ARE YOU MY ROLE MODEL?
HOW ROLE MODEL SIMILARITY AFFECTS MOTIVATION

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ABSTRACT

The purpose of this study was to examine how to best utilize role models for motivation. In an expansion of Lockwood, Jordan, and Kunda's (2002) study, I tested the effects of regulatory goal focus (RGF) congruence on motivation, and of participant and role model demographic similarity. Based on Self-Categorization theory, I expected similarity to be more motivating. By manipulating regulatory goal focus (promotion or prevention), role model type (positive or negative), and demographic similarity between participants and role models, I could test exactly how each of these variables affect motivation. Demographically similar and RGF congruent role models (promotion goal focus paired with positive role models and prevention goal focus paired with negative role models) did not yield higher motivation scores. Instead, those who were either promotion primed or assigned a positive role model were most motivated. I also expected those high in Openness to be less affected by dissimilarity but found only Openness to be positively related to motivation scores. While these results were counter to Lockwood et al.'s (2002) results and expectations set by Self-Categorization theory, it is possible that the diverse, urban, Southern university student population was already used to sex and gender differences in role models to the point that identification with role models was made based on a subordinate-level of categorization, such status as a student. This study should be replicated at a less diverse university to test this conclusion and investigate the lack of evidence we found for Lockwood et al.'s (2002) RGF congruence hypothesis.

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Chapter I

How can you motivate employees? This is a complicated question that has been investigated by researchers across countless disciplines. The knowledge gained from these studies has helped organizations better understand how to motivate their employees. We now know that setting goals can increase employee motivation and performance (Locke & Latham, 1990; 2002; 2004). We even understand that motivation is affected by cultural contexts, both organizational (Ostroff, Kinicki, & Tamkins, 2003) and national (Erez, 2008). However, our knowledge of motivation is still growing. To be capable of predicting changes in motivation, we need to clarify the circumstances and variables that affect motivation across individuals. One variable that has been shown to impact employee motivation is the presence of role models.

Role models have been used in a number of ways to affect performance-related outcomes across several arenas. Organizations commonly use role models as part of their socialization strategies, partly as an effort to motivate employees about desired organizational behavior (Allen, 2006; Cable & Parsons, 2001; Louis, 1980; Van Maanen & Schein, 1979). Role models have also been effective in the realm of education, motivating students to higher career aspirations, better grades, and interest in science and math (Burlew, 1977; Flouri & Buchanan, 2002; Ware & Stein, 2013). Role models clearly have an influence on individual attitudes and behaviors.

What kinds of people are likely to be effective role models? Researchers have investigated the effects of demographic similarity on role model effectiveness. In Lockwood's (2006) investigation of sex differences in the motivating power of role models, she found that women were more motivated by female than male role models. Men did not display any differences in motivation when presented with a female role model over a male. Race similarity

between role models and minority students have also been found to be particularly effective for increasing both performance and motivation (Evans, 1992; Hernandez, 1995). In addition to demographic similarity, other role model characteristics have been found to impact their effectiveness. Lockwood, Jordan, and Kunda (2002) found that regulatory goal focus paired with role model types (i.e., positive role models or negative role models) affected motivation in students. Those who had congruent conditions (i.e., promotion goal focus and a positive role model or prevention goal focus and a negative role model) were the most highly motivated.

Clearly, individual differences can have an impact on how effective a role model can be. Self-categorization Theory can be used to explain why individual differences affect the ability of role models to motivate behavior. It is based on the effects of individuals' tendencies to assign the people with whom they come in contact into an in-group or an out-group. This theory suggests that categorizing an individual in an in-group versus an out-group changes the relationship between those two individuals in basic fundamental ways that may affect the congruence-motivation relationship found in Lockwood et al.'s (2002) study.

Research has demonstrated the importance of matching gender and goal focus, but there is little understanding of how role models who match employees on more than one characteristic might affect motivation. Is an Asian female with a promotion goal focus likely to be motivated by a white, male, positive role model? Would her motivation change if the role model is Asian and female? How would her motivation differ if she is presented with a negative, Asian, female role model? Understanding how multiple demographic differences affect a role model's motivational impact is important for developing effective socialization tactics in today's diverse workplace. Thus, the first goal of this study is to investigate how role model differences on multiple demographic factors affect participant motivation. Specifically, I examine how gender

and race similarity between role models and participants affect participant motivation in concert with goal focus congruence.

In real world situations, individuals can match and mismatch their role models on a number of demographic characteristics. Does the lack of diversity in potential role models doom female or minority workers to a less motivated state? Not necessarily, it is possible that personality may mitigate some of the effects of a dissimilar role model. Specifically, Openness to New Experience (Openness) might explain why some people are comfortable, and even motivated by, those who are different. Given the increasing diversity of the work force and because organizations are already using role models to motivate employees, it is critical to understand how such individual differences may affect the ability of role models to impact motivational outcomes in employees. Therefore, the second goal of this study is to discern the effect of personality on the demographic similarity-motivation relationship. I expect that the motivation of individuals high in Openness will be less affected by race and gender mismatches than those low in these personality traits because of their likelihood to accept differences and change easily.

In the following sections, I first give a general review of role models and their use within organizations. Then I discuss Regulatory Focus Theory and the original Lockwood et al. (2002) study. Next, I discuss Self-categorization Theory which provides a framework for understanding how individual differences can affect human interactions and psychological processes. Lastly, I review some of the research on Openness and the likely effect it would have on mitigating the effects of dissimilar role models.

Role Models

A role model is defined as a

> "cognitive construction based on the attributes of people in social roles an individual perceives to be similar to him or herself to some extent and desires to increase perceived similarity by emulating those attributes (Gibson, 2003 p. 136)."

Essentially, this means role models are not necessarily real people, but are an individual's perception of someone he or she wishes to emulate. A role model can also symbolize outcomes the individual wishes to avoid. However, role models are not just found in individuals; people also tend to combine elements of those they admire into multiple contingent role models (Filstad, 2004). In the workplace role models can be amalgams of co-workers, managers, and others in the social sphere of the new-comer. The new-comer chooses the traits or behaviors he or she finds admirable or repellent and emulates or avoids as his or her goals require.

One of the reasons individuals seek role models is to obtain guidance and learn new skills, even if the role model is a mental construction, rather than a real person (Bandura & McDonald, 1963; Bandura, Ross, & Ross, 1963). Social Cognitive Theory provides a framework for understanding how individuals learn skills and assimilate information by watching others (Bandura, 1974; 1986; 1999). It is a theory of behavior that describes how an individual's behavior, internal processes, and the immediate environment all influence each other. According to Social Cognitive Theory an individual's behavior is the product of not only his own desire to perform a particular action, but also his cognitive and emotional state, and environmental cues. In turn, these influence each other. That is, behavior causes some effect on the environment, which may reward or punish the action. This would, in turn, affect the individual's emotional and cognitive state and subsequent behavior.

According to Social Cognitive Theory, there are four processes that an individual must complete before they can successfully model a behavior. In the attentional process, an individual

must be able to see and understand the behavior to be modeled. They must also be able to recall the behavior; this is called the retentional process. They must also be physically able and inclined to replicate the behavior (the production and motivational processes, respectively). If any of these processes are interrupted, the behavior will not be successfully modeled.

Because role models are a common source of information and learning for individuals, they are used frequently as part of organizational socialization processes, both as formal on-boarding practices and by new-comers themselves as they try to make sense of and succeed in their new environment (Allen, 2006; Buunk et al., 2007; Gibson, 2003; Filstad, 2004). An example of using a role model in formal socialization tactics would be a deliberate attempt on the organization's part to demonstrate an exemplar to new employees. This could happen in an introduction video or other materials shown during the on-boarding process. In informal socialization tactics, a role model would be presented unintentionally, such as a work group deciding to take the "new guy" out to lunch. In this example, each of the employees in the work group could then become a role model.

Because role models are so frequently used, understanding how role models affect employees would offer organizations a chance to use them more effectively. Hackett et al. (1989) found that the process of creating an appropriate role model in one's mind (i.e., imagining or thinking about models of good and bad behavior) could be a type of sense-making strategy that helps individuals navigate their environment. However, Gibson (2003) found that one's career stage has an effect on how one uses role models. Early-career stage individuals tend to draw their role models from those who are successful, closer to one's social sphere, and possess wide-ranging attributes not necessarily relevant to his or her job, whereas mid- or late-career stage individuals focus on unsuccessful individuals possessing relevant attributes.

Role Model Effectiveness

Research has found that role models can affect employee motivation for good or ill (Lockwood, 2002; Lockwood et al., 2002; Lockwood & Kunda, 1997). For example, individuals can certainly be motivated by role models, but when used incorrectly, role models can also be demotivating. In Lockwood and Kunda (1997), individuals made comparisons between themselves and "superstars." "Superstars" were only motivating when the goal the role model represented was perceived as attainable to the individuals. If the goal did not seem likely, the participants were actually demotivated. A more common real world example of this type of role model in the workplace might be the young executive who quickly rose up through the ranks. In reality, the executive is only inspirational to a young manager on the track to the executive floor and demotivating to the forty-year-old mid-level manager.

