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# An examination of the relationship between mindset, attitudes toward affirmative action, and perceptions of diversity

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An Examination of the Relationship between Mindset, Attitudes toward Affirmative Action, and  
Perceptions of Diversity

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A Project Presented to  
the Faculty of the Undergraduate  
College of Health and Behavioral Sciences  
James Madison University

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in Partial Fulfillment of the Requirements  
for the Degree of Bachelor of Science

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by Elizabeth Lee Smith

May 2014

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Accepted by the faculty of the Department of Psychology, James Madison University, in partial fulfillment of the requirements for the Degree of Bachelor of Science.

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## **Abstract**

This study investigates the relationship between mindset, multicultural experiences, attitudes toward affirmative action, knowledge of potential affirmative action components, value of diversity, and importance of diversity increasing initiatives. Undergraduate students ( $N = 384$ ) were administered a web-based survey with measures for each of the aforementioned variables. Intelligence and personality mindset were hypothesized to be predictive of positive attitudes toward affirmative action, and greater value of diversity and diversity increasing initiatives at James Madison University (JMU). Hierarchical multiple regression analyses revealed that more accurate knowledge about affirmative action and more multicultural experiences predicted significant variance in attitudes toward affirmative action. Higher social desirability, more multicultural experiences, and more positive attitudes toward affirmative action predicted significant variance in value of university diversity initiatives. Higher levels of growth intelligence, less accurate knowledge of affirmative action, and more multicultural experiences predicted significant variance in value of campus diversity. Open-ended responses consisting of definitions of diversity were also coded and examined. Responses suggested that race and ethnicity are more commonly included in definitions of diversity.

## **Purpose and Objectives**

Affirmative action policies are implemented in organizations as a way to help eliminate barriers faced by members of disadvantaged groups. Previous research indicates that knowledge about affirmative action and diverse experiences foster more positive attitudes toward affirmative action, however many people lack exposure to these opportunities. Mindset research has been introduced in educational settings and the workplace with an emphasis on cultivating a growth mindset. This study investigated mindset as another way to predict attitudes toward affirmative action and diversity.

### **Affirmative Action**

Affirmative action was enacted in 1965 by President John F. Kennedy to help reduce barriers for underrepresented groups by opening up opportunities in the workplace, education, and housing. Affirmative action policies continue to exist due to the assumption that certain obstacles faced members of protected classes (e.g., racial minorities, women, socio-economic status, and people with disabilities) have not been adequately eliminated through the implementation of equal opportunity laws (Major et al., 1994). Affirmative action policies are implemented with the goal of making it possible for people from diverse backgrounds to be accepted and retained in educational or organizational settings where their background may not be already represented. Since its enactment, affirmative action has been a source of public controversy and in recent decades instances have been brought to the Supreme Court challenging affirmative action.

In *Grutter v. Bollinger*, 539 U.S. 306 (2003), the Supreme Court ruled in favor of the University of Michigan's affirmative action admissions policy. Barbara Grutter, a white student, was denied admission to University of Michigan's Law School with a 3.8 GPA and 161 LSAT

score, and filed that she had been discriminated against due to race. Grutter alleged that the Law School was in violation of the Fourteenth Amendment, Title VI of the Civil Rights Act of 1964 and had given members of minority groups preferential acceptance. The court held that the admissions policy took into account many factors for each individual, and the race-conscious considerations did not constitute a quota system.

Most recently, in 2008, a case was brought to the Supreme Court by undergraduate Abigail Fisher, a white student, who alleged that the University of Texas's race-conscious admissions policies were not consistent with what was established in Grutter v. Bollinger. Fisher and another student were denied admission to the University of Texas at Austin in 2008, and they claimed that they had been discriminated against for their race, violating the equal Protection Clause of the Fourteenth Amendment. The Texas school system offers admission in public state colleges to any student who places in the top 10 percent of his or her graduating class, regardless of district. This provides students from lower-funded schools the same opportunity as students from upper-income schools. Fisher was an upper-income White student who did not graduate in the top 10 percent of her class. She sued the school system because students with grades lower than her from lower-income school districts were admitted to University of Texas. The university's policy was upheld in 2009 by the United States District Court, and affirmed by a Fifth Circuit Panel. The case was brought to the Supreme Court in 2012, where the Fifth Circuit's ruling was overturned and sent back to the lower court to decide the case again on the basis of failure by the Fifth Circuit to fully examine the University's use of affirmative action admissions policies, and was sent back down to the lower court for reexamination. A decision by the lower court has yet to be made.

These cases exemplify the controversy surrounding affirmative action policies. Perceived fairness of programs are also related to attitudes toward affirmative action. (Kravitz, 1995). Judgments could be influenced by commonly held misconceptions about these programs (Plous, 1996). A common myth is that affirmative action has a negative impact on white individuals, though studies on college students repeatedly show that a diverse classroom and campus benefits students of all races and ethnicities, including white students (e.g., Chang, 1999; Neville et al., 2008). Heterogeneous learning environments provide varied beliefs and ideas. Students who experience more diversity have been shown to exhibit intellectual and motivational growth and engagement (Gurin, Dey, Hurtado, & Gurin, 2002). Additionally, students who are exposed to diverse situations and peers during their educational career are more prepared to enter a more diverse society (Gurin et al., 2002). Organizations benefit from diversity as well. Different viewpoints and perspectives can allow for better problem solving (Reskin, 1998; Milliken & Martens, 1996) as well as the ability to market to diverse clientele (Reskin, 1998).

In an exploratory study investigating perceptions and reactions to affirmative action policies, researchers evaluated participants' knowledge of and attitudes toward affirmative action (Kravitz & Platania, 1993). Of the sample, there were 121 males and 226 females (two did not report sex). There were 161 White participants and 188 non-White participants. Women reported more positive attitudes toward affirmative action than men, and ethnic minorities reported more positive attitudes toward affirmative action than white participants. Overall, results showed that individuals tended to have inaccurate views on what is included in affirmative action programs. For example, many participants believed that affirmative action programs used quotas, but did not have strong beliefs about use of training in affirmative action programs.

Beliefs about the fairness of these programs tend to vary significantly among individuals (Kravitz, 1995). The variability in the perceived fairness of AA programs may be due, in part, to misconceptions about what AA programs do (and do not) entail (Plous, 1996). Plous (1996) outlined four theoretical hiring policies through which to attain a better understanding of legal and illegal hiring policies. They included the selection decision between (a) equally qualified candidates, (b) comparable candidates, (c) unequal candidates, and (d) qualified and unqualified candidates. The first two selection preferences may only be applied to a minority target candidate if the candidate is either equally or comparably qualified to the other candidates. The second two selection preferences describe preferential selection to minorities who are less qualified or unqualified in comparison to the other candidates. The first two are considered legal policies by U.S. Federal Regulations, and the second two are illegal.

Consensus about affirmative action has yet to be reached and it is still considered legal. Affirmative action continues to be practiced legally through various approaches. Examples of such approaches include recruitment efforts, providing educators guidance counselors and instructors, and offering scholarships to minority groups. Affirmative action is also practiced in selection procedures that abide by established regulations as outlined by Plous (1996).

Research shows that many people lack a detailed knowledge of affirmative action, which could serve as a contributing factor in negative attitude formation toward diversity initiatives. By not having accurate knowledge, individuals could form attitudes based on incorrect information and misconceptions that engender negative attitudes of affirmative action. Unfortunately, access to information that dispels myths and misconceptions about affirmative action is not far reaching and limited to individuals in situations where they can be presented this information (e.g., research in academia).

## **Diversity and Multiculturalism**

In recent decades there has been an increased emphasis on diversity in various settings, including education and organizations. When asked to define “diversity,” students (Green, Callands, Radcliffe, Luebbe, & Klonoff, 2009) and Americans in general (DYG, 1998) focus on race and ethnicity as the primary component of diversity. However, diversity encompasses a much more inclusive range of populations, including gender, sexual orientation, religious affiliation and socioeconomic status.

In the current study, multiculturalism was used as measure of attitudes toward diverse cultures, individuals, and experiences. Multiculturalism has emerged in recent decades as a way to promote diversity and increase the value of other cultures at the core of psychological practice and theory. Multiculturalism attempts to “enhance the dignity, rights, and recognized worth of marginalized groups” (Fowers & Richardson, 1996, p. 609). Similar to the benefits of diverse settings, multicultural experiences are related to broader viewpoints and different perspectives, as well as greater critical thinking (Narvaez and Hill, 2010). Lack of multiculturalism has become a source of ethical concern for professionals and the education system (Stables, 2005). Initiatives to increase diversity, such as affirmative action, are important in achieving a greater understanding of other cultures and perspectives. It is important for individuals to understand the use and value of such initiatives in order to gain more support, so that they are not eradicated. This study sought to understand students’ value of diversity initiatives within their own university.

## **Diversity and Affirmative Action**

Research supports the idea that diverse experiences or interest in diversity is associated with more positive views of affirmative action. Aberson (2007) performed a longitudinal study examining experiences with diversity and changes in attitudes toward affirmative action. College

students completed a survey about affirmative action attitudes after admission, and then completed the same survey after four years of undergraduate experience. Researchers measured diversity experiences using a questionnaire including items about involvement in activities promoting better understanding of other groups through different class activities, the extent to which the course or program impacted views of diversity, and whether the student participated celebrating minorities, such as awareness of heritage month. Measured views of affirmative action included beliefs of whether affirmative action hurt academic quality and support for the implementation of different admissions criteria. White, African American, and Asian American students who participated in diversity experiences exhibited positive changes in their views of affirmative action. Students who experienced higher exposure to diverse experiences showed an increase in positive attitudes toward affirmative action. Students who experienced lower exposure to diverse experiences did not show this same increase in positive attitudes toward affirmative action.

Exposure to diverse groups and involvement with diverse organizations is limited to those who seek out these opportunities for themselves, or who are intermittently placed in diverse situations (Aberson, 2007). Thus, it is important to try to understand other variables that can contribute to attitudes toward affirmative action that can be reached by a larger population of individuals.

### **Mindset**

Prominent mindset researcher Dweck (2007) introduced the idea of mindset as a way to understand how people's perceptions of intelligence and personality, especially their own, affect their levels of success and achievement. Dweck (2007) proposed two general categorizations of mindset: fixed and growth, which are each associated with certain patterns of beliefs and

behaviors. Individuals described as having a fixed mindset report that their characteristics, such as intelligence or personality, are permanently set (Dweck, 2007). With a fixed mindset, individuals report that people have a particular character and ability level, which are fixed and cannot be changed. Alternatively, individuals identified as having a growth mindset report that personal characteristics can be altered with effort (Dweck, 2007). With a growth mindset, individuals report that through personal endeavors and experiences, they can change and develop personal qualities and ability levels.

According to Dweck (2007), one of the patterns associated with the different mindsets is individual's self-perception. The need to prove oneself as competent is often a characteristic of individuals with a fixed mindset. Because one's characteristics are unchanging, they must be portrayed as having permanent high-quality attributes. Having a growth mindset, alternatively, allows an individual to continue to cultivate their abilities and personality. Though those with a growth mindset may not believe that anyone is capable of achieving anything they want, because they view potential as an unknowable quantity. This pattern of thinking allows individuals to engage in behaviors that will improve their levels of ability, which can lead to an enthusiasm for learning and an ability to confront challenges (Dweck, 2010). Additionally, research shows that behaviors associated with growth mindset can be beneficial in many environments, including education, business, sports and music (Dweck, 2012). Those who hold a growth mindset tend to show more resilience when faced with challenges and seek out opportunities to learn (Dweck, 2012). Students with a growth mindset show higher levels of motivation and success when faced with difficult transitions in academics (Aronson et al., 2002, Blackwell, Trzesniewski, & Dweck, 2007).

A fundamental component of behavior for students with a fixed mindset is that they try to look smart at all times, regardless of the costs. Dweck identified three patterns of behavior that are common for those who identify as having a fixed mindset view of intelligence (Dweck, 2006). The first is to avoid making mistakes, as mistakes indicate a lack of ability. The second is to avoid working hard, as hard work is an indication of low intelligence. The third is not to repair mistakes if they are made, because there is no point in doing so when one lacks the ability to do well initially. Alternatively, students with a growth mindset tend to believe that intelligence can be developed. Dweck (2006) also identifies three patterns of behavior that individuals with a growth mindset tend to engage in with regard to intelligence. The first is to confront challenges, as it is important to spend one's time on learning new things and expanding abilities. The second is to work hard, as ability can be increased through effort. The third is to confront setbacks and fix mistakes, because it is important to remedy deficiencies.

Similar to the concept of mindset, Rattan, Savani, Naidu, and Dweck (2012) investigated people's beliefs about the ability to become highly intelligent. The researchers examined the universal-non-universal and incremental-entity theories of intelligence. The universal theory of intelligence is that every individual has the potential to reach high intelligence, whereas the non-universal theory is that not everyone has the potential to achieve high intelligence. This concept is related to the idea of incremental and entity beliefs (Rattan et al., 2012). The incremental belief is based on the idea that intelligence can be increased over time; whereas the entity belief is based on the idea that intelligence is fixed and cannot be increased over time. Rattan et al (2012) discovered a significant relationship between universal beliefs about achieving high intelligence and the malleability of intelligence. Participants who believe that everyone has the

potential to become highly intelligent tend to believe that intelligence can be increased over time (Rattan et al, 2012).

Dweck (2006) further differentiates between intelligence and personality mindset. Intelligence mindset specifically refers to the degree to which an individual believes that mental level and ability can be changed. Personality mindset refers to the degree to which an individual believes personal qualities are malleable. These qualities could include how “dependable, cooperative, caring, or socially skilled” (Dweck, 2006, p. 13) a person is. Individuals who approach situations with a more fixed mindset will be more concerned with how they will be judged or evaluated by others, whereas those who approach situations with a more growth mindset tend to be more concerned with how they can improve. Research suggests that the idea of mindset can be applied to other facets of personality, such as shyness (e.g., Valentiner, Mounts, Durik, & Gier-Lonsway, 2011) and levels of prejudice. Carr, Dweck and Pouker (2012) applied the idea of fixed and malleable beliefs to the concept of prejudice through a series of eight studies. In these studies, Carr et al (2012) investigated White individuals’ beliefs about the ability to change levels of prejudice in individuals and their interest in interracial interactions and activities. Viewing prejudice as a more fixed entity was related to less interest in interracial relations and information about race and diversity. Additionally, there was an association between beliefs about prejudice and the malleability about personality.

In another study, Carr et al. (2012) found that those with a more fixed belief about prejudice expressed less interest in reducing their prejudice levels. In a subsequent experiment, participants were subject to either a fixed or malleable condition regarding prejudice levