with self-handicapping. Chorba et al. argue that these findings provide further evidence of how important it is for students to experience a time of exploration and commit to their endeavors related to academia. It is possible that students with an achieved academic identity do not feel the need to protect their self-concept through maladaptive behaviors because they have clear academic values and goals; being committed to those values and goals may decrease the likelihood of engaging in self-handicapping.

Chorba et al. (2012) also implemented a classification criterion in order to categorize participants into one of the four academic identity statuses. In order to be categorized within an academic identity status, an individual participant would need to score 1.5 standard deviations above the mean on any one AIM subscale. If a participant's

scores indicated that they were 1.5 standard deviations on more than one AIM subscale, then they were not included in the formulation of academic identity groups. Their procedure resulted in 18 students categorized as having a diffused academic identity, 17 students categorized as having a moratorium academic identity, 29 students as having a foreclosed academic identity, and 52 students categorized as having an achieved academic identity. An analysis of variance revealed that students categorized within the achieved academic identity scored significantly lower in self-handicapping in comparison to each of the other three groups.

Academic identity has also been examined in relation to achievement goal orientation. Was, Al-Harthy, Stack-Oden, and Isaacson (2009) conducted a survey study among undergraduate students to determine how the academic identity statuses relate to the achievement goal orientations of performance-avoidant, performance-approach, and mastery. The results revealed that the foreclosed academic identity was positively associated with performance-avoidant and performance-approach. The diffused academic identity was negatively associated with mastery. The moratorium academic identity was negatively associated with mastery and positively associated with performance-avoidant. The achieved academic identity was negatively associated with performance-avoidant and positively associated with mastery. Was et al. proposed that these findings indicate that academic identity can partially explain the types of academic goals that students adopt.

While findings provided by Was and Isaacson (2008), Chorba et al. (2012), and Was et al. (2009) are informative and useful in the study of student attitudes and

behaviors, the AIM is in need of further study. It is a relatively new survey instrument and published studies that have administered it were not specific with regard to the demographics of their sample. It is important to confirm that the factor structure and reliability of the AIM can be replicated in diverse samples of college students. Furthermore, the findings reported by Chorba et al. revealed that the identity statuses were differentially associated with self-handicapping. However, the authors measured self-handicapping as a unidimensional construct; they did not account for the distinction between behavioral self-handicapping and claimed self-handicapping. It may be the case that academic identity statuses relate differently to each type of self-handicapping. The extent to which an individual has (or has not) explored their options and the presence (or absence) of commitment may partially explain prevalence of behavioral or claimed self-handicapping.

Gender Differences

In the self-handicapping literature, studies have found gender differences in the prevalence of self-handicapping. Specifically, males tend to engage in behavioral self-handicapping more often than females (e.g., Berglas & Jones, 1978; Harris & Snyder, 1986; Kimble & Hirt, 2005; Shepperd & Arkin, 1989). These gender differences are less pronounced when examining claimed self-handicapping, as men and women are equally likely to claim that an obstacle (e.g., anxiety) impeded performance (e.g., Hirt, Deppe, & Gordon, 1991). Researchers have investigated gender differences in behavioral self-handicapping by emphasizing the importance of effort valuation. Studies have found that males are more willing to accept an increased risk of failure and that this may be due to

females valuing effort more than males (Hirt, Deppe, & Gordon, 1991; McCrea, Hirt, & Milner, 2008). Relatedly, Hirt, McCrea, & Boris (2003) found that females were more critical of people who engaged in behavioral self-handicapping. In the academic domain, it is possible that potential gender differences in academic identity relate to gender differences in academic self-handicapping.

In order to further examine gender differences in behavioral academic self-handicapping, the potential gender differences in academic identity is worthy of consideration. Previous research has demonstrated that gender differences exist in identity development (e.g., Cramer, 2000). For example, Archer (1989) found that male participants were more likely to have a foreclosed identity in the domain of political ideology and female participants were more likely to have a diffused identity. In the domain of family roles, female participants were more likely to have a moratorium identity or an achieved identity. Furthermore, females were more likely to demonstrate more sophisticated identity development activities (e.g., engaged in exploration) in earlier grades. Archer also found evidence of similarities between males and females such that vocational choice, religious beliefs, and sex-role orientations were equally salient to each gender. These findings suggest that the measurement of academic identity could reveal significant gender differences. Evidence of gender similarities would also be interesting, as the present literature has not examined gender differences in academic identity as measured by the AIM.

Student Exploration and Commitment

In order to further examine the relationship between self-handicapping and academic identity, it would be informative to consider different psychological experiences that may relate to students engaging in exploration and making a commitment to academics. The present dissertation will focus on college self-efficacy, impostor feelings, and experiencing a college-going climate in high school. Previous research has studied each of these constructs in relation to self-handicapping. Determining how each construct relates to academic identity statuses would be a contribution to the literature that studies the psychological experiences and behaviors of students.

Self-Efficacy. Self-efficacy has been defined as an individual's beliefs about their ability to exercise control over events in their lives (Bandura, 1993). It can also be thought of as the degree to which an individual feels competent to complete important, domain-specific (e.g., academic) tasks (Solberg, O'Brien, Villareal, Kennel, & Davis, 1993). Since Berglas and Jones (1978) proposed that people who engage in self-handicapping are uncertain about their personal ability, the inclusion of self-efficacy is suitable in the study of self-handicapping. It is important to understand how capable an individual tends to feel when faced with challenging tasks or situations because these feelings may partially explain the tendency to self-handicap. Bandura (1977) has argued that self-efficacy can partially determine the extent to which people will exert effort and how much they will persist when they are met with challenges. If a student lacks college self-efficacy, then it may relate to increased instances of academic self-handicapping.

Assessing college self-efficacy could also relate to how likely it is that a student will commit to academics as they transition from high school to college. If a student lacks college self-efficacy, then perhaps the student may feel that their commitment will not result in success (i.e., academic achievement). It is also possible that a student who has committed to academics without engaging in exploration may feel uncertain of their ability to complete tasks related to that commitment. Furthermore, the role of self-efficacy becomes increasingly important because it can relate to identity processing styles and academic achievement behaviors (Hejazi, Shahraray, Farsinejad, & Asgary, 2008).

Impostor Feelings. Impostor feelings, as defined by Clance and Imes (1978), reflect an affective experience in which an individual may feel that they do not deserve the accolades or achievements they have accomplished. Clance and O'Toole (1988) suggest that people who frequently experience impostor feelings do not have a realistic sense of their own competence and do not fully internalize their strengths and accept their deficits. Similar to self-handicappers, it has been theorized that people who frequently experience impostor feelings attempt to avoid negative evaluations (Want & Kleitman, 2005). Lending evidence to the relationship between the two constructs, additional research has indicated that the impostor phenomenon is positively associated with a fear of failure and self-handicapping (Ross, Stewart, Mugge, & Fultz, 2001). Furthermore, Ferrari and Thompson (2006) found that impostor feelings were associated with self-derogation, externalizing success, and being dismissive of positive affirmations. They concluded that people who experience impostor feelings are more likely to use claimed self-handicapping in response to situations that may reveal their perceived fraudulence.

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Impostor feelings could also manifest among students who are attending college but do not possess an achieved academic identity. For many people, attending college is an important accomplishment. It is possible that impostor feelings are more frequent among these people if they achieved this accomplishment without meaningful exploration or even making a commitment to doing what is necessary in order to earn a degree. If a student lacks exploration, perhaps the individual is uncertain whether they belong in an academic community of higher education. If a student lacks commitment, perhaps the individual feels that they do not adequately compare to their college peers. The existing literature has examined impostor feelings among undergraduate students (e.g., Cowman & Ferrari, 2002) and doctoral students (e.g., Craddock, Birnbaum, Rodriguez, Cobb, & Zeeh, 2011) but it has yet to account for the potential importance of academic identity.

College-Going Climate. The high school environment that students find themselves in can be extremely influential in the decision to attend college, prepare for college-level work, and navigate the college admissions process. Oakes, Mendoza, and Silver (2004) identified a series of conditions that are indicative of a high school environment that will likely lead to academic achievement, college preparedness, and college access. The ideal environment must include safe and adequate schools, qualified teachers, academic and social support, a challenging academic curriculum, and a college-going climate. A college-going climate can be found at a school that consists of students, teachers, and administrators who all view college attendance as a normative pathway for its students and have high expectations that it will be achieved (Oakes, Mendoza, & Silver, 2004). Ideally, a college-going climate will instill techniques that lead to gains in

academic efficacy, opportunities to feel self-efficacious, and the development of traits such as conscientiousness that will make instances of academic self-handicapping less likely to occur.

A college-going climate should also facilitate the progression from ninth grade to twelfth grade and the process of gaining admission to college. While there are many benefits in establishing a college-going climate, it is also important to consider its role in the development of academic identity. A school climate that consists of students, teachers, and administrators that view college attendance as a normative pathway can have a profound effect on its students (Williams & Collins, 2001). It may foster academic exploration and subsequent commitment. It may also foster commitment without adequate exploration due to the high expectation that each student will (or should) attend college. Moreover, the way a student perceives and responds to a college-going climate may relate to their academic identity status.

Study 1: Overview and Hypotheses

The objective of Study 1 is to further examine the relationship between academic self-handicapping and academic identity. The Academic Identity Measure (AIM; Was & Isaacson, 2008) is relatively new to the literature and has appeared in few published studies wherein demographic information of participants was scarce. Therefore, the present study first sought to confirm the four-factor structure of the AIM items. While previous research has not taken into consideration the different categories of self-handicapping in relation to academic identity, the present study will determine whether the academic identity statuses differentially relate to behavioral self-handicapping and

claimed self-handicapping. Furthermore, the present study also assessed college self-efficacy, impostor feelings, and the extent to which an individual experienced a college-going climate in high school. These constructs were included in order to reveal additional information pertaining to the psychological experiences of students in relation to their self-handicapping tendencies and their academic identity development.

The following hypotheses will be investigated: (1) behavioral academic self-handicapping will be positively associated with the moratorium academic identity and the diffused academic identity but negatively associated with the foreclosed academic identity; (2) claimed academic self-handicapping will be positively associated with the moratorium academic identity, the diffused academic identity, and the foreclosed academic identity; (3) the achieved academic identity will be negatively associated with behavioral academic self-handicapping and claimed academic self-handicapping. Exploratory analyses will be conducted in order to investigate potential gender differences in academic identity status and the relationship between the academic identity statuses and college self-efficacy, impostor feelings, and high school college-going climate.

Methods

Participants

Three hundred seventy (370) undergraduate students from a southern California university participated in the present study. The sample was ethnically diverse, consisting of: 5.4% African Americans, 41.4% Asian Americans, 8.4% Caucasians, 32.7% Hispanic/Latinos, and 10.6% Mixed Heritage or Other. Regarding the participants'

gender identification, 65% indicated they were female, 35% indicated they were male.

The average age was 19.22 (*Min* = 18; *Max* = 27; *SD* = 2.59). Approximately 76% of the

sample reported being in their first or second year of college. Regarding the participants

major or intended major, 57.9% indicated that their academic concentration was in the

field of the humanities, arts, or social sciences whereas 37.5% indicated that their

academic concentration was in the natural sciences or engineering. 4.6% of participants

reported being undeclared or undecided with regard to their academic concentration.

Procedure

Participants reported to a reserved computer lab in order to participate in the

survey study. Although the survey instruments were administered online, having

participants come to the computer lab allowed researchers to establish a more controlled

environment in which distractions were minimized. In each session of data collection, no

more than fifteen participants completed the survey. Upon arrival, each participant was

assigned a participant identification number and a desktop computer. A research assistant

introduced the study as an investigation of students' beliefs about how to succeed in

college. Participants received course credit for their participation.

Participants first read and signed the informed consent form, indicating that they

agreed to participate in the study. Upon signing the consent form, participants were

instructed to access the online survey. Participants provided demographic information

(e.g., age, gender, ethnicity, annual family income) and information related to academia

(e.g., overall GPA, standing or year in college, whether or not they attended a community

college). After providing demographic information, participants were presented with the

survey instruments that included the Academic Self-Handicapping Questionnaire, the

Academic Identity Measure, the College Self-Efficacy Inventory, the Clance Impostor

Phenomenon Scale, and the College-Going Climate Questionnaire.

Research assistants were present throughout each data collection session to

facilitate the administration of the study. Participants were given sixty minutes to

complete the survey. After finishing the survey, research assistants collected the signed

consent forms and reset the desktop computers for the next session.

Materials

Academic Self-Handicapping. Academic self-handicapping was measured using

the Academic Self-Handicapping Questionnaire (ASHQ; Murray & Warden, 1992). The

ASHQ is a 22-item measure ranging from 1 (Strongly Disagree) to 6 (Strongly Agree).

The measure contains a behavioral self-handicapping subscale that includes items such

as: "My weekends are usually wasted as far as school is concerned" ($\alpha = .74$). The

measure also contains a claimed self-handicapping subscale that includes items such as:

"My emotions often get in the way of me getting anything done" ($\alpha = .78$). Lastly, the

questionnaire includes a 23rd item that asked participants to indicate if they consider

themselves "distinct underachievers," "normal achievers," or "distinct overachievers".

Academic Identity. The academic identity statuses were measured by using the

Academic Identity Measure (AIM; Was & Isaacson, 2008). The AIM is a 40-item

measure ranging from 1 (Not at all like me) to 5 (Very much like me). The measure

consists of four subscales; each subscale represents one of the academic identity statuses.

The Moratorium subscale includes items such as: "Some days I am enthusiastic about

learning but other days I don't really care" ($\alpha = .83$). The Diffused subscale includes

items such as: "Some days I think I'm in college because I have nothing better to do" (α

$= .78$). The Foreclosed subscale consists of items such as: "An important reason I chose

to go to college was my family wanted me to go" ($\alpha = .77$). The Achieved subscale

consists of items such as: "I feel comfortable being responsible for my education and

learning" ($\alpha = .80$).

College Self-Efficacy. College self-efficacy was measured using the College

Self-Efficacy Inventory (CSE; Solberg et al. 1993). The CSE is a 22-item measure

ranging from 1 (Very Unconfident) to 7 (Very Confident). The scale is designed to assess

the degree of confidence a college student has in completing college-related tasks. It

includes items such as: "Talk to your professors/instructors;" "Understand your

textbooks;" and "Research a term paper" ($\alpha = .89$).

Impostor Phenomenon. The impostor phenomenon was measured using the

Clance Impostor Phenomenon Scale (CIPS; Clance, 1985). The CIPS is a 20-item

measure ranging from 1 (Not at all true) to 5 (Very true). It includes items such as: "At

times, I feel my success has been due to some kind of luck;" "Sometimes I'm afraid

others will discover how much knowledge or ability I really lack;" and "I often compare

my ability to those around me and think they may be more intelligent than I am" ($\alpha =$

.90).

College-Going Climate. The extent to which participants experienced a college-

going climate in high school was assessed using an adaptation of the College-Going

Climate questionnaire described in Oakes, Mendoza, and Silver (2004). The College-

Going Climate (CGC) questionnaire is a 26-item measure ranging from 1 (Strongly Disagree) to 4 (Strongly Agree). The scale includes items such as: "Your high school offered assistance with filling out college applications;" "You learned from a high school counselor about college;" and "Your teacher had high expectations of you" (α= .84).

Results

Confirmatory Factor Analysis of Academic Identity Measure

A confirmatory factor analysis (CFA) was conducted in order to determine if the four academic identity statuses were supported by the data. Analysis of the AIM items was performed by using Mplus statistical software (Muthén & Muthén, 2010). Was and Isaacson (2008) developed the AIM so it would measure the four academic identity statuses; therefore, a four-factor model should provide the best fit to the AIM data. In order to establish baseline fit criteria, a *one-factor* solution was estimated; this model indicates that all of the variables should load onto a single factor (Schultz, Whitney, & Zickar, 2013). A second model estimated a *two-factor* solution in order to test an alternative factor structure among the AIM items; the two-factor solution consisted of an exploration factor (Diffused subscale and Moratorium subscale) and a committed factor (Foreclosed subscale and Achieved subscale). A fourth model tested the hypothesized *four-factor* solution.

The Pearson chi-square indicated that each of the three models fit the data better than the null model (See Table 1). In addition to the Pearson chi-square, four statistics were included in order to assess model fit. These statistics include Akaike information criteria (AIC), comparative fit index (CFI), root mean square error of approximation

(RMSEA), and standardized root mean square residual (SRMR). The AIC statistic serves as a measure of comparative fit and lower values are indicative of improved fit to the data. A CFI statistic greater than or equal to .95 is indicative of good fit (Hu & Bentler, 1999). An RMSEA statistic between .05 and .10 indicates acceptable fit (MacCallum, Browne, & Sugawara, 1996). The SRMR is an absolute measure of fit and values less than .08 indicate good fit (Hu & Bentler, 1999).

In comparison to the competing models, the theorized four-factor solution performed best across each of the fit indices. The four-factor model had the smallest AIC value. While the CFI statistic did not reach .95, the four-factor model had the highest CFI value among the models tested. The four-factor model also had the lowest RMSEA, which suggested reasonable fit. Finally, the SRMR statistic was not less than .08 but researchers have proposed that values approaching .10 indicate reasonable fit. With regard to distinguishing between the theorized four-factor model and the competing two-factor model, the four-factor model displayed a significant improvement in fit in comparison to the two-factor model, $\Delta \chi^2 (5) = 510.86$, $p < .001$. Furthermore, in the four-factor model, each of the ten items designed to measure one of the academic identity statuses were found to significantly load on the same latent construct (See Tables 2-5). Finally, when comparing available fit indices such as the RMSEA and normed chi-square (i.e., χ^2/df), it appears that the present CFA replicated the results of Was & Isaacson (2008; See Table 6).

Academic Identity Intercorrelations & GPA

There were significant correlations among the four academic identity statuses. The diffused, moratorium, and foreclosed academic identities shared positive associations. The achieved academic identity was negatively associated with the diffused academic identity and the moratorium academic identity but positively associated with the foreclosed academic identity. These intercorrelations are consistent with the findings of Was and Isaacson (2008) except for the positive relationship between the achieved academic identity and the foreclosed academic identity. Additional analyses revealed that the academic identity statuses relate to actual academic performance. The diffused academic identity shared a significant, negative relationship with GPA. The moratorium academic identity also shared a significant, negative relationship with GPA. The foreclosed academic identity did not significantly relate to GPA. Lastly, the achieved academic identity shared a significant positive relationship with GPA (See Table 7).

Item-Total Correlations between Achieved and Foreclosed Academic Identities

Although not found in previous research, the positive association between achieved academic identity and foreclosed academic identity may stem from the shared commitment to academics. This relationship was further examined by conducting an item-total correlational analysis between the foreclosed academic identity items and the achieved academic identity subscale total score. The results revealed that the achieved academic identity subscale score shared significant positive and negative relationships with the foreclosed academic identity items. For example, the achieved academic identity subscale total score was positively associated with the foreclosed academic identity item

of "If a class is very difficult I buckle down and study more so I don't disappoint other people", $r(327) = .451$, $p < .001$. It was also positively associated with the foreclosed academic identity item of "Good grades have always been important for me because I like to make my parents proud", $r(325) = .289$, $p < .001$. However, the achieved academic identity subscale total score was negatively associated with the foreclosed academic identity item of "I've never decided on my own about college. I just did what friends and family expected of me", $r(324) = -.251$, $p < .001$. It was also negatively associated with the foreclosed academic identity item of "I try to write down everything the professors say but I seldom think about applications", $r(327) = -.200$, $p < .001$ (See Table 8).

Academic Identity Status Categorization

The present study utilized the categorization procedure outlined in Chorba et al. (2012), which consists of categorizing participants into one of the academic identity statuses based on whether or not they scored 1.5 standard deviations above the mean on any one AIM subscale. The categorization procedure resulted in 21 participants categorized as having a diffused academic identity, 8 participants categorized as having a moratorium academic identity, 14 participants as having a foreclosed academic identity, and 21 participants categorized as having an achieved academic identity. When considering the sample size of the study (n = 370), only 17.29% of participants satisfied the categorization criterion (See Table 9).

Academic Identity and Self-Handicapping

Correlational analyses revealed that the academic identity statuses significantly related to behavioral academic self-handicapping. The diffused academic identity and moratorium academic identity were positively associated with behavioral self-handicapping. The foreclosed academic identity did not significantly relate with tendencies to behaviorally self-handicap. The achieved academic identity was negatively associated with behavioral self-handicapping (See Table 10).

Correlational analyses also revealed that the academic identity statuses significantly related to claimed academic self-handicapping. Diffused academic identity, moratorium academic identity, and foreclosed academic identity each shared a positive association with claimed academic self-handicapping. The achieved academic identity was negatively associated with tendencies to engage in claimed academic self-handicapping (See Table 10).

Gender Differences in Self-Handicapping and Academic Identity

There was no significant difference between males ($M = 13.74$; $SD = 4.23$) and females ($M = 14.12$; $SD = 3.86$) in claimed academic self-handicapping behavior, t (355) = .861, $p = .390$, $r = .045$. However, males ($M = 13.19$; $SD = 3.44$) scored significantly higher than females ($M = 11.88$; $SD = 3.30$) in behavioral academic self-handicapping, t (346) = 3.51, $p = .001$, $r = .188$. This gender difference is consistent with previous research that has indicated males are more likely to engage in behavioral self-handicapping.

Males ($M = 26.01$; $SD = 6.94$) also scored significantly higher than females ($M =$

22.86; $SD = 6.04$) in diffused academic identity, $t(333) = 4.34$, $p < .001$, $r = .237$. There was a marginally significant difference between males ($M = 30.90$; $SD = 6.84$) and females ($M = 29.43$; $SD = 6.91$) in moratorium academic identity, $t(330) = 1.86$, $p = .063$, $r = .102$. There was no significant difference between males ($M = 31.60$; $SD = 6.93$) and females ($M = 31.80$; $SD = 6.62$) in foreclosed academic identity $t(338) = .276$, $p = .783$, $r = .015$. Lastly, females ($M = 36.64$; $SD = 6.22$) scored higher than males ($M = 35.32$; $SD = 5.11$) in achieved academic identity; this was a marginally significant difference $t(324) = 1.68$, $p = .093$, $r = .093$.

A regression analysis was conducted in order to determine whether the diffused academic identity subscale could partially account for the significant gender differences in the tendency to engage in behavioral academic self-handicapping. Gender was entered in an initial step of a regression model predicting behavioral academic self-handicapping; gender (female = 0; male =1) was a significant predictor of behavior academic self-handicapping, $\beta = .185$, $t = 3.38$, $p = .001$. The diffused academic identity subscale, which also demonstrated gender differences, was entered in a second step, $\beta = .515$, $t = 10.57$, $p < .001$. Controlling for diffused academic identity scores reduced the gender predictor to non-significance, $\beta = .068$, $t = 1.39$, $p = .163$. Furthermore, the results of a Sobel test suggest that the diffused academic identity may mediate the relationship between gender and behavioral academic self-handicapping, $z = 4.01$, $p < .001$.

Correlates of Academic Self-Handicapping

Behavioral academic self-handicapping was negatively correlated with college self-efficacy and high school college-going climate; behavioral self-handicapping was

positively associated with impostor feelings. Claimed academic self-handicapping was negatively correlated with college self-efficacy and positively correlated with impostor feelings; it did not significantly relate to high school college-going climate. Both forms of academic self-handicapping were negatively associated with GPA (See Table 11).

Correlates of Academic Identity Statuses

The diffused academic identity was negatively associated with college self-efficacy and positively associated with experiencing impostor feelings. The diffused academic identity did not significantly relate to experiencing a college-going climate in high school. The moratorium academic identity was also negatively associated with college self-efficacy and positively associated with impostor feelings. The moratorium identity did not significantly relate to experiencing a college-going climate in high school. The foreclosed academic identity was not significantly associated with college-self efficacy. However, the foreclosed academic identity was positively associated with impostor feelings; the foreclosed academic identity also shared a positive relationship with high school college-going climate. The achieved academic identity was positively associated with college self-efficacy and negatively associated with impostor feelings. The achieved academic identity was also positively associated with high school college-going climate (See Table 12).

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Discussion

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Similar to previous research that has measured academic identity (Chorba, Was, & Isaacson 2012; Was & Isaacson, 2008), results from the present study found evidence to support the theorized academic identity statuses. The appropriate AIM items

significantly loaded onto respective latent constructs that represented each of the four academic identity statuses. Furthermore, it was found that the diffused, moratorium, and foreclosed academic identities were positively correlated; the achieved academic identity was negatively correlated with the diffused and moratorium academic identities. Was and Isaacson found a similar pattern of intercorrelations among these statuses and proposed that the direction of the relationships were theoretically valid as each of the three identity statuses are missing the ideal combination of exploration and commitment.

However, the present study found a positive relationship between the achieved and foreclosed academic identities, which is inconsistent with previous research. Past studies have found a negative relationship between these two statuses (e.g., Chorba, Was, & Isaacson, 2012). It may be the case that college students with an achieved identity and college students with a foreclosed identity respond similarly in some instances because in theory, each has made a commitment to academics. It may also be the case that some students who score higher in the achieved academic identity can still experience external pressure to attend college and perform well. An item-total correlational analysis between the achieved subscale and the foreclosed items revealed that the achieved subscale scores were more strongly associated with wanting to make parents proud; however, it was negatively correlated with foreclosed items of only being in school because it is what others want or expect. This suggests that students with higher achieved scores may still aspire to make their parents proud but it is not necessarily the sole, primary reason they attend college.

The academic identity statuses were significantly associated with GPA, which is consistent with previous research. The diffused and moratorium identities were negatively associated with GPA. Each of these identities involves a lack of commitment, which may lead to increased instances of behaviors that reflect this perspective (e.g., poorer class attendance). The achieved identity was positively associated with GPA, which is consistent with theory; if a student has made a personal investment in academics and has adopted effective strategies to achieve academic goals, then it may lead to higher GPA. The foreclosed identity did not significantly relate to GPA, which was an unexpected finding. Students with more of a foreclosed identity have made a commitment to academics that does not stem from personal exploration; this type of commitment may not lead to an increase in academic performance as measured by GPA.

When categorizing participants according to their academic identity status, only a small sample of participants satisfied the categorization criteria described by Chorba et al. (2012). Categorization challenges have been studied in the ego identity literature. Specifically, Jones, Akers, and White (1994) noted that classifying ego identity statuses based on mean and standard deviation cutoffs could result in substantial attrition within a given sample. By comparing different categorization rules, they demonstrated that less stringent categorization rules (i.e., 0.5 standard deviations about the mean on any one identity status rather than 1.0 standard deviation on any one identity status) could lead to improvements in the categorization process without sacrificing theoretical clarity or interpretability. Perhaps a less stringent categorization rule for academic identity could produce a similar outcome. It is also important to note that the majority of the present

sample were first or second year college students (75.7%). It may be the case that students would have more defined academic identities if they were assessed in their third or fourth year of college and would therefore respond differently to the AIM. Future attempts to categorize first or second year college students according to their academic identity status should consider accounting for individuals who have subscale scores that do not meet the categorization criterion on any one academic identity status; it is also important to account for individuals who appear to identify with more than one academic identity status (Jones, Akers, & White, 1994).

Consistent with previous research, the academic identity statuses significantly related to self-handicapping tendencies. More specifically, the results indicate that the academic identity statuses differentially related to behavioral academic self-handicapping. It was found that the diffused and moratorium academic identities each shared a significant, positive relationship with behavioral academic self-handicapping. Students with more of a diffused academic identity may be more likely to engage in behavioral self-handicapping, such as poor class attendance, because they are less concerned about their academic path. Students with more of a moratorium academic identity may be more likely to engage in behavioral academic self-handicapping as they are more susceptible to experiencing self-doubt and anxiety as they continue to engage in exploration (e.g., Kidwell et al., 1995). Furthermore, Shanahan and Pychyl (2007) found evidence that adolescents with more of a moratorium identity or a diffused identity were more likely to engage in procrastination, which has been widely discussed as a form of behavioral academic self-handicapping. Lange and Byrd (2002) concluded that students

with a moratorium or diffused identity have yet to develop an awareness of how to use their academic abilities and engage in efficient study strategies, which may result in last-minute study activities and passive acceptance of course grades.

When examining the correlations to claimed academic self-handicapping, similar patterns emerged with regard to the diffused and moratorium academic identities. Students with more of a diffused or moratorium academic identity reported greater instances of engaging in claimed academic self-handicapping. Previous research suggests that the prevalence of claimed self-handicapping increases when individuals lack self-confidence in a performance setting (e.g., Coudevylle et al., 2011). For students with more of a diffused or moratorium academic identity, the absence of exploration or commitment can relate to decreased confidence and performance avoidant goals in the academic domain (Was et al., 2009). Some students may rely on claimed academic self-handicapping (e.g., test anxiety) as a means to diminish the causal link between their individual ability and potential failure. If students begin to develop a more mature academic identity (i.e., achieved), the tendency to engage in claimed academic self-handicapping might decrease.

The foreclosed academic identity did not significantly relate to behavioral academic self-handicapping. Students with more of a foreclosed academic identity are more likely to be in college because they have a desire to meet the expectations of others. Since behavioral academic self-handicapping is considered to be more detrimental to performance (e.g., Ferrari & Thompson, 2006; Hirt, Deppe, & Gordon, 1991), students with a foreclosed academic identity may not engage in this type of self-handicapping as

they are most concerned about pleasing others (e.g., making their parents proud); these students may engage in effective academic behaviors (e.g., class attendance, note-taking) with enough regularity in order to address those concerns. Relatedly, previous research has found that students with an adult identity (i.e., either foreclosed or achieved) tend to report utilizing their skills to address academic situations (Lange & Byrd, 2002).

While the foreclosed academic identity did not significantly relate to behavioral academic self-handicapping, a significant, positive relationship was found with claimed academic self-handicapping. Some researchers have proposed that self-handicapping is a facet of impression management (Kolditz, Thomas, & Arkin, 1982; Higgins, 1990; Urdan & Midgley, 2001). For students with more of a foreclosed academic identity, it may be the case that they are more willing to engage in claimed academic self-handicapping (e.g., claim tiredness) rather than actually creating obstacles that will directly impact their performance (e.g., choosing not to study). A greater prevalence of claimed academic self-handicapping could stem from their concern of how they will be perceived by people who expect them to attend college and make timely progress toward earning a degree.

As predicted, the achieved academic identity was negatively associated with reports of engaging in both forms of academic self-handicapping. Consistent with theory and previous research, participants scoring higher in achieved academic identity tended to score lower on the behavioral academic self-handicapping subscale and the claimed academic self-handicapping subscale. Students with an achieved academic identity are more likely to adopt mastery achievement goals; these goals can lead to increased instances of utilizing effective learning strategies, engaging in challenging tasks, and

having a positive attitude toward academics (Elliot & Church, 1997; Was, Al-Harthy, Stack-Oden, & Issacson, 2009). Having more of an achieved academic identity suggests that the student has a secure understanding of their academic goals and employs strategies that will increase the probability of success (Chorba et al., 2012). For students with an achieved academic identity, engaging in behavioral or claimed academic self-handicapping may become less likely because the implications of potential failure are a lesser concern.

While the relationships between academic identity and self-handicapping are informative, the present study also found evidence of gender differences within each construct. Gender differences in behavioral self-handicapping are well documented the literature (e.g., Berglas & Jones, 1978; Harris & Snyder, 1988; Hirt, Deppe, & Gordon, 1991; Kimble & Hirt, 2005); consistent with previous research, males reported engaging in behavioral academic self-handicapping more than females. Furthermore, when examining gender differences in academic identity, it was found that males reported more of a diffused academic identity and females reported more of an achieved academic identity. Previous research in identity development has reported gender differences in identity that partially depends on the domain in question. For example, males have reported more of a foreclosed identity and females have reported more of a diffused identity in relation to political ideology (Archer, 1989). The gender differences in academic identity status are an important contribution to the literature, as previous studies have not examined this research question. It is important to determine whether the gender differences observed in the present study can be replicated.

The present study also found evidence that academic identity can explain gender differences in behavioral academic self-handicapping. Specifically, regression analysis revealed that after controlling for scores on the diffused academic identity subscale, gender was no longer a significant predictor of behavioral academic self-handicapping. It may be the case that academic identity status can partially explain gender differences in academic self-handicapping. If males tend to have more of a diffused academic identity, it may partially explain their greater tendency to engage in behavioral academic self-handicapping. Of course, these results are correlational but it is an informative first step in contributing to the understanding of gender differences in self-handicapping. Previous research has identified effort valuation as a potential mediator between gender and behavioral self-handicapping (McCrae, Hirt, Hendrix, Milner, & Steele, 2008). Future experimental research should continue to investigate academic identity status as a potential mediating variable as well.

When examining how academic self-handicapping relates to constructs that are relevant in the academic domain, the pattern of correlations were consistent with theory and previous research. Behavioral academic self-handicapping and claimed academic self-handicapping were positively associated with impostor feelings; this suggests that feeling undeserving of achievement or having concerns that others will discover your lack of ability relates to increased instances of maladaptive academic behaviors (e.g., procrastination) and claiming impediments to performance (e.g., bad luck). Behavioral and claimed academic self-handicapping were negatively related to college self-efficacy. Consistent with the theory of Berglas and Jones (1978), college students exhibiting

higher levels of academic self-handicapping are less likely to feel self-efficacious in the academic domain and lack confidence in their ability to complete college-related tasks. Only behavioral academic self-handicapping was significantly associated with high school college-going climate. This suggests that having experienced more of a high-school college-going climate will make it less likely for students to exhibit behavioral self-handicapping, such as procrastinating or falling behind in schoolwork. Claimed self-handicapping did not significantly relate to high school college-going climate so it is possible that students who experience this type of climate may still report test anxiety or emotions interfering with their academic performance.

The academic identity statuses also shared significant relationships to the psychological constructs related to academics. The diffused and moratorium academic identities were positively associated with impostor feelings and negatively associated with college self-efficacy. The pattern of these relationships provides further insight into the psychological experiences of students that have not developed an achieved academic identity. Namely, students who are attending college but are not certain as to whether or not they belong could experience increased instances of impostor feelings. Perhaps students who lack exploration or commitment in academics experience self-doubt with regard to their ability to succeed despite having the ability to so. Lange and Byrd (2002) found that students with a diffused identity and students with a moratorium identity scored similarly in comparison to foreclosed and achieved students on a measure of potential academic success in university-level courses; however, they also found that diffused and moratorium students scored significantly lower in perceiving academic

challenges as controllable. Lange and Byrd proposed that identity development can influence academic performance but it may also relate to the psychological well-being of students; experiencing impostor feelings and having a sense of self-efficacy certainly speak to the nature of a student's well-being (Langford & Clance, 1993; Ryan & Deci, 2000), so the present findings appear to expand upon previous research addressing this relationship.

Similar to the diffused and moratorium academic identities, the foreclosed academic identity was positively associated with impostor feelings. This relationship can be explained by considering the theorized reasons foreclosed students choose to go to college. If foreclosed students are primarily attending college in order to please others (e.g., parents, extended family) and meet their expectations, then perhaps the pressure to meet those expectations can explain the degree to which students experience impostor feelings. This form of commitment to academics can be detrimental, as impostor feelings have been linked to greater concern for mistakes and increased anxiety (Thompson, Foreman, & Martin, 2000). Relatedly, Thompson (2004) proposed that the contextual variable of family environment (i.e., parenting, parental messages, noncontingent evaluative feedback) could partially explain the relationship between individual difference variables (e.g., uncertain self-worth, sensitivity to evaluative threat) and achievement costs (e.g., task avoidance behaviors, diminished intrinsic motivation). For example, if a student has low self-estimates of ability yet receives parental messages that emphasize academic achievement and perfectionism, then it is possible that the student may feel undeserving of such high expectations. Attempts to manage these expectations

may manifest in the form of self-presentational strategies (e.g., claimed self-handicapping; Ferrari & Thompson, 2006). Perhaps academic identity status could serve as an additional individual difference variable in order to further account for the relationship between impostor feelings and academic self-handicapping.

Furthermore, the foreclosed academic identity was positively associated with experiencing a high school college-going climate. Moreover, in comparison to other academic identity statuses, the foreclosed academic identity shared the strongest relationship to high school college-going climate. Researchers have illustrated the importance of students experiencing a college-going climate that prepares them for postsecondary education (e.g., Edmunds et al., 2010; Oakes, Mendoza, & Silver, 2004; Williams & Collins, 2001). Lee, Smith, Perry, and Smylie (1999) also emphasized the importance of social support (i.e., encouragement from peers, parents, and teachers) and academic press (i.e., peers, teachers, and administrators emphasizing that standards of achievement are met) in order for students to engage in academics and be successful. Among students with more of a foreclosed academic identity, it may be the case that some attend college because they want to satisfy the expectations of their social support network. In order to prevent this form of commitment, educators and administrators should encourage students to engage in exploration and assist them in forming their own personal educational goals and career aspirations (Schneider, 2007). Engaging with students in this manner may reduce the prevalence of impostor feelings or self-handicapping in the future.

Finally, as predicted, the achieved academic identity was negatively associated with impostor feelings and positively associated with college self-efficacy and experiencing a high school college-going climate. Taken together, these correlations are consistent with previous research that has outlined the benefits of an achieved identity (e.g., Hoegh & Bourgeois, 2002; Lange & Byrd, 2002; Marcia, 1980; Orlofsky, 1978). Students with more of an achieved academic identity tending to have lower levels of impostor feelings and higher levels of college self-efficacy suggests that they are more secure in their perception of individual ability and are more likely to utilize effective strategies to complete academic tasks.

Similar to the foreclosed academic identity status, the achieved academic identity status was positively associated with experiencing a high school college-going climate. Perhaps a college-going climate can encourage students to commit to academics and attend college. However, an equally important piece is the ability of a college-going climate to facilitate exploration and academic identity development among its students. It is also probable that students respond and interact with a college-going climate in different ways. A student with more of a foreclosed academic identity may passively engage with such an environment while a student with more of an achieved academic identity may actively engage and take advantage of the beneficial school climate (e.g., visit school counselors, enroll in college preparatory courses).

The findings of the present study have replicated previous research and contributed new information in an effort to better understand academic self-handicapping and its relationship to academic identity status. Since previous research has found

evidence to suggest that the prevalence of self-handicapping can depend on the domain of the evaluative task, examining how an individual identifies with a particular domain can aid in our understanding of how (i.e., behavioral and/or claimed) and why (e.g., gender differences) people self-handicap. More generally, students may self-handicap for a number of different reasons and the results of the present study suggest that the prevalence of behavioral self-handicapping and claimed self-handicapping differentially relates to academic identity.

Study 2 will build upon the results of Study 1 by examining the relationships between survey instruments and student behavior and experiences in a college course. Specifically, Study 2 will examine the relationship between self-handicapping (i.e., ASHQ), academic identity (i.e., AIM), and students' self-reported studying behavior in preparation for a course examination.

Study 2: Overview and Hypotheses

The objective of Study 2 was to examine how responses to the ASHQ and responses to the AIM relate to self-reported studying behavior and affect in the week leading up to the first course examination in an introductory psychology course. The present study will assess the extent to which ASHQ responses and AIM responses relate to days and hours spent studying in preparation for a course examination. It will also assess how each construct relates to self-reported psychological experiences while studying (i.e., anxiety, depression, distractedness). In light of results from Study 1, gender differences will be examined in order to determine whether differences in academic identity can be replicated and to assess whether male students engage in more

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behavioral self-handicapping by studying less than female students.

The following hypotheses will be investigated: (1) behavioral academic self-handicapping will be negatively associated with the number of days and hours spent studying; (2) claimed academic self-handicapping will be positively associated with reported feelings of anxiety, depression, and distractedness while studying; (3) the achieved academic identity will be positively associated with number of days and hours spent studying (4) the achieved academic identity will be negatively associated with reported feelings of anxiety, depression, and distractedness while studying; (5) the moratorium and diffused academic identities will be negatively associated with number of days and hours spent studying; (6) the foreclosed, moratorium, and diffused academic identities will be positively associated with reported feelings of anxiety, depression, and distractedness; (7) on average, males will report studying less than females in preparation for a course examination.

Methods

Participants

One hundred sixty (160) undergraduate students from a southern California university participated in the present study. The sample was ethnically diverse, consisting of: 4.3% African Americans, 44.1% Asian Americans, 13.0% Caucasians, 32.9% Hispanic/Latinos, and 10.5% Mixed Heritage or Other. Regarding the participants' gender identification, 70% indicated they were female, 30% indicated they were male. The average age was 19.40 (Min = 17; Max = 30; SD = 1.64). Approximately 74% of the sample reported being in their first or second year of college. Regarding the participants

major or intended major, 62.7% indicated that their academic concentration was in the field of the humanities, arts, or social sciences while 31.1% indicated that their academic concentration was in the natural sciences or engineering. 6.2% of participants reported being undeclared or undecided with regard to their academic concentration.

Procedure

Unlike Study 1, participants were not required to report to a reserved computer lab in order to complete the survey. Upon signing up for the study via an undergraduate subject pool website, participants were provided a unique, secure web address that would allow them to access the online study. Participants were instructed to complete the study in a quiet environment and were informed that completing the survey would take no more than one hour of their time. Research assistants monitored length of time to complete for each participant in order to confirm that participants were finishing in an appropriate amount of time (i.e., approximately sixty minutes). Participants received course credit for their participation.

Participants first read the informed consent form and provided their electronic signature indicating that they agreed to participate in the study. The online study first asked them to report demographic information (e.g., age, gender, ethnicity) and relevant academic information (e.g., overall GPA, major course of study, class standing). Participants then responded to the same set of survey instruments described in Study 1 of this dissertation; the survey instruments of interest for Study 2 include the ASHQ and the AIM. Participants also reported the number of days spent studying, the number of hours spent studying and the extent to which they felt anxious, depressed, or distracted while

studying. Data collection was coordinated so that reported studying behavior and affect were specific to a week that preceded the date of a course examination.

Materials

Academic Self-Handicapping. Academic self-handicapping was measured using the Academic Self-Handicapping Questionnaire (ASHQ; Murray & Warden, 1992). The ASHQ is a 22-item measure ranging from 1 (Strongly Disagree) to 6 (Strongly Agree). The measure contains a behavioral self-handicapping subscale that includes items such as: "My weekends are usually wasted as far as school is concerned" ($\alpha = .71$). The measure also contains a claimed self-handicapping subscale that includes items such as: "My emotions often get in the way of me getting anything done" ($\alpha = .69$). Lastly, the questionnaire includes a 23rd item that asked participants to indicate if they consider themselves "distinct underachievers," "normal achievers," or "distinct overachievers".

Academic Identity. The academic identity statuses were measured by using the Academic Identity Measure (AIM; Was & Isaacson, 2008). The AIM is a 40-item measure ranging from 1 (Not at all like me) to 5 (Very much like me). The measure consists of four subscales; each subscale represents one of the academic identity statuses. The Moratorium subscale includes items such as: "Some days I am enthusiastic about learning but other days I don't really care" ($\alpha = .84$). The Diffused subscale includes items such as: "Some days I think I'm in college because I have nothing better to do" ($\alpha = .77$). The Foreclosed subscale consists of items such as: "An important reason I chose to go to college was my family wanted me to go" ($\alpha = .79$). The Achieved subscale

consists of items such as: "I feel comfortable being responsible for my education and learning" (α = .82).

Studying Behavior and Affective Experiences. Participants were asked to report their studying behavior by indicating which days they spent studying within a full academic week. They were also asked to report the number of hours they spent studying on each of the days they chose to study. Participants reported the extent to which they felt anxious while studying by responding to a scale of 1 (Not at all anxious) to 5 (Very anxious). Participants reported the extent to which they felt depressed while studying by responding to a scale of 1 (Not at all depressed) to 5 (Very depressed). Lastly, participants indicated the extent to which they felt distracted while studying by responding to a scale of 1 (Not at all distracted) to 5 (Very distracted).

Results

Participants reported studying across an average of 2.55 days in preparation for their course examination (SD = 1.31; Min = .00; Max = 7.00). With regard to hours spent studying, participants reported studying for an average of 5.53 hours in preparation for their course examination (SD = 3.35; Min = .00; Max = 18.00). On average, students reported feeling low levels of anxiety (M = 2.35; SD = 1.18; Min = 1.00; Max = 5.00), depression (M = 1.81; SD = 1.04; Min = 1.00; Max = 5.00), and distractedness (M = 2.11; SD = .97; Min = 1.00; Max = 5.00) while studying.

Behavioral academic self-handicapping scores shared a significant, negative relationship with number of days spent studying and number of hours spent studying. Behavioral academic self-handicapping scores were positively associated with reports of

feeling depressed and distracted while studying. Claimed academic self-handicapping did not significantly relate to number of days spent studying or number of hours spent studying. However, claimed academic self-handicapping was positively associated with reports of feeling anxious, depressed, and distracted while studying; the magnitudes of these relationships are larger than that of behavioral academic self-handicapping (See Table 13).

The diffused academic identity did not significantly relate to number of days spent studying or number of hours spent studying. However, the diffused academic identity was positively associated with feeling anxious, depressed, and distracted while studying. The moratorium academic identity did not significantly relate to number of days spent studying or number of hours spent studying but it was positively associated with experiencing anxiety while studying. The foreclosed academic identity did not significantly relate to number of days spent studying, number of hours spent studying, or any of the psychological experiences reported. The achieved academic identity was positively associated with number of days spent studying and number of hours spent studying. The achieved academic identity was negatively associated with feelings of depression and distractedness while studying (See Table 14).

The gender differences in academic identity status found in Study 1 were replicated in Study 2. Males ($M = 27.48$; $SD = 7.04$) scored higher than females ($M = 25.46$; $SD = 6.81$) in the diffused academic identity; this mean difference was marginally significant, t (154) = 1.66, $p = .099$, $r = .133$. Females ($M = 35.68$; $SD = 6.08$) scored higher than males ($M = 33.79$; $SD = 6.28$) in the achieved academic identity; this mean

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difference was also marginally significant, $t(144) = 1.70$, $p = .091$, $r = .141$. There was no significant gender difference in the foreclosed academic identity, $t(151) = 1.50$, $p = .134$, $r = .122$. There was also no significant difference in the moratorium academic identity, $t(152) = 1.37$, $p = .170$, $r = .111$.

Furthermore, females ($M = 6.09$; $SD = 3.54$) reported spending more hours studying than males ($M = 4.01$; $SD = 2.18$); this difference was statistically significant, $t(123) = 3.19$, $p = .002$, $r = .287$. Females ($M = 2.71$; $SD = 1.28$) also reported studying across more days than males ($M = 2.11$; $SD = 1.30$); this difference was also statistically significant, $t(125) = 2.35$, $p = .023$, $r = .210$. There were no significant gender differences in reported feelings of anxiety while studying, $t(101) = 1.03$, $p = .301$, $r = .102$. There were no significant gender differences in reported feelings of depression while studying, $t(96) = .503$, $p = .616$, $r = .051$. Finally, there were no significant gender differences in reported feelings of distractedness while studying, $t(97) = .770$, $p = .443$, $r = .078$.

Discussion

The present findings replicated previous research demonstrating the extent to which self-handicapping survey data relates to reported behavior and affect in the academic setting. As predicted, the behavioral academic self-handicapping subscale was negatively associated with the number of days in which students spent time studying and the number of hours spent studying. A reduction in preparatory efforts is considered to be a common form of behavioral self-handicapping (e.g., McCrae, Hirt, & Milner, 2008). Students scoring higher on the behavioral self-handicapping subscale also tending to

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report studying less is consistent with previous research. The behavioral self-handicapping subscale was also positively associated with reporting experiences of depression and distractedness while studying. Previous studies have found evidence that mood or affect can relate to the prevalence of self-handicapping. For example, Zuckerman, Keiffer, and Knee (1998) found that students scoring higher in self-handicapping also scored higher in mental disengagement and rumination. The behavioral academic self-handicapping subscale did not significantly relate to anxiety while studying but the relationship was trending in the expected direction, which is consistent with the theory of self-handicapping.

The claimed self-handicapping subscale did not significantly relate to number of days in which students studied or number of hours spent studying. However, the claimed academic self-handicapping subscale was positively associated with reported feelings of anxiety, depression, and distractedness while studying. These relationships provide additional support for the distinction between behavioral and claimed self-handicapping. Scoring higher in claimed self-handicapping does not necessarily indicate that the student will inadequately prepare. It may be the case that students scoring higher in claimed self-handicapping are more likely to report a potential impediment to performance, such as anxiety, despite studying as much as students scoring lower in claimed self-handicapping. Previous research has suggested that one important distinction between people who engage in claimed self-handicapping and people that do not is self-confidence (Coudevylle, Gernigon, & Ginis, 2011).

Counter to prediction, scores on the diffused academic identity subscale were not significantly related to number of days in which students studied or number of hours spent studying. However, the results supported the hypothesis that experiencing anxiety, depression, and distractedness would be positively associated with diffused academic identity scores. Among the present sample of students it would appear that having more of a diffused academic identity does not map onto their reported studying behavior. Perhaps the quality and efficiency of studying behavior can be called into question when reviewing the relationships between the diffused academic identity and reported affect while studying. The results suggest that the studying experience may be more unpleasant for diffused students. It is possible that lacking exploration and commitment in relation to academics contributes to experiencing more negative affect while engaging in some academic tasks (e.g., studying, exam preparation).

Also counter to prediction, the moratorium academic identity did not significantly relate to number of days in which students studied or number of hours spent studying. The absence of a significant relationship can be explained by considering the theoretical characteristics of a moratorium student and the AIM items that make up the moratorium academic identity subscale. The moratorium academic identity involves exploration and periods of uncertainty and self-doubt (Kidwell et al., 1995); while actively engaging in exploration, the commitment of a moratorium student may fluctuate (Was & Isaacson, 2008). The AIM subscale measuring the moratorium academic identity includes items such as "My view of grades and studying fluctuates; sometimes I am conscientious, other times I'm lazy." Students highly identifying with such items may report inconsistent

studying behavior. In a given week, there may be more variability in study habits among moratorium students; specifically, some moratorium students may study while other moratorium students do not. The pattern of these relationships may change if measured in different weeks of an academic course. The positive relationship between the moratorium identity and reported anxiety while studying was consistent with previous research that has provided evidence of the moratorium identity being associated with greater anxiety.

The foreclosed academic identity did not significantly relate to studying behavior or reported affect while studying. It was expected that the relationships in the present study would support findings from Study 1. Specifically, foreclosed students were expected to study more in order to adequately prepare and potentially please others who have high expectations of their ability and performance. Additionally, foreclosed students were expected to report higher levels of negative affect as they attempt to manage academic tasks and the impressions others hold of their ability. This pattern of relationships could emerge when academic tasks are of more importance (e.g., final exam, graduate record exam, law school admission test) and the potential to disappoint others is made salient.

As predicted, the achieved academic identity subscale was positively associated with the number days in which students studied and the number of hours spent studying. Furthermore, the achieved academic identity subscale was negatively associated with reports of feeling depressed and distracted while studying. Taken together, these results support the theoretical underpinnings of an achieved academic identity. Students with more of an achieved identity are more likely to study regularly and perhaps enjoy what

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they are studying. The achieved academic identity subscale did not significantly relate to reports of anxiety while studying which suggests that some achieved students may experience some anxiety in relation to completing academic tasks while other achieved students may not.

In the present study, the patterns of gender differences across the academic identity statuses were similar to those found in Study 1. On average, males scored higher than females on the diffused academic identity subscale. Females tended to score higher than males on the achieved academic identity subscale. It may be the case that females tend to have more of an achieved academic identity but further study is needed in order to arrive at a more definitive answer. Gender differences in response to the AIM may vary if the demographics of the sample changed. For example, in the present study, the majority of students (62.7%) indicated that they were majoring in or intended to major in the humanities, arts, and social sciences; a different pattern of gender differences could emerge when surveying more students who major or intend to major in a different academic concentration (e.g., engineering, natural and agricultural sciences). The majority of the present sample (70%) was also comprised of females; collecting a more equal representation of men and women could also influence outcomes derived from AIM responses.

When examining gender differences in studying behavior, it was found that females reported studying across more days than males. Females also reported spending more hours studying than males. In the self-handicapping literature, various studies have found gender differences in behavioral self-handicapping (e.g., Kimble & Hirt, 2005).

Since studying less can function as a behavioral self-handicap, the gender differences in studying behavior provide further evidence that gender differences in self-handicapping can extend beyond responses to survey instruments.

Similar to Study 1, the results of Study 2 suggest that the measurement of academic identity can contribute to research that focuses on understanding why people self-handicap and how. It is possible that self-reports (e.g., responses to the AIM) can serve as indicators of actual behavior and affect (e.g., amount of studying; Ferrari & Tice, 2000; Hirt, Deppe, & Gordon, 1991; Murray & Warden, 1992). If the AIM can reliably predict academic behaviors such as how much (or how little) a student studies, then high schools and universities should consider providing experiences to their students that facilitate development of an achieved academic identity. Fully addressing the complex nature of academic self-handicapping requires an understanding of several individual difference constructs (e.g., personality). Consideration of how academic identity relates to academic self-handicapping can provide useful information about why students may have poor study habits, withdraw effort, or fail to seek supplemental instruction when they do not understand course material.

General Discussion

The present studies examined the nature of the relationship between the academic identity statuses and academic self-handicapping. The collective results of this dissertation indicated that the development of an achieved academic identity is related to more positive student experiences, behaviors, and outcomes. Students with more of an achieved academic identity tended to report higher levels of college self-efficacy and

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lower levels of impostor feelings. Students scoring higher in the achieved academic identity also tended to report studying more in a given week with lower reports of negative affect while studying. Furthermore, students with more of an achieved identity reported higher grade point averages, which suggests that academic identity measurement can map onto academic outcomes.

An argument can be made that the positive outcomes related to having more of an achieved academic identity are more probable because these students are less likely to engage in academic self-handicapping. Conversely, less developed academic identity statuses (i.e., diffused, moratorium, foreclosed) show signs of being positively related to academic self-handicapping. Whether it is behavioral academic self-handicapping or claimed academic self-handicapping, students who engage in these self-defeating strategies tend to have lower levels of self-efficacy and lower grade point averages. In order to facilitate the transition from high school to college and potentially increase college retention, it may be necessary for educators and administrators to cultivate an environment that allows students to explore their sense of self in relation to academics.

A school climate may encourage students to make a commitment to academics but an equal emphasis should be placed on exploration. Relatedly, a college-going high school climate should consider academic identity as a potential explanatory variable when attempting to understand why students may seem disengaged or disinterested in certain aspects of school. While previous research has indicated that a college-going climate is beneficial and advantageous, educators and administrators should be aware that some students might fulfill the expectations of a college-going environment without fully

exploring their personal interests or aspirations. Although exploration can involve

experiencing uncertainty and self-doubt, this state of transition is an important aspect of

developing an achieved identity. Colleges and universities should also be mindful of

academic identity among its students because previous research and findings from the

present dissertation suggest that many undergraduate college students may not have clear,

distinguishable academic identities (i.e., a majority of the samples either identifying with

more than one identity status or not identifying with any of the identity statuses).

Limitations and Suggestions. The present findings should be interpreted with

caution, as there were limitations in each study. Although interesting relationships

emerged when examining how the academic identity statuses relate to other

psychological constructs, using the AIM in order to categorize students into an

appropriate academic identity proved problematic. Perhaps the categorization

methodology of Chorba et al. (2012) is too stringent, as a vast majority of their sample

and the sample of Study 1 in this dissertation did not meet criteria for categorization. It is

of theoretical and practical importance to be able to determine an individual student's

academic identity. Future research in this area should investigate whether third-year and

fourth-year undergraduate students have a more defined and mature academic identity.

Furthermore, since responses to the AIM appear to relate to academic outcomes such as

grade point average, it would be interesting if it could also predict college student

retention over time.

Additional limitations stem from the characteristics of the present samples.

Specifically, a majority of the samples in Study 1 and Study 2 were comprised of female

participants. In order to arrive at more definitive conclusions concerning gender

differences in academic identity, it would be necessary to collect a more equal

representation of female students and male students. Relatedly, the majority of the

samples in Study 1 and Study 2 were also comprised of students who majored in or

intended to major in an academic concentration in the humanities, arts, and social

sciences. Outcomes related to reported academic self-handicapping behavior and

responses to the AIM could vary with a more equal representation of other academic

concentrations (e.g., engineering, natural sciences).

A limitation specific to Study 1 involves the measurement of high school college-

going climate. Participants were asked to retrospectively assess the college-going climate

they experienced as high school students. This assessment was informative as it

significantly related to academic identity. However, to better understand the relationship

between college-going climate and academic identity, data collection among high school

students would be particularly useful. Ideally, a longitudinal study would be appropriate

wherein high school students are tracked as they transition through high school and into

college. During this progression, measurement of college-going climate and academic

identity could take place and it would likely serve as a strong indication of how

contextual variables relate to the prospective college student's academic identity and their

potential use of self-handicapping strategies.

A limitation specific to Study 2 involved the self-reported studying behavior in

the week leading up to an undergraduate course examination. The methodology utilized

in Study 2 was not designed to verify the amount of time actually spent studying or assess

the quality and efficiency of the studying in a given time period. In some cases, students may intend to study but fail to stay on-task (i.e., attending to appropriate academic material). Rosen, Carrier, and Cheever (2013) found that students tend to multitask while studying and technology can facilitate that tendency. Rosen et al. observed on-task behavior in 15-minute observation periods and found that participants averaged only 5-6 minutes of on-task behavior (i.e., studying). Their findings also indicated that engaging in off-task behaviors was often due to technological distractions (e.g., receiving or sending a text message, social media usage, or watching television). It is possible that some students may report studying for two hours on a given day but only spend 30 total minutes on-task. If unaccounted for, this possibility could conceal important differences between students who tend to self-handicap and students who do not; it could also conceal differences between students with an achieved academic identity and students without an achieved academic identity. Based on previous research, it would be expected that students scoring high in academic self-handicapping and low in achieved academic identity would be more likely to engage in off-task behaviors while intending to study.

A more general limitation of the present dissertation involves the measurement of self-handicapping. In theory, some people who engage in self-handicapping are motivated to do so because they want to manage the impressions others hold of their ability. Other people who engage in self-handicapping may do so because they want to protect their self-concept from the implications of failure. In either case, people who self-handicap may be reluctant to admit that they self-handicap because it would draw attention to their uncertain ability beliefs; it is also possible that people who self-handicap

are not necessarily aware or conscious of the fact that they self-handicap. Self-presentation concerns or lack of self-awareness can complicate the measurement of self-handicapping. Furthermore, when relying on self-report data to determine the extent to which individuals rely on self-handicapping, the responses can potentially be ambiguous. It is not always clear whether self-handicapping studies that rely on self-report have "identified what high self-handicappers actually do or what they merely claim to do" (p. 1626; Zuckerman et al., 1998). These challenges validate the multi-method approach found in the self-handicapping literature as previous research has measured self-handicapping through self-report, experimental design, and procedures that involve the completion of questionnaires followed by additional data collection at the experimental level or in a more natural setting (e.g., an actual classroom).

Due to the complexity of measuring self-handicapping, it can be useful to study the phenomenon in a domain-specific context. Examining how an individual identifies with a domain can aid in our understanding of how and why people might engage in self-handicapping. Previous research has demonstrated that the prevalence of self-handicapping can depend on the domain of the evaluative task (e.g., Green, Martin & Marsh, 2007; McCrae & Hirt, 2011; Schwinger, 2013). Researchers should consider how much an individual identifies with a particular domain in order to partially explain their self-handicapping tendencies. It is possible that this approach can explain self-handicapping in a variety of performance settings (e.g., academics, athletics, workplace). It is also possible that this approach could explain instances where an individual appears to self-handicap in one domain but not in others. For example, a student-athlete may feel

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confident in their athletic ability to perform and therefore does not self-handicap when practicing or competing; however, the same student-athlete may feel less confident in their academic ability and therefore self-handicap when performing academic tasks.

Conclusion. In the self-handicapping literature, various individual and situational variables have been examined in order to understand the underlying motivation of self-handicapping and to determine when it is more likely to occur. These efforts have revealed significant individual difference predictors (e.g., anxiety) and situational characteristics (e.g., uncertainty) that increase the likelihood of self-handicapping. More recently, researchers have implemented strategies designed to reduce the prevalence of self-handicapping. For example, Schimel, Arndy, Banko, and Cook (2004) found that participants who engaged in intrinsic self-affirmation by identifying their most important self-definition (e.g., student, musician, artist) and explaining why it was important led to reduced self-handicapping attributions. Additionally, McCrea and Flamm (2012) found evidence to suggest that inducing upward prefactual thinking (e.g., "If I concentrate, I might get a higher score on the test") can reduce self-handicapping behavior before an evaluative task. These approaches are promising and could be useful among many students because they can be implemented in situations where students feel anxious or uncertain of their ability.

Researchers have also investigated how school climate can have an influence on the identity development of its students. Rich and Schacter (2012) proposed characteristics of a school environment that can cultivate and promote identity development. Their model posits that students should feel that their teachers care about

them, students should be able to identify with their teachers as role models, and their school should actively promote a range of progressive development that does not exclusively pertain to academics. The results of their study emphasized the importance of being able to positively identify with teachers, as it was positively associated with being able to explore personal interest and meaning in the lessons taught by those teachers. They also emphasized the importance of cultivating an environment that promotes development of the whole student as it can relate to increased exploration, finding more meaning in lessons, and a more positive social climate. Rich and Schachter argue that exclusive, narrow attention to academics in schools can increase feelings of alienation among some students because this approach can completely ignore aspects of a student's self-concept that are important. Efforts to develop the whole student can allow students to perceive their school as relating to multiple aspects of themselves and thereby increase student exploration (Rich & Sachter, 2012).

Given what is known about academic identity and its relation to self-handicapping, interventions designed to reduce academic self-handicapping should consider ways to help students develop their sense of self in relation to academics. For diffused students, interventions could encourage active exploration by presenting options and gauging personal interests in order to inform advising efforts. Among moratorium students, interventions could teach effective strategies to manage the anxiety and uncertainty that can accompany this time of identity transition. Foreclosed students could benefit from intervening efforts that encourage them to reflect on what they personally enjoy about the academic experience and aid them in finding a sense of intrinsic

motivation. The path to an achieved academic identity is not linear but if students can

reach this mature academic identity status then it is more probable that they will enjoy

being a student and pursue academic achievement and educational attainment without

relying on the psychological crutch of self-handicapping.

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Table 1

Confirmatory Factor Analysis on the Academic Identity Measure

Model	χ^2	df	*p*	AIC	CFI	RMSEA	SRMR
Null	4879.48	780	<.001	---	---	---	---
1-factor	2655.03	740	<.001	37556.62	.533	.088	.125
2-factor	2380.81	739	<.001	37284.40	.600	.082	.113
4-factor	1869.95	734	<.001	36783.55	.723	.068	.102

Note. AIC = Akaike Information Criterion; CFI = Comparative Fit Index;
   RMSEA = Root Mean Squared Error; SRMR = Standardized Root Mean Square Residual

Table 2

Factor Loadings for the Latent Construct of Diffused Academic Identity

Diffused Academic Identity Items	Loadings	S.E.	*p*
Sometimes I think the reason I'm in college is I have nothing better to do.	.564	.042	< .001
I'm not sure what occupation I want after college and I'm not really concerned about it yet.	.509	.045	< .001
I don't worry about grades very often and rarely set academic goals for myself.	.516	.045	< .001
If I had to pay for my own education I probably wouldn't be in school even if I had the money.	.469	.047	< .001
In class my mind often wanders and I often wish I were someplace else.	.583	.040	< .001
Of all the reasons to be in college one of my most important reasons is social and friendships.	.320	.053	< .001
If a class is very difficult I will usually give up and blow it off.	.592	.040	< .001
I don't have clear priorities for school and life. I usually just go with the flow.	.675	.034	< .001
Finding time to study often takes a back seat to social and recreational activities.	.336	.052	< .001
Most of the material I am asked to learn in my classes is boring.	.521	.044	< .001

Note. Reported factor loadings are standardized.

Table 3

Factor Loadings for the Latent Construct of Moratorium Academic Identity

Moratorium Academic Identity Items	Loadings	S.E.	*p*
I want a college education but sometimes I'm not sure I can make the commitment.	.573	.042	< .001
My view of grades and studying fluctuates; sometimes I am conscientious, other times I'm lazy	.632	.037	< .001
Sometimes I feel responsible for my learning but other times I feel it is out of my hands.	.580	.041	< .001
Some days I am enthusiastic about learning but other days I don't really care.	.617	.038	< .001
My priorities in school are in transition. Some days I am serious, other days I have other priorities.	.752	.029	< .001
I want to complete my school work but I often look back and realize I didn't set aside the time.	.651	.036	< .001
Sometimes I feel confident I know what I want from my education but other days I'm not so sure.	.469	.047	< .001
Sometimes I get upset when I do poorly on a test and other times I just let it slide.	.415	.049	< .001
When a course is demanding my first reaction is to work harder, but sometimes I give up.	.586	.040	< .001
Sometimes I am interested in what is being discussed in class but other days I am bored.	.533	.044	< .001

Note. Reported factor loadings are standardized.

Table 4

Factor Loadings for the Latent Construct of Foreclosed Academic Identity

Foreclosed Academic Identity Items	Loadings	S.E.	*p*
Good grades have always been important to me because I like to make my parents proud.	.561	.048	< .001
I always knew my college major mainly from the guidance I received from my family.	.419	.052	< .001
How I do in school is important to me because others are counting on me to do well.	.645	.044	< .001
I've never decided on my own about college. I just did what friends and family expected of me.	.398	.057	< .001
My priorities for school come from my early experiences. I usually just accept what is expected of me.	.565	.045	< .001
An important reason I chose to go to college was my family wanted me to go.	.570	.046	< .001
I feel I have to attend every college class, otherwise my parents would be upset.	.500	.049	< .001
I try to write down everything the professors say but I seldom think about applications.	.469	.052	< .001
If a class is very difficult I buckle down and study more so I don't disappoint other people.	.308	.060	< .001
When I do poorly on a test I get upset and worry what friends and family might think of me.	.626	.042	< .001

Note. Reported factor loadings are standardized.

Table 5

Factor Loadings for the Latent Construct of Achieved Academic Identity

Achieved Academic Identity Items	Loadings	S.E.	*p*
A college education is a high priority for me and I'm willing to make the sacrifices.	.664	.036	< .001
I've considered a number of college majors and have decided which one is best for me.	.479	.047	< .001
If a class is important I can concentrate even if the teacher or topic is boring.	.397	.051	< .001
I feel comfortable being responsible for my education and learning.	.607	.040	< .001
When I do poorly on a test I think of what I did wrong and try to solve the problem.	.593	.041	< .001
I find most class topics at least somewhat interesting – I'm seldom bored in class.	.313	.054	< .001
Although I have many priorities, learning in school is always one of my most important goals.	.724	.032	< .001
I know why I am in college and have clear goals I want to achieve.	.650	.037	< .001
When school is challenging I find a way to learn even if I have to try new ways to study.	.573	.042	< .001
Finding time to study may be difficult so I set aside time to complete my school work.	.354	.053	< .001

Note. Reported factor loadings are standardized.

Table 6

Present Four-Factor Solution Compared to Was & Isaacson (2008)

Model	χ^2	df	*p*	χ^2/df	RMSEA
Was & Isaacson	1999.00	734	<.001	2.72	.064
Present Study	1869.95	734	<.001	2.54	.068

Note. χ^2/df = Normed Chi-Square; RMSEA = Root Mean Squared Error

Table 7

Academic Identity Measure Intercorrelations & GPA

	Mora	Diff	Fore	Achi	GPA
Mora	---	.675**	.370**	-.307**	-.177**
Diff		---	.227**	-.547**	-.115*
Fore			---	.116*	-.031
Achi				---	.157**
GPA					---
M	29.97	24.01	31.72	36.03	2.95
SD	6.90	6.55	6.72	5.86	.52
Min-Max	10-47	10-42	10-47	17-50	1.40-4.00

Note. Mora = Moratorium Academic Identity; Diff = Diffused Academic Identity;
 Fore = Foreclosed Academic Identity; Achi = Achieved Academic Identity;
 GPA = Grade Point Average

p < .05*
p < .01**

Table 8

Item-Total Correlations between AIM Foreclosed Items & AIM Achieved Total Score

AIM Foreclosed Items	AIM Achieved Total *r*
Good grades have always been important to me because I like to make my parents proud.	.289**
I always knew my college major mainly from the guidance I received from my family.	.135*
How I do in school is important to me because others are counting on me to do well.	.296**
I've never decided on my own about college. I just did what friends and family expected of me.	-.251**
My priorities for school come from my early experiences. I usually just accept what is expected of me.	.119*
An important reason I chose to go to college was my family wanted me to go.	-.124*
I feel I have to attend every college class, otherwise my parents would be upset.	.103
I try to write down everything the professors say but I seldom think about applications.	-.200**
If a class is very difficult I buckle down and study more so I don't disappoint other people.	.451**
When I do poorly on a test I get upset and worry what friends and family might think of me.	.038

p < .05 *
p < .01**

Table 9

Academic Identity Status Categorization

	Diff	Mora	Fore	Achi	Met Criteria %
Chorba et al. (N = 318)	18	17	29	54	37.10%
Present Study (N = 370)	21	8	14	21	17.29%

Note. Diff = Diffused Academic Identity; Mora = Moratorium Academic Identity; Fore = Foreclosed Academic Identity; Achi = Achieved Academic Identity

Note. Chorba at al. (2012) criteria involved categorizing a participant as belonging to an identity if they scored 1.5 standard deviations above the mean on any one identity.

Table 10

Correlations between Academic Identity & Academic Self-Handicapping

	Mora	Diff	Fore	Achi
BSH	.500**	.532**	.021	-.404**
CSH	.499**	.445**	.330**	-.299**

Note. BSH = Behavioral Academic Self-handicapping; CSH = Claimed Academic Self-handicapping;
  Mora = Moratorium Academic Identity; Diff = Diffused Academic Identity;
  Fore = Foreclosed Academic Identity; Achi = Achieved Academic Identity

p < .01**

Table 11

Correlations between Academic Self-handicapping & Academic-Related Constructs

	BSH	CSH	CSE	CIPS	CGC	GPA
BSH	---	.339**	-.338**	.310**	-.118*	-.189**
CSH		---	-.305**	.520**	-.004	-.200**
CSE			---	-.333*	.133*	.047
CIPS				---	-.039	-.070
CGC					---	.050
GPA						---
M	12.35	13.98	112.10	62.77	81.66	2.95
SD	3.41	3.99	18.03	14.08	10.43	.52
Min-Max	4-24	4-24	22-151	26-100	47-104	1.40-4.00

Note. BSH = Behavioral Academic Self-Handicapping; CSH = Claimed Self-Handicapping;
    CSE = College Self-Efficacy; CIPS = Clance Impostor Phenomenon Scale;
    CGC = High School College-Going Climate; GPA = Grade Point Average

$p < .05$*
$p < .01$**

Table 12

Correlations between Academic Identity & Academic-Related Constructs

	CSE	CIPS	CGC
Mora	-.288**	.554**	-.018
Diff	-.351**	.420**	-.059
Fore	-.051	.429**	.258**
Achi	.515**	-.128*	.169**

Note. Mora = Moratorium Academic Identity; Diff = Diffused Academic Identity;
     Fore = Foreclosed Academic Identity; Achi = Achieved Academic Identity
     CSE = College Self-Efficacy; CIPS = Clance Impostor Phenomenon Scale;
     CGC = High School College-Going Climate

p < .05*
p < .01**

Table 13

Correlations between ASHQ subscale scores and Reported Studying Behavior & Affect

	BSH	CSH	Days	Hours	Anx	Dep	Dis
BSH	---	.433**	-.188*	-.205*	.181	.204*	.252*
CSH		---	.002	.026	.327**	.384**	.289**
Days			---	.563**	-.083	.138	.055
Hours				---	.039	.020	-.161
Anx					---	.496**	.255*
Dep						---	.438**
Dis							---

Note. BSH = Behavioral Academic Self-Handicapping; CSH = Claimed Academic Self-Handicapping; Days = Number of days in which student reported studying; Hours = Number of hours student reported studying; Anx = Anxiety; Dep = Depressed; Dis = Distracted

$p < .05$*
$p < .01$**

Table 14

Correlations between AIM subscale scores and Reported Studying Behavior & Affect

	Days	Hours	Anx	Dep	Dis
Mora	-.157	-.018	.208*	.160	.007
Diff	-.078	-.062	.234*	.269**	.198*
Fore	.034	.059	.078	-.008	-.114
Achi	.278**	.235*	-.156	-.208*	-.192*

Note.Mora = Moratorium Academic Identity; Diff = Diffused Academic Identity; Fore = Foreclosed
    Academic Identity; Achi = Achieved Academic Identity; Days = Number of days in which student
    reported studying; Hours = Number of hours student reported studying; Anx = Anxiety;
    Dep = Depressed; Dis = Distracted

p < .05*
p < .01**