Outside of organizations, role models have been found to influence the educational and career aspirations of young people. Burlew (1977) found that black, female students were more likely to hold favorable attitudes towards career attainment and had higher career and academic related self-efficacy when given the opportunity to see black female role models engaged in meaningful careers. Ware and Stein (2013) suggest that even video vignettes featuring female scientists can increase female interest in science, technology, engineering, and math (STEM) fields. Flouri and Buchanan (2002) found the presence of career role models to be positively related to career maturity. There have also been several studies that demonstrate the influence of role models outside of the educational or career sphere. For instance, Schokker et al. (2010) found that promotion focused individuals who were given a positive role model were better able and more motivated to manage their diabetes. Vet, deWit, and Das (2011) were able to increase hepatitis B vaccination rates in homosexual males by giving them positive role models.

However, those who received negative role models still had higher rates of vaccination compared to the no role model conditions.

In several previous studies, Lockwood and colleagues demonstrated the importance of role models across several contexts. They found that role models can have profound effects on an individual's self-construal as mentioned earlier in this section (Lockwood & Kunda, 1997). In Lockwood (2002), similar results were found when asking participants to make downward comparisons of themselves to negative role models. The negative role models increased or decreased self-evaluations based on the participants' levels of vulnerability. Those high in vulnerability had lower self-evaluations versus those low in vulnerability. Role models are also most likely to affect individuals when they are able to easily access self-related cognitions at the time role models are introduced (Stapel & Kooman 2001).

Higgins, Roney, Crowe and Hymes (1994) found that individuals tend to remember role model information and behaviors when they were congruent with their goal focus. That is, those using promotion goal focus were more attuned to stories of success and positive emotions related to those stories. Those using prevention goal focus were more susceptible to stories of failure and the related emotions. Indeed, several studies have found that both positive and negative role models can have a significant effect on motivation. Positive role models have been found to increase motivation by providing a guide to success, likely because these types of role models represent desired versions of self (Buunk et al., 1990; Taylor & Lobel, 1989). Conversely, negative role models increase motivation to avoid, likely because they represent feared versions of self (Markus & Nurius, 1986; McMullen & Markman, 2000).

Role Models and Goal Focus Congruence

In light of the evidence suggesting that both positive and negative role models can be motivating, Lockwood et al. (2002) applied Regulatory Focus Theory (Higgins, Shah, & Friedman, 1997; Shah, Higgins, & Friedman, 1998) to explain which type of role model would be more motivating. Regulatory Focus Theory is a motivation theory that discusses how individuals approach goals in one of two ways: promotion goal focus and prevention goal focus. An individual who identifies with a promotion goal focus is more motivated by visions of success and less so by thoughts of failure. Prevention goal focused individuals are just the opposite; they are more motivated by fear of failure than visions of success. An example of a promotion goal focused individual being motivated by visions of success would be an athlete who is told to visualize crossing the finish-line at a race. Because she imagines successful outcomes and strategies for achieving those outcomes, she is more motivated than if she were thinking about strategies that ignite a fear of failure. An example of a prevention goal focused individual being motivated by fear of failure would be a student in danger of failing a course unless he puts in a great deal of effort in a final project or exam. Because this student is focused on *not failing* rather than making an "A" in the class, he is less likely to be motivated by strategies for turning in the best possible work.

Based on this theory, Lockwood et al. (2002) suggested that a person's congruence with a potential role model determines the motivational impact of the role model. Specifically, they suggested that when a person was paired with an appropriate or goal congruent role model (i.e., promotion goal focused individuals with positive role models and prevention goal focused individuals with negative role models), they would be more motivated than when paired with an incongruent role model. Lockwood et al.'s (2002) conducted three studies to examine the impact of role model type and goal focus on motivation. Using undergraduates, the authors primed

participants for either promotion or prevention goal focus. Promotion goal focus was described as the desire to achieve a goal and was primed by having participants identify a positive academic goal and coming up with strategies to achieve it. Prevention goal focus was discussed as the desire to avoid failure. This was primed by having participants identify negative academic outcomes and coming up with strategies for avoiding said outcomes. Participants were then randomly assigned either a positive role model, negative role model, or no role model. The positive role model condition involved participants reading about successful students and their positive emotions relating to their academic success. The negative role model condition contained a description of an unsuccessful student describing the student's negative emotions related to failure.

The authors found that in cases where participant goal focus and role model type were congruent (promotion goal focus with positive role models or prevention goal focus with negative role models), participant motivation was higher than both the control conditions (no role model type and either goal focus) and the incongruent conditions. In cases where goal focus and role model type were incongruent (promotion goal focus with negative role models or prevention goal focus with positive role models), participant motivation was lower than both control conditions and congruent conditions. These findings clearly show that it is important to take into consideration role model goal focus as a mismatch could actually end up lowering motivation.

Applying Regulatory Focus theory and consistent with Lockwood et al.'s (2002) findings, I also expect to find support for the congruence hypothesis.

H1. Primed regulatory goal focus affects the impact of role model type on subsequent motivation such that individuals will be most strongly motivated by role models who

foster strategies congruent with their goals, and least motivated by incongruent role models.

Self-Categorization Theory

While Lockwood et al.'s (2002) study provides evidence that goal focus congruence affects the motivational effectiveness of role models, little is known about how other types of differences between individuals and their role models might impact this relationship. For example, other studies have indicated the importance of gender and race similarity for role model effectiveness (Burlew, 1977; Evans, 1992; Hernandez, 1995; Ware & Stein, 2013). However, in the Lockwood et al. (2002) study, these differences were controlled by only revealing the major of the role model (which was matched to participants). Self-Categorization Theory provides a good framework for understanding how demographic differences might affect motivation in individuals.

Self-Categorization Theory arose in England in the late eighties and early nineties by researchers studying social identity (Turner, Hogg, Oakes, Reicher, & Wetherell, 1987; Turner, Oakes, Haslam, & McGarty, 1994). Essentially, the theory proposes that individuals go about their lives categorizing themselves and others into in- and out-groups. The basis of these categorizations depends on the type of group and the level of comparison but common examples include: gender, race, age, social class etc. According to Self-Categorization Theory, there are three levels of comparison: superordinate, intermediate and subordinate.

The superordinate level. The superordinate level is the most basic of the three. Inclusion into this group is based on genus. That is, as long as the being is a member of the human race, he is considered to be a member of one's in-group. Although this may sound rather silly, it is seen quite often in the media when news stories of shark attacks or some other such non-human threat

inspires a desire to eradicate said threat in viewers. The non-human species is assigned an out-group role and is also victim to out-group biases (e.g., people may overestimate their risk of being attacked by a shark).

The intermediate level. The next level of inclusion is far more salient to most people. Intermediate level inclusion is based on broad similarities such as age, race, gender or socioeconomic status. Differences on this level of inclusion have painted human history for thousands of years. Organizations in the United States are required to eliminate discrimination based on some of these categories under the Civil Rights Act. Wars have been fought over these intermediate level differences. Clearly, this level of inclusion has had a significant impact on human behavior. Self-Categorization Theory predicts that an individual is likely to attribute positive biases to in-group members and be more influenced by them. Conversely, out-group members are more likely to be seen as negative and less influential.

The subordinate level. The last level of comparison is subordinate. Comparisons at this level are made between an individual and other in-group members. These comparisons are based on individual differences between people. For example, a female university student may see another female student as part of her in-group because they are both X University students who are white, female and of similar socioeconomic status (i.e., intermediate level characteristics). However, she will still make comparisons between herself and the other female student based on subordinate level differences such as attractiveness, intelligence or personality characteristics.

The value of Self-Categorization Theory is that it offers an explanation of the attributions people make about others based on what are sometimes arbitrary or superficial characteristics. In particular, people have a tendency to attribute positive qualities and characteristics to others with whom they share characteristics (i.e., in-group members) and grant similar individuals more

influence. Conversely, people tend to attribute negative qualities to others who are different (i.e., out-group members) and thus are less likely to be influenced by different others. However, Self-Categorization Theory also suggests that the relative importance of comparisons made at different levels varies based on context. For example, when two young women meet each other for the first time, their subordinate level similarities may take on greater importance as they consider their willingness to continue interacting with each other. However, should they meet each other in a group setting made up largely of males, they would more likely gravitate to each other because of their shared gender; that is in this context, intermediate level similarities would be more salient.

Race, Gender and Motivation

As discussed earlier, role models are important to the socialization process, and they affect individuals in ways relevant to the organization. However according to research and Self-Categorization Theory, role models may affect men and women differently. For example, women may need exposure to successful female role models to increase their motivation, rather than male role models (Bussey & Bandura, 1984; Ericksson-Zetterquist, 2008; Noe, 1988). Ericksson-Zetterquist (2008) found that women had more difficulty creating mental role models because they had fewer real female role models from which to draw observations needed to create these prototypical role models. The general shortage of female role models in organizations, particularly in the executive suite, only emphasizes the need for organizations to consider gender when presenting role models to individuals. Gilbert, Gallessich, and Evans (1983) found that female graduate students had higher levels of satisfaction when they identified female professors as role models. Satisfaction levels were higher than male students with female role models, female students with male role models, and male students with male role models.

These findings seem to indicate how important gender matching can be for women. Neumark and Gardeki (1996) also found similar relationships when they examined the effects of role model gender on female graduate students. Female students tended to fare better and have more positive attitudes when they identified female professors as role models over male professors. These relationships were also greater than male-student to male-professor role model pairings.

Role models typically yield more satisfactory results when matched on gender, as demonstrated in the body of research described earlier. Self-Categorization Theory provides an explanatory mechanism for the effectiveness of providing role models with a greater chance for categorization into the in-group of individuals. Specifically, Self-Categorization Theory predicts that individuals are likely to make more positive attributions of role models who match their gender and are thus more likely to be influenced by them. Therefore following Self-Categorization Theory and past findings, I expect that when participants and role models are of the same gender, participants will have higher motivation scores than when participants and role models are of the opposite gender.

H2. Individuals will be more strongly motivated by role models of similar gender compared to role models of dissimilar gender.

Consistent with Self-Categorization Theory, there has been some evidence that race also affects the effectiveness of role models in the realms of performance and motivation. Evans (1992) found an increase in performance in African-American students who were assigned to an African-American teacher. This effect was particularly strong in students whose mothers did not have a college education. Hernandez (1995) found that Mexican-American girls were more motivated by Mexican-American female role models, but they were not motivated to pursue

challenging career goals if their role models didn't also disclose the difficulties involved and strategies for achieving these goals.

Self-Categorization Theory would explain these results as an individual seeking similarity and identifying most highly with and granting the most influence to those within his or her in-group. Based on this rationale and following past empirical findings, I expect the following:

H3. Individuals will be more strongly motivated by role models who are of similar race compared to role models of dissimilar race.

Because Self-Categorization Theory suggests we make attributions in order (i.e., superordinate first, intermediate second, and then subordinate), role models might be less effective in motivating individuals if they do not meet the criteria for in-group inclusion based on characteristics at the intermediate level (e.g., race, age, gender, etc.). As the in-group designation regarding race and gender is assigned at the intermediate level, the demographic characteristics of role models could have more important implications for role model effectiveness than a subordinate-level characteristic such as regulatory goal focus congruence. Because demographic similarity can sometimes hinder or enhance interpersonal behavioral processes, such as the effectiveness of goal focus congruence between an individual and his role model in influencing motivation, it is vital that researchers find these boundary conditions.

There is little research to indicate whether it is more effective to match individuals and role models on more than one characteristic. However, if one considers this problem using the guidance of Self-Categorization Theory, then we understand that goal focus is a subordinate category and race and gender are intermediate categories of in-group assignment. Gender and race should be more immediate categorizations than regulatory goal focus and thus in-group

designations are made at this level before superordinate-level variables, such as regulatory goal focus. Given the importance of in-group designations as outlined by Self-Categorization Theory, how might we expect individuals to respond to role models who match or mismatch on intermediate (e.g. race and gender) and/or subordinate (regulatory goal focus) level characteristics? In other words, how might regulatory goal focus congruence, a subordinate variable, interact with the intermediate variables of race and gender to affect motivation?

Lockwood et al. (2002) demonstrated that congruence on a subordinate level variable (regulatory goal focus) positively affected motivation. However, Self-Categorization theory suggests intermediate level variables (race and gender) should amplify the effectiveness of role-models because individuals grant similar others (i.e., in-group members) more influence than dissimilar others (i.e., out-group members). Thus, the effectiveness of role models should be highest when both intermediate and subordinate level variables match (i.e., when race or gender matches and when regulatory goal focus is congruent). Similarly, because individuals tend to attribute negative qualities to out-group members and grant them little influence, the effectiveness of role model with an incongruent goal focus should be lowest when the role model are mismatched at the intermediate level (i.e., gender and race).

H4. Gender similarity amplifies the effect of goal focus congruence such that motivation is highest when individuals are presented with congruent role models of similar gender, and motivation is lowest when individuals are presented with incongruent role models of dissimilar gender.

H5. Race similarity amplifies the effect of goal focus congruence such that motivation is highest when individuals are presented with congruent role models of similar race, and

motivation is lowest when individuals are presented with incongruent role models of dissimilar race.

Openness to New Experience

Individuals do not always categorize others into their out-group based on superficial, demographic categories. So how then is this categorization system circumnavigated? In some cases, circumstances would necessitate re-categorization of others into one's in-group. For example, a work group may be made up of a diverse group of individuals. However, in an effective work group, individuals would find common ground in the group's goals, and as the individuals get to know each other, they would likely all become in-group members based on those shared goals (i.e., subordinate level characteristics). But what about when there is no motivating factor to re-categorize someone into one's in-group? Will individuals always categorize others based on superficial qualities? Personality may lend us a better understanding of these circumstances.

In the Five Factor Model of personality, the most widely accepted model of personality, the major personality factors are Agreeableness, Conscientiousness, Extraversion, Emotional Stability, and Openness to New Experience (Goldberg, 1990; Hough & Ones, 2002; Oswald & Hough, 2011). Openness is the most relevant to this study because it is typically defined as a trait that captures tolerance, curiosity, creativity, intelligence, and philosophical tendencies (Goldberg, 1990). Successfully avoiding the negative effects of a dissimilar role model would require one to be unaffected by novel situations, as those high in Openness would be. This means an Asian, female employee with promotion goal focus tendencies, could likely still be effectively motivated by a white, male role model with promotion goal focus tendencies if she is high in Openness.

While Openness is not as widely studied as the other Big Five traits, there is some research to support this position. For example, in their attempt to understand the intricacies of tolerance and bigotry, Butrus and Witenberg (2012) presented participants with scenarios describing varying levels of racial intolerance and asked them to respond with their thoughts about the behaviors described. They found that participants high in Openness were far less likely to endorse intolerant beliefs than those low in Openness. This suggests that those high in Openness are more willing to accept those from different backgrounds than those low in Openness.

Openness has also been shown to be related to better cognitive adaptation and stress management. Le Pine, Colquitt, and Erez (2000) found that those high in Openness made better decisions than those low in Openness in a decision-making performance task. When a rule change was suddenly introduced into the task, those high in Openness did better than those low, even after controlling for cognitive ability. This suggests those high in Openness were better able to adapt than those low in Openness. Schneider, Rench, Lyons, and Riffle (2012) demonstrated Openness was also helpful in mitigating the stress response. Openness increased positive affect and lowered threat when participants were presented with a stressor. Kaiseler, Polman, and Nicholls (2012) found similar results when they looked at the way personality affected coping strategies. Openness was found to predict adaptive coping strategies like planning.

These studies all lend weight to the idea that Openness is related to tolerance, adaptation, and the acceptance of change. Those high in Openness appear to be more agreeable to change and accepting of differences, and therefore, should not be fazed by dissimilar role models. As such, the motivation of those high in Openness should not be adversely affected by having an incongruent or dissimilar role model. That is, the motivation of individuals high in Openness is

likely to be the same regardless of whether they are presented with similar or dissimilar role models. However, those low in Openness are less accepting of differences and should exhibit lower motivation when presented with dissimilar role models compared to similar role models.

H6. Openness moderates the goal focus-role model congruence relationship such that participants high in Openness will have higher motivation scores than those low in Openness in incongruent conditions.

H7. Openness moderates the gender similarity-motivation relationship such that participants high in Openness will have higher motivation scores than those low in Openness in gender mismatch conditions.

H8. Openness moderates the race similarity-motivation relationship such that participants high in Openness will have higher motivation scores than those low in Openness in race mismatch conditions.

Chapter II

Methods

Sample

Participants were 1,203 undergraduate students at a large Southern university. Participants were recruited online via the university's SONA system and received extra credit in exchange for voluntary and anonymous participation. Participants needed only to be over the age of 18. One hundred sixty-six participants were dropped for failing to answer the motivation questionnaire. Of those 1,037 remaining, 121 were dropped for failing to complete the personality questionnaire, having zero variability across all measures or highly irregular patterns of responses (e.g., answering alternating 1s and 5s), or failing to correctly identify the gender of the role model. Participants were not dropped for misidentification of role model race as this is a subjective identification (see section on Manipulation Checks below). This resulted in a final sample of 916 participants. 68.1 % of the participants were female. 30.4 % were White, 15.2 % Black, 25.9 % Hispanic, 15.1 % East Asian, 5.4 % West Asian and 8.0 % Other/Two or more races.

Design

This study was a 2 X 3 X 2 between-subjects design (promotion/prevention goal focus, positive/negative role models or control condition, and picture/no picture). Within the picture condition, there was an additional nested 2 X 2 manipulation (race match/mismatch and gender match/mismatch), although the nested manipulations can alternatively be considered a 2 x 2 x 6 x 6 manipulation (participant gender x role model gender x participant race x role model race).

Measures

Academic motivation. Academic Motivation was measured using the 14 item scale created by Lockwood et al. (2002). Sample items include “I plan to study harder for tests and exams”, “I plan to keep up with reading assignments”, and “I plan to procrastinate less”. Anchors were set at 1 (“not at all true”) and 11 (“very true”). The reliability of the scale was alpha=0.87. See Table 2 for descriptives.

Openness to new experience. Openness was measured using the 10 item short form of the Intellect scale of the IPIP (Goldberg et al., 2006). Sample items include “Have a rich vocabulary”, “Am quick to understand things”, and “Spend time reflecting on things”. Anchors were set at 1 (“very inaccurate”) and 5 (“very accurate). See Table 2 for descriptives.

Manipulation checks. Several items were used to identify careless responding by participants. Additionally, Lockwood et al. (2002) included a short, five item measure of the role model’s adjustment in the original study. Sample items include “How valuable do you think this person views their educational experience now?” and “How well adjusted do you think this person is?” Responses were on a five point scale with anchors at 1 (“Not at all”) and 5 (“Very”). No relationships between this measure and any variables were found by Lockwood et al. (2002), but it is useful as a manipulation check of role model type. Participants who viewed positive role models would rate these role models much higher on this measure than those who viewed negative role models. This short set of items was included as a manipulation check to confirm participants read the student response and could identify the student as successful or not.

Participants in the picture conditions were also asked to indicate the race and gender of their role models. Incorrect identification of a role model did not necessarily disqualify a participant from analysis unless it was obvious the participant was responding carelessly. For example, identifying an Asian female role model as a Black male would disqualify that

participant's data from analysis. Of the 317 participants who were assigned to mismatch on race, 54 identified their role model as race matching and were re-categorized into a race matching condition. Analyses were run with these participants dropped and included as matching on race and yielded no discernable differences in results.

Procedure

This study replicated the conditions in Lockwood et al.'s (2002) study. Participants were first randomly assigned to be primed for either a state promotion or prevention goal focus (see Appendix A). They were asked to "Think about an academic outcome you would like to achieve (promotion prime)/ avoid (prevention prime) and write down the goal and strategies to achieve/avoid it." Participants were then randomly assigned a positive, negative, or no role model (see Appendix C). Those assigned a positive role model read a manufactured student essay describing the success he/she had achieved in school. Those assigned a negative role model read an essay describing the student's failures in school. The content of the essays were identical to the essays used in the Lockwood et al. (2002) study. Those who were assigned to the no role model (control) condition were redirected to the personality and motivation measures (see Appendices G & H).

Those who were assigned to the role model conditions were also randomly assigned to either see a picture of their role model or just the student essay without a picture. The participants were randomly assigned to view a picture that matched or mismatched either their race, gender, or both. The pictures were composites created from a number of photos found online. Each composite person was rated as average in attractiveness by a group of graduate students. Names were ethnically representative of the target groups for a US student population. In the case of West/South Asian groups, a combination of a Judeo-Christian first name and

Arabic last name was used to make religious affiliation and country of origin more ambiguous on the advice of several Pakistani and Indian graduate students.

After the essays were presented, participants were asked to fill out the role model adjustment measure. While Lockwood et al. (2002) did not find any relationships between this measure and any other variable in their study, it was kept for consistency and to provide a manipulation check. Participants were also asked to identify the race and gender of their role model if they had been assigned one with a picture. They were then given the motivation and personality measures. The survey was completed entirely online during one sitting. Participants took an average of 17 minutes to complete the survey.

Chapter III

Results

Analysis Strategy

In hypothesis 1, I replicated Lockwood et al.'s (2002) hypothesis on RGF congruence. As I did not compare groups based on role model similarity, I collapsed groups across the picture/no picture conditions to add power to my calculations. In hypothesis 6, I attempted a similar comparison of RGF congruence with the added component of personality, so I collapsed across all other conditions when testing this hypothesis as well.

All other hypotheses involved the gender and/or race of the role model. Because role model race and gender were manipulated by showing participants a picture of the role model, I compared groups solely within the picture condition. For these hypotheses, the sample size decreased from 916 to 478. To examine whether seeing a picture of a role model affected participant motivation, I examined the motivation scores of participants in the picture condition participants versus those in the non-picture condition participants, and there was no significant difference in motivation scores $F(2, 915)=1.04$, $p=0.35$.

Hypotheses 1-3

In hypothesis 1, I predicted regulatory goal-focus (RGF) would positively influence academic motivation such that individuals would be most strongly motivated by role models who foster strategies congruent with their goals and least motivated by incongruent role models. I tested this hypothesis using a 2-way ANOVA (goal prime X model type; see Table 4). Both prime, $F(1, 915)=6.30$, $p=0.01$, and role model type, $F(2, 915)=5.68$, $p=0.00$, were significant. Participants who received the promotion prime reported higher motivation ($M = 4.19$) than those who received the prevention prime ($M = 4.11$), and participants who received a positive role

model (M = 4.24) reported higher motivation than those who received a negative role model (M = 4.10) or no role model (M = 4.09). While the interaction between goal focus and prime was significant, $F(2, 915)=3.71$, $p=0.02$, the congruence hypothesis was not supported (see Tables 1 and 3 for means). I recoded the data into a single variable reflecting conditions in order to run post hoc tests on the interaction as SPSS cannot run post hoc tests on interaction effects. For example, those assigned the prevention prime and a positive role model were coded as prevention positive. This allowed me to examine the differences in the interaction with SPSS using Tukey's HSD. Significant differences were found between the prevention primed control group ($M=3.98$, $p<0.05$) and both the promotion primed control group ($M=4.24$, $p<0.05$) and the prevention primed incongruent group ($M=4.22$, $p=0.02$; see Table 3 for means). That is, when no role model was given, priming for promotion goal focus had a greater effect on motivation than the prevention prime. However, when participants were prevention primed, a positive role model resulted in significantly higher motivation compared to having no role model. Thus, Hypothesis 1 was not supported.

In hypothesis 2, I predicted that gender similarity would positively influence academic motivation. I tested this using a 2-way ANOVA (participant gender X role model gender; see Table 5). The results indicated significant main effects for participant gender $F(1, 477)=25.68$, $p=0.00$, and role model gender $F(1, 477)=4.31$, $p=0.03$). Females ($M=4.26$) reported higher levels of motivation than males ($M=3.97$), and participants with male role models ($M=4.23$) reported higher levels of motivation than those with female role models ($M=4.11$). However, the effect of gender similarity as indicated by the participant gender X role model gender interaction was not significant $F(1, 477)=0.739$, $p=0.39$). Therefore, hypothesis 2 was not supported.

In hypothesis 3, I predicted that race similarity would positively influence academic motivation. I tested this using a 2-way ANOVA (participant race X role model race; see Table 6). The results indicated no significant main effects for participant race $F(5, 477)=2.15$, $p=0.06$ or role model race $F(5, 477)=.56$, $p=0.73$ (see Tables 1 for means). The effect of race similarity as indicated by the participant race X role model race interaction was also not significant $F(22, 477)=0.29$, $p=0.84$. Therefore, hypothesis 3 was not supported.

RGF Interactions

In hypotheses 4 and 5, I predicted interactions between RGF and gender race matching and race matching. In hypothesis 4, I predicted that gender similarity and RGF would interact such that when participants were both matched on gender and congruent on RGF, they would have the highest levels of motivation. I tested this using a 2 x 2 x 2 x 2 (Prime x Role Model Type x participant gender x role model gender; see Table 11) ANOVA. The results indicated no significant main effects for RGF congruence (Prime x Role Model Type) $F(1, 477)=0.65$, $p=0.42$ or gender matching (Participant Gender x Role Model Gender) $F(1, 477)=0.79$, $p=0.37$. The interaction between RGF congruence and gender similarity (Prime x Role Model Type x Participant Gender x Role Model Gender) was also not significant $F(1,477)=1.22$, $p=0.27$ (see Table 5 for means). Therefore, hypothesis 4 was not supported.

In hypothesis 5, I predicted that race similarity and RGF would interact such that when participants were both matched on race and congruent on RGF, they would have the highest levels of motivation. I tested this using a 2 x 2 x 6 x 6 (Prime x Role Model Type x Participant Race x Role Model Race; see Table 12). The results indicated no significant main effects for RGF congruence (Prime x Role Model Type) $F(1, 477)=1.08$, $p=0.30$ or race matching (Participant Race x Role Model Race) $F(1, 477)=1.07$, $p=0.37$. The race similarity and RGF

congruence interaction (Prime x Role Model Type x Participant Race x Role Model Race) was also not significant F(1, 477)=0.74, p=0.67 (see Tables 7 for means). Therefore, hypothesis 5 was not supported.

Openness Hypotheses

In hypotheses 6, 7 and 8, I predicted interactions between Openness and RGF congruence, gender similarity, and race similarity. Because Openness was not a dichotomous variable I tested these hypotheses using regression (see Table 13). In hypothesis 6, I expected RGF congruence and Openness to interact such that those in incongruent goal focus conditions would be somewhat protected from low motivation effects as long as their Openness was higher. When regressing RGF congruence, Openness, and the interaction on motivation, Openness was a significant predictor (β=0.10, t(915)= 2.94, p<0.01), but RGF congruence (β=0.03, t(915)= 0.16, *ns*) and the interaction term (β=-0.02, t(915)=-0.09, *ns*) were not significant (see Table 13 for regression results). Hypothesis 6 was not supported.

In hypothesis 7, I predicted an interaction between gender similarity and Openness such that participants with high Openness would be less affected by gender dissimilarity and would have higher motivation scores than those low in Openness. When regressing gender similarity, Openness, and the interaction on motivation, Openness (β=0.11, t(477)=2.99, p<.01) was significant, but gender similarity (β=-0.05, t(477)=-0.24, *n/s*) and the interaction (β=0.08, t(477)=0.40, *ns*) were not significant predictors of motivation (see Table 14). Therefore, hypothesis 7 was not supported.

In hypothesis 8, I predicted an interaction between race similarity and Openness such that participants with high Openness would be less affected by race dissimilarity and would have higher motivation scores than participants low in Openness. When regressing race similarity,

Openness, and the interaction on motivation, Openness (β=0.11, t(477)=3.32, p<.01) was significant, but race similarity (β=-0.28, t(477)=-1.33, *n/s*) and the interaction (β=0.30, t(477)=1.42, *ns*) were not significant predictors of motivation (see Table 15). Hypothesis 8 was not supported.

Chapter IV

Discussion

The purpose of this study was to replicate and expand Lockwood et al.'s (2002) study examining the effects role models can have on individual motivation. Based on Regulatory Focus Theory and Lockwood et al.'s (2002) results, I expected RGF congruence to produce higher academic motivation than incongruence. Applying Self-Categorization Theory, I hypothesized race and gender similarity between participants and their assigned role models would increase this level of motivation over participants with dissimilar role models. Bridging Regulatory Focus Theory with Self-Categorization Theory, I further expected RGF congruence together with similarity on either gender or race to produce the highest levels of academic motivation. I also examined how individual differences might affect the importance of role model similarity. Specifically, I predicted that participants with high levels of Openness would be protected from negative effects on motivation when they were assigned dissimilar role models in terms of RGF congruence, gender, or race.

I used a procedure that replicated Lockwood et al.'s (2002) method administered in an online as opposed to a lab setting and also built on their approach by presenting some participants with a picture of the role model to investigate whether race and gender matching could affect how role models influence motivation. However, I was unable to replicate Lockwood et al.'s (2002) findings and found no effect of RGF congruence on academic motivation. Contrary to my hypotheses, I was also unable to find evidence for gender or race similarity affecting academic motivation. I discuss potential explanations for my findings regarding each hypothesis and offer possible explanations for the null findings for each below.

Replication: Hypothesis 1

In hypothesis 1, I predicted RGF congruence would lead to the highest levels of motivation in accordance with Lockwood et al.'s (2002) findings. Participants assigned the promotion prime and a positive role model or the prevention prime and a negative role model were expected to have the highest levels of motivation when compared to incongruent conditions or no role model. Contrary to my hypothesis and Lockwood et al.'s findings, participants tended to have higher motivation scores if they were promotion primed or if they had a positive role model. RGF congruence did not affect motivation scores in the current study. Instead, participants who were given any positive cues, be it the promotion prime or a positive role model, were more motivated. Perhaps setting a positive, goal focused tone is enough to motivate and encourage students to improve their academic performance whether it be with the promotion prime or the positive role model. This finding is not unlike Gibson (2003) who found that individuals in early career stages are more motivated by successful (i.e., positive) role models than those in later career stages.

Overall, it was surprising I was unable to replicate at least Lockwood et al.'s (2002) results. Perhaps one reason has more to do with the medium of the study delivery than the procedure itself. Lockwood et at. (2002) invited participants to their lab in person, and the present study was delivered online. It is possible that the absence of an authoritative figure, such as a researcher, changed the response motivation for the participant. Because the study was quick and completed online, participants may not have taken it as seriously as they would have if they'd completed it in a lab setting. The sheer number of participants who were dropped from this study for failing to follow directions and non-conscientious responses indicates it is more likely that these participants were not careful in their responses than demand characteristics were overly influential in the Lockwood et al. (2002) study.

Gender & Race Similarity: Hypotheses 2-3

Applying Self-Categorization Theory in hypothesis 2, I expected that participants who were presented with role models of similar gender would report higher motivation because participants would be more influenced by those most similar based on intermediate level variables such as gender (Turner et al., 1987; Turner et al., 1994). However contrary to my hypothesis, I found main effects for participant gender and role model gender such that participants who were female reported higher motivation scores than male participants, and participants who had a male role model had higher motivation scores than participants who had a female role model. In hypothesis 3, I expected a similar relationship between participant/role model race similarity and participation motivation. As race is an intermediate level variable, I predicted similarity would influence motivation in participants so that those matching on race would have the highest levels of motivation. I did not find significant main effects for race or role model race. The interaction was non-significant as well.

While I had expected a visual role model to elicit some level of identification, it is possible that paper people, even with pictures and names are not very capable of creating the identification needed to affect categorization into an in-group. It is also conceivable that participants identified with the role models as students (a subordinate-level categorization). The university from which participants were drawn has one of the most diverse student bodies in the country. Perhaps these students were comfortable enough with diverse role models, identification with role models as students alone would have been enough to increase motivation. Because they may have already found an intermediate-level categorization that allowed them to identify with the role models, the subordinate-level categorizations may be more important. Again, testing for identification with role models would have helped answer this question. It is also possible that

the time between the original study and mine had an effect. There is more than ten years between the Lockwood et al. (2002) and this study. There may be a generational differences between my sample and Lockwood et al.'s (2002) that account for some of the non-significant results.

These results indicate more investigation should be done to fully understand why this study yielded different outcomes compared to prior research. Perhaps one explanation for the lack of support I found is that I did not include a manipulation check to confirm the participant identification with their assigned role model. Originally this was not included because I did not want to introduce a demand characteristic to participants, and instead asked for confirmation of the race and gender of the assigned role model. Participants who incorrectly identified the role model's gender were dropped from the analyses. However, including an item or short questionnaire to measure identification with the role model after the motivation questionnaire would have helped further explain how role models influence motivation.

RGF Interaction Hypotheses

In hypotheses 4 and 5, I examined how RGF congruence would interact with intermediate-level categorization variables (e.g., race and gender). I expected RGF congruence and gender/race similarity to yield the highest levels of motivation because participants would have matched on both intermediate-level (gender/race) and subordinate-level (RGF) categories which would have been the most influential according to Self-Categorization Theory. However, the interaction between RGF congruence and gender similarity was not significant, meaning hypothesis 4 was not supported. The interaction between RGF congruence and race similarity was non-significant as well. As I was unable to replicate the RGF congruence hypothesis and found no support for gender or race similarity, this was not entirely a surprise. However, further study addressing some of the limitations I mentioned earlier might help clarify why I did not find

support for this hypothesis. For example, a study design that encourages more thoughtful responses from participants by occurring in person rather than online, as well as a better measurement of participant identification with the role models might provide a better test of this relationship.

Openness Hypotheses

In the current study, I also expected individual differences in Openness to Experience to affect how participants respond to different role models. Based on the tolerance, adaptation, and the acceptance of change that characterizes those high in Openness, I expected them to be more agreeable to change and accepting of differences, and therefore, for their motivation to be less adversely affected by having an incongruent or dissimilar role model. In hypothesis 6, I expected RGF congruence and Openness to interact in such a way that when participants were assigned an incongruent condition (e.g., they were assigned to the promotion prime and a negative role model or a prevention prime and a positive role model), higher Openness would protect participants from lower motivation scores. Similarly, in hypotheses 7 and 8, I expected the negative effects of gender and race mismatching conditions to be at least somewhat mitigated by high Openness. While Openness was a significant predictor of motivation, none of these hypotheses were supported.

One reason for the lack of support of this hypotheses may fall on the Openness scale itself. The Openness items were taken from the short form of a longer Openness/Intellect scale from the IPIP. The items reflected language associated with academic motivation because they are related to valuing knowledge (e.g, “Spend time reflecting on things,” and “Am interested in abstract ideas.”). As such the items may reflect the Intellect facet of Openness; thus, the relationship between Openness and motivation in this hypothesis is not surprising. However, the

Openness items did not necessarily capture those facets of Openness that might impact how a participant might respond to an incongruent RGF condition. While it is interesting to find the relationship between the Openness/Intellect items and academic motivation, this scale did not really measure Openness as I had intended. The long form of the Openness scale from the IPIP includes more items related to valuing new experiences and open attitudes and may better measure the traits of acceptance and willingness to try new things. Thus, it's possible that the longer scale would have yielded more useful results.

Implications for Future Research

Perhaps the most significant implication for research is my failure to replicate the RGF congruence main effect. Whether the non-significance of this hypothesis is a result of the study delivery method, chance, or evidence that role models affect motivation differently than previously thought, this relationship should be examined more closely. I did find that promotion goal focus and positive role models both led to higher motivation scores. It seems that exposure to a positive situation had more impact than RGF congruence on participant motivation, at least in the diverse student sample used in this study. Future researchers should attempt to replicate Lockwood et al.'s (2002) results again and examine further the relationship between priming and role model type and even the effect of lab versus online delivery of materials. Perhaps identification was not strong enough and participants would feel identification with role models in another form (e.g., video or live).

Another interesting approach might be to examine how role models motivate participants who do not have a lot of role models to represent them, such as minority groups. I did not have the minority sample necessary to test this (i.e., only Hispanics had cells with groups larger than 30 in either the RGF congruence by race matching conditions), but the research I reviewed

suggests race similarity should impact motivation and several studies supported the effectiveness of similar role models in Hispanic and African American populations (Evans, 1992; Hernandez, 1995). It might be that similar role models are more meaningful and motivating for those who do not find themselves represented frequently. Future researchers should specifically test these relationships within race and gender groups.

Implications for Practice

While this study found little evidence to guide organizations in their use of role models, there is limited support indicating that role model gender and positive RGF can work together to affect motivation. While none of my hypotheses were supported, I did find main effects for females meaning that females tended to be more motivated. I also found that the promotion prime tended to produce higher motivation scores. Organizations could likely benefit from sending out more positive role models to get their messages across and trying to promote a promotion goal focus. Until more research can shed better light on how these factors affect motivation, organizations should consider using a diverse set of role models in socialization practices. It is especially important that organizations consider the potential harm that presenting limited role models and role model types can have on employee motivation. Prevention primes and negative role models could hurt an organization's attempt to fix a motivation problem. While I found no support for my similarity hypotheses, there may be other ways in which identification can affect some other variable. For example, a similar role model may not necessarily motivate an employee, but this role model might increase engagement in the workplace or reduce intentions to leave a company if diverse role models make the employee feel represented or included.

Conclusions

This study examined how role models can affect an individual's motivation. While I expected that individuals who were given role models similar to themselves would have the highest levels of motivation and that those high in Openness would be protected from the negative effect of dissimilar role models, I did not find support for these hypotheses. Until further investigation is done on the effects role models have on motivation, organizations would likely benefit from presenting a wide variety of role models to avoid unintentional negative outcomes.

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Table 1. Academic Motivation Means Collapsed Across Conditions

	N	Mean (SD)
Promotion	465	4.19 (0.83)
Prevention	451	4.11 (0.80)
Positive Role Model	324	4.24 (0.79)
Negative Role Model	394	4.10 (0.80)
No Role Model	198	4.10 (0.88)
Male	292	3.98 (0.85)
Female	624	4.23 (0.80)
Male Role Model	243	4.23 (0.79)
Female Role Model	235	4.11 (0.83)
African-American	139	4.25 (0.77)
East Asian	138	4.14 (0.83)
Hispanic	238	4.25 (0.74)
Two or More Races	74	4.00 (0.86)
West Asian	49	4.26 (0.75)
White	278	4.04 (0.90)
African-American Role Model	106	4.12 (0.80)
East Asian Role Model	77	4.17 (0.86)
Hispanic Role Model	104	4.25 (0.70)
Two or More Races Role Model	22	4.02 (0.91)
West Asian Role Model	32	4.12 (0.81)
White	137	4.18 (0.85)

Note. Picture conditions are nested within Role Model, Race and Gender matching conditions are nested within Picture condition.

Table 2. Descriptive Statistics

	N	Mean (SD)
Motivation	916	4.14 (0.59)
Openness	916	3.33 (0.54)

Table 3.
Means across Role Model Type and Prime

		Positive		Negative		Total	
		n	Mean (SD)	n	Mean (SD)	n	Mean (SD)
Picture		203	4.22 (0.84)	275	4.14 (0.78)	478	4.17 (0.81)
	Promotion	106	4.18 (0.88)	141	4.15 (0.81)	247	4.17 (0.84)
	Prevention	97	4.26 (0.79)	134	4.12 (0.76)	231	4.18 (0.77)
No Picture		121	4.28 (0.73)	119	4.02 (0.84)	240	4.15 (0.78)
	Promotion	70	4.29 (0.76)	59	4.10 (0.84)	129	4.20 (0.80)
	Prevention	51	4.25 (0.68)	60	3.94 (0.84)	111	4.08 (0.76)
No Role Model						198	4.10 (0.88)
	Promotion					89	4.24 (0.84)
	Prevention					109	3.98 (0.91)
Total		324	4.24 (0.79)	394	4.10 (0.80)	916	4.15 (0.82)

Table 4. Means across Gender Similarity

	Male		Female		Total	
	n	Mean (SD)	n	Mean (SD)	n	Mean (SD)
Male Role Model	69	4.06 (0.88)	174	4.29 (0.75)	243	4.23 (0.79)
Female Role Model	82	3.90 (0.84)	153	4.23 (0.82)	235	4.11 (0.83)
Total	151	3.97 (0.86)	327	4.26 (0.78)	478	4.17 (0.81)

Table 5. Means across Role Model Type, Prime, and Gender

		Positive						Negative						Total	
		Male		Female		Total		Male		Female		Total			
Gender	Prime	n	Mean (SD)	n	Mean (SD)	n	Mean (SD)	n	Mean (SD)	n	Mean (SD)	n	Mean (SD)	n	Mean (SD)
Male		23	4.15 (0.88)	37	3.95 (0.91)	60	4.03 (0.90)	46	4.01 (0.88)	45	3.85 (0.78)	91	3.94 (0.83)	151	3.97 (0.86)
	Promo	14	4.13 (0.96)	15	4.04 (0.86)	29	4.08 (0.91)	22	4.20 (0.85)	21	3.80 (0.83)	43	4.00 (0.84)	72	4.04 (0.87)
	Prev	9	4.19 (0.76)	22	3.89 (0.95)	31	3.97 (0.89)	24	3.85 (0.92)	24	3.90 (0.74)	48	3.87 (0.83)	79	3.91 (0.85)
Female		67	4.40 (0.76)	76	4.21 (0.84)	143	4.30 (0.81)	107	4.23 (0.74)	77	4.24 (0.79)	184	4.23 (0.76)	327	4.26 (0.78)
	Promo	35	4.34 (0.85)	42	4.12 (0.88)	77	4.22 (0.87)	59	4.26 (0.74)	39	4.15 (0.86)	98	4.22 (0.79)	175	4.22 (0.82)
	Prev	32	4.46 (0.67)	34	4.33 (0.80)	66	4.39 (0.74)	48	4.19 (0.73)	38	4.33 (0.72)	86	4.25 (0.73)	152	4.31 (0.73)
Total		90	4.34 (0.80)	113	4.13 (0.87)	203	4.22 (0.84)	153	4.16 (0.78)	122	4.10 (0.79)	275	4.41 (0.78)	478	4.17 (0.81)

Table 6. Means across Race Similarity

	African American		East Asian		Hispanic			Two or More		West Asian		White		Total
Race	n	Mean (SD)	n	Mean (SD)	n	Mean (SD)	n	Mean (SD)	n	Mean (SD)	n	Mean (SD)	n	Mean (SD)
Af. Amer.	38	4.14 (0.81)	9	3.97 (0.81)	6	4.5 (0.45)	6	4.11 (0.75)	8	4.21 (0.86)	6	4.25 (0.71)	73	4.16 (0.77)
East Asian	18	4.09 (0.88)	35	4.23 (0.84)	0		1	3.14 (1.56)	8	4.05 (0.74)	16	4.13 (0.91)	78	4.14 (0.86)
Hispanic	34	4.2 (0.69)	0		57	4.32 (0.7)	2	4.39 (0.79)	1	5 (0)	26	4.43 (0.69)	120	4.32 (0.69)
2+	7	3.7 (0.93)	6	4.14 (0.87)	18	4.12 (0.75)	4	4.14 (1.08)	2	4.43 (0.61)	3	4.4 (0.94)	40	4.09 (0.84)
West Asian	1	4.86 (0.36)	8	4.38 (0.53)	8	4.37 (0.54)	0		4	3.7 (0.98)	5	4.27 (0.88)	26	4.27 (0.66)
White	8	4.08 (0.95)	19	4.09 (1.05)	15	3.98 (0.8)	9	3.92 (0.9)	9	4.1 (0.88)	81	4.09 (0.89)	141	4.07 (0.9)
Total	106	4.12 (0.8)	77	4.17 (0.86)	104	4.25 (0.7)	22	4.02 (0.91)	32	4.12 (0.81)	137	4.18 (0.85)	478	4.17 (0.81)

Table 7. Means across Role Model Type, Prime, and Race

Positive Role Model														
Role Model Race			African American		East Asian		Hispanic		Two or More		West Asian		White		Total
Race	Prime	n	Mean (SD)	n	Mean (SD)	n	Mean (SD)	n	Mean (SD)	n	Mean (SD)	n	Mean (SD)	n	Mean (SD)
Af. Amer.		13	4.34 (0.80)	4	4.00 (3.96)	2	4.82 (0.32)	2	4.18 (0.87)	5	4.43 (0.77)	0		26	4.32 (0.77)
	Promo	5	4.46 (0.79)	1	4.86 (0.53)	1	4.64 (0.63)	1	4.57 (0.94)	0		0		8	4.54 (0.75)
	Prev	8	4.27 (0.80)	3	3.67 (0.99)	1	5.00 (0.00)	1	3.79 (0.80)	5	4.43 (0.77)	0		18	4.23 (0.78)
East Asian		8	4.19 (0.90)	14	4.24 (0.84)	0		0		1	3.21 (1.42)	5	4.29 (0.99)	28	4.20 (0.90)
	Promo	2	4.21 (0.75	8	4.35 (0.88)	0		0		1	3.21 (1.42)	3	4.24 (1.14)	14	4.22 (0.96)
	Prev	6	4.18 (0.95)	6	4.11 (0.78)	0		0		0		2	4.36 (0.77)	14	4.17 (0.85)
Hispanic		11	4.17 (0.64)	0		27	4.40 (0.67)	0		0		13	4.58 (0.64)	51	4.40 (0.66)
	Promo	6	4.14 (0.54)	0		16	4.44 (0.73)	0		0		8	4.46 (0.85)	30	4.39 (0.72)
	Prev	5	4.20 (0.76)	0		11	4.35 (0.60)	0		0		5	4.77 (0.30)	21	4.41 (0.57)
2+		2	4.00 (0.73)	3	4.48 (0.73)	9	3.83 (0.94)	3	4.17 (0.92)	2	4.43 (0.61)	3	4.40 (0.94)	22	4.11 (0.86)
	Promo	1	3.00 (1.47)	2	4.29 (0.91)	5	3.80 (0.86)	3	4.17 (0.92)	1	4.86 (0.53)	1	4.43 (1.22)	13	4.03 (0.93)
	Prev	1	5.00 (0.00)	1	4.86 (0.36)	4	3.86 (1.06)	0		1	4.00 (0.68)	2	4.396 (0.80)	9	4.23 0.76)

Role Model Race	African American		East Asian		Hispanic		Two or More		West Asian		White		Total		
Race	Prime	n	Mean (SD)	n	Mean (SD)	n	Mean (SD)	n	Mean (SD)	n	Mean (SD)	n	Mean (SD)	n	Mean (SD)
West Asian		0		3	3.95 (0.93)	2	4.50 (0.43)	0		1	4.07 (1.00)	2	4.04 (0.91)	8	4.13 (0.81)
	Promo	0		2	3.82 (0.99)	1	4.21 (0.43)	0		1	4.07 (1.00)	0		4	3.98 (0.85)
	Prev	0		1	4.21 (0.80)	1	4.79 (0.43)	0		0		2	4.04 (0.91)	4	4.27 (0.76)
White		0		15	4.11 (1.02)	2	4.11 (1.15)	5	3.94 (0.95)	6	4.11 (0.89)	40	4.11 (0.94)	68	4.10 (0.96)
	Promo	0		6	4.13 (1.03)	1	4.14 (1.17)	2	3.61 (1.10)	3	4.00 (0.88)	25	4.00 (0.98)	37	4.00 (0.99)
	Prev	0		9	4.10 (1.02)	1	4.07 (1.14)	3	4.17 (0.85)	3	4.21 (0.91)	15	4.30 (0.87)	31	4.21 (0.92)
Total		34	4.23 (0.77)	39	4.16 (0.91)	42	4.29 (0.73)	10	4.06 (0.92)	15	4.20 (0.86)	63	4.25 (0.88)		

Negative Role Model

Role Model Race		African American		East Asian		Hispanic		Two or More		West Asian		White		Total	
Race	Prime	n	Mean (SD)	n	Mean (SD)	n	Mean (SD)	n	Mean (SD)	n	Mean (SD)	n	Mean (SD)	n	Mean (SD)
Af. American		25	4.03 (0.82)	5	3.97 (0.76)	4	4.34 (0.51)	4	4.07 (0.69)	3	3.86 (1)	6	4.25 (0.71)	47	4.07 (0.77)
	Promo	16	3.86 (0.81)	3	4.05 (0.84)	2	4.46 (0.57)	3	4.29 (0.75)	1	4.43 (1.28)	1	4.93 (0.27)	26	4.04 (0.79)
	Prev	9	4.35 (0.83)	2	3.86 (0.64)	2	4.21 (0.46)	1	3.43 (0.51)	2	3.57 (0.86)	5	4.11 (0.79)	21	4.12 (0.76)

Role Model Race	African American		East Asian		Hispanic		Two or More		West Asian		White		Total		
Race	Prime	n	Mean (SD)	n	Mean (SD)	n	Mean (SD)	n	Mean (SD)	n	Mean (SD)	n	Mean (SD)	n	Mean (SD)
East Asian		10	4.01 (0.87)	21	4.22 (0.85)	0		1	3.14 (1.56)	7	4.17 (0.64)	11	4.06 (0.87)	50	4.11 (0.84)
	Promo	4	3.79 (1.07)	10	4.31 (0.82)	0				1	3.43 (1.09)	8	4.1 (0.87)	23	4.11 (0.89)
	Prev	6	4.17 (0.73)	11	4.13 (0.87)	0		1	3.14 (1.56)	6	4.3 (0.57)	3	3.95 (0.85)	27	4.12 (0.8)
Hispanic		23	4.21 (0.72)	0		30	4.25 (0.73)	2	4.39 (0.79)	1	5 (0)	13	4.28 (0.74)	69	4.26 (0.72)
	Promo	11	4.27 (0.84)	0		13	4.54 (0.61)	1	4.29 (0.83)	0		6	4.36 (0.68)	31	4.4 (0.71)
	Prev	12	4.16 (0.61)	0		17	4.02 (0.83)	1	4.5 (0.76)	1	5 (0)	7	4.21 (0.8)	38	4.14 (0.73)
Two or More		5	3.59 (1)	3	3.81 (1.01)	9	4.42 (0.55)	1	4.07 (1.54)	0		0		18	4.07 (0.81)
	Promo	3	3.19 (1.28)	2	3.68 (0.91)	5	4.19 (0.65)	1	4.07 (1.54)	0		0		11	3.81 (0.95)
	Prev	2	4.18 (0.59)	1	4.07 (1.21)	4	4.71 (0.44)	0		0		0		7	4.47 (0.59)
West Asian		1	4.86 (0.36)	5	4.64 (0.29)	6	4.32 (0.58)	0		3	3.57 (0.97)	3	4.43 (0.85)	18	4.33 (0.6)
	Promo	1	4.86 (0.36)	4	4.82 (0.3)	3	4.12 (0.83)	0		2	4.07 (0.88)	2	4.39 (0.73)	12	4.45 (0.61)
	Prev	0		1	3.93 (0.27)	3	4.52 (0.34)	0		1	2.57 (1.16)	1	4.5 (1.09)	6	4.1 (0.59)
White		8	4.08 (0.95)	4	4 (1.14)	13	3.96 (0.74)	4	3.89 (0.84)	3	4.1 (0.86)	41	4.08 (0.84)	73	4.04 (0.85)
	Promo	5	3.99 (0.94)	2	3.75 (1.19)	9	4.26 (0.64)	2	3.61 (0.84)	2	4.11 (0.98)	18	4.05 (0.9)	38	4.06 (0.86)

Role Model Race	African American		East Asian		Hispanic		Two or More		West Asian		White		Total		
Race	Prime	n	Mean (SD)	n	Mean (SD)	n	Mean (SD)	n	Mean (SD)	n	Mean (SD)	n	Mean (SD)	n	Mean (SD)
	Prev	3	4.24 (0.97)	2	4.25 (1.08)	4	3.27 (0.97)	2	4.18 (0.84)	1	4.07 (0.62)	23	4.09 (0.79)	35	4.03 (0.84)
Total		72	4.07 (0.81)	38	4.19 (0.81)	62	4.22 (0.68)	12	3.99 (0.9)	17	4.05 (0.77)	74	4.14 (0.82)	275	4.14 (0.78)
Grand Total		106	4.12 (0.80)	77	4.17 (0.86)	104	4.25 (0.70)	22	4.02 (0.91)	32	4.12 (0.81)	137	4.18 (0.85)	478	4.17 (0.81)

Table 8. Prime and Role Model ANOVA Table

	DF	Type III SS	Mean Square	F Value	Sig
Prime	1	2.19	2.19	6.30	0.01
Role Model Type	2	3.96	1.98	5.68	0.00
Prime*Role Model	2	2.58	1.29	3.71	0.03

Table 9. Participant and Role Model Gender ANOVA Table

	DF	Type III SS	Mean Square	F Value	Sig
Participant Gender	1	8.14	8.14	25.68	0.00
Role Model Gender	1	1.37	1.37	4.31	0.04
Participant Gender * Role Model Gender	1	0.23	0.23	0.74	0.39

Table 10. Participant and Role Model Race ANOVA Table

	DF	Type III SS	Mean Square	F Value	Sig
Participant Race	5	3.58	0.72	2.15	0.06
Role Model Race	5	0.93	0.19	0.56	0.73
Participant Race * Role Model Race	22	6.12	0.28	0.84	0.68

Table 11. Gender by RGF Congruence ANOVA Table

	DF	Type III SS	Mean Square	F Value	Sig
Prime	1	0.01	0.01	0.04	0.85
Role Model Type	1	0.99	0.99	3.15	0.08
Participant Gender	1	7.12	7.12	22.67	0.00
Role Model Gender	1	1.65	1.65	5.24	0.02
Prime * Role Model Type	1	0.20	0.20	0.65	0.42
Prime * Participant Gender	1	0.90	0.90	2.85	0.09
Prime * Role Model Gender	1	0.48	0.48	1.53	0.22
Role Model Type * Participant Gender	1	0.05	0.05	0.17	0.68
Role Model Type * Role Model Gender	1	0.28	0.28	0.89	0.35
Participant Gender * Role Model Gender	1	0.25	0.25	0.79	0.37
Prime * Role Model Type * Participant Gender	1	0.00	0.00	0.01	0.91
Prime * Role Model Type * Role Model Gender	1	0.99	0.99	3.16	0.08
Prime * Participant Gender * Role Model Gender	1	0.02	0.02	0.07	0.79
Role Model Type * Participant Gender * Role Model Gender	1	0.17	0.17	0.55	0.46
Prime * Role Model Type * Participant Gender * Role Model Gender	1	0.38	0.38	1.22	0.27

Table 12. Race by RGF Congruence ANOVA Table

	DF	Type III SS	Mean Square	F Value	Sig
Prime	1	0.00	0.00	0.00	0.99
Role Model Type	1	0.71	0.71	2.19	0.14
Participant Race	5	5.19	1.04	3.21	0.01
Role Model Race	5	1.55	0.31	0.96	0.44
Prime * Role Model Type	1	0.35	0.35	1.08	0.30
Prime * Participant Race	5	3.44	0.69	2.13	0.06
Prime * Role Model Race	5	3.05	0.61	1.89	0.10
Role Model Type * Participant Race	5	0.86	0.17	0.53	0.75
Role Model Type * Role Model Race	5	0.11	0.02	0.07	1.00
Participant Race * Role Model Race	22	7.64	0.35	1.07	0.37
Prime * Role Model Type * Participant Race	5	0.69	0.14	0.43	0.83
Prime * Role Model Type * Role Model Race	5	0.30	0.06	0.19	0.97
Prime * Participant Race * Role Model Race	18	6.84	0.38	1.18	0.28
Role Model Type * Participant Race * Role Model Race	14	3.99	0.29	0.88	0.58
Prime * Role Model Type * Participant Race * Role Model Race	9	2.15	0.24	0.74	0.67

Table 13. RGF and Openness Regression Table

	B	*SE B*	β
RGF Congruence	0.03	0.16	0.03
Openness	0.11	0.04	0.10**
RGF Congruence * Openness	-0.00	0.05	-0.02

Note: *p<.05, **p<.01

Table 14. Gender Similarity and Openness Regression Table

	B	*SE B*	β
Gender Similarity	-0.04	0.15	-0.05
Openness	0.11	0.04	0.10**
Gender Similarity* Openness	0.02	0.05	0.08

Note: *p<.05, **p<.01

Table 15. Race Similarity and Openness Regression Table

	B	*SE B*	β
Race Similarity	-0.21	0.16	-0.28
Openness	0.13	0.04	0.11**
Race Similarity * Openness	0.07	0.05	0.30

Note: *p<.05, **p<.01

Appendix A

Prime for Regulatory Goal Focus

Promotion goal focus. Please answer the following questions as part of a pilot test of a questionnaire about academic strategies.

Think about an academic goal you want to achieve. Below, write down this goal and be as specific as possible. Then write down strategies you can use to achieve this goal.

Thank you. The following questions are part of the Life Transitions Study. The university is interested in gathering information about student experiences during and after their university education to identify factors relating to success and failure in student careers

Prevention goal focus. Please answer the following questions as part of a pilot test of a questionnaire about academic strategies.

Think about an unsatisfactory academic outcome you would prefer to avoid. At the top of the next page, write down this negative outcome. Below, write down strategies you can use to avoid this outcome.

Thank you. The following questions are part of the Life Transitions Study. The university is interested in gathering information about student experiences during and after their university education to identify factors relating to success and failure in student careers

Appendix B

Demographics

Please indicate your race and gender:

White Female

White Male

Hispanic Female

Hispanic Male

West Asian Female

West Asian Male

East Asian Female

East Asian Male

African-American Female

African-American Male

Other Female

Other Male

Appendix C

Role Model Essays

Negative role model essay. The following essay answer was one of many written by students in a previous version of this study. Please read the answer carefully and answer the questions.

"I haven't been able to find a good job. I have spent a lot of time working in fast food places, and doing some pretty boring stuff...right now, I'm pretty down about things. I'm not sure where I'm going to go from here-1 can't afford to go back to school, but I also can't find a good job. This is not where I expected to be at this point in my life!"

Positive role model essay. The following essay answer was one of many written by students in a previous version of this study. Please read the answer carefully and answer the questions.

"I just found out I won a major scholarship for graduate school. Two major companies have also contacted me about great positions...right now, I'm extremely happy with my life. I feel like I know where I'm going, and what I want. I never imagined that my future could be so amazing!"

Appendix D

Role Model Pictures and Names

African American Female. Ashley Wilson.

African American Male. Jacob Wilson.

East Asian Female. Ashley Chang.

East Asian Male. Jacob Chang.

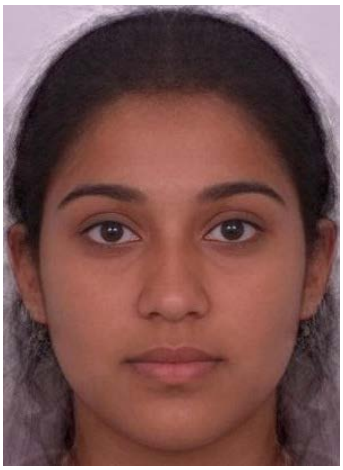
Hispanic Female. Maria Gomez.

Hispanic Male. David Gomez.

Multi-cultural female. Saira Wilson.

Multi-cultural male. Jai Wilson.

West Asian female. Saira Pandey.



West Asian Male. Daniel Pandey.

White female. Ashely Wilson.

White male. Jacob Wilson.

Appendix E

Role Model Adjustment Scale

Please answer the following questions about this former student's adjustment using this scale:

1=not at all

2

3

4

5=very

How successful do you think this person is?

How well-adjusted do you think this person is?

How positive do you think this person view their current job situation?

How valuable do you think this person view their educational experience now?

Overall, how happy do you think this person is with their life?

Appendix F

Manipulation Checks

Please indicate the race of the former student whose essay answer you read:

White

Hispanic

West Asian

East Asian

African-American

Other

Please indicate the gender of the former student whose essay answer you read:

Male

Female

Appendix G

Academic Motivation Measure

Thank you. Next, you will answer some questions about your own academic motivation.

Please use the following scale to answer questions about your academic motivation.

1=not at all true

2

3

4

5=very true

I plan to put more time into my schoolwork.

I plan to study harder for tests and exams.

I plan to spend less time partying with friends.

I plan to put extra effort into the rest of my term papers.

I plan to keep up with reading assignments.

I plan to procrastinate less.

I plan to start studying for finals before the term ends.

I plan to spend more time at the library.

I plan to stop engaging in social activities that interfere with schoolwork.

I plan to avoid wasting time.

I plan to be more organized.

I plan to avoid missing work deadlines.

I plan to be less casual about schoolwork.

I plan to focus more on my studies.

Appendix H

Openness Scale of the IPIP

On the following pages, there are phrases describing people's behaviors. Please use the rating scale below to describe how accurately each statement describes you. Describe yourself as you generally are now, not as you wish to be in the future. Describe yourself as you honestly see yourself, in relation to other people you know of the same sex as you are, and roughly your same age. So that you can describe yourself in an honest manner, your responses will be kept in absolute confidence. Please read each statement carefully, and then fill in the bubble that corresponds to the number on the scale.

Response Options

1: Very Inaccurate

2:

3:

4:

5: Very Accurate

Have a rich vocabulary.

Have a vivid imagination.

Have excellent ideas.

Am quick to understand things.

Use difficult words.

Spend time reflecting on things.

Am full of ideas.

Have difficulty understanding abstract ideas.

Am not interested in abstract ideas.

Do not have a good imagination.

Appendix I

Debrief

The real purpose of this study was to investigate the factors affecting academic motivation in individuals. You were told the purpose of this study was to examine the factors related to academic success and that a portion of the study was a pilot study for a new survey question. The “pilot” portion of the study was in fact a motivational prime.

If you were assigned to the manipulation condition, the essay answer that you read was not by a previous student and in fact the picture of that student that you viewed was manufactured and that person does not exist. Any similarity to persons existing (alive or dead) or to fictional persons is purely coincidental. It is expected that if you are shown a person more similar to you that your motivation scores would be increased.

Thank you for your participation. If you experienced any discomfort as a result of this experiment and want to talk with someone about it, please contact the principal investigator (Sara Brothers, sabrothers@uh.edu) or CAPS, the Counseling and Psychological Services center located in the Student Services Building. CAPS offers free psychological counseling to UH students. It can be reached at 713-743-5454. You may experience a short-term increase in your academic motivation from your participation in this study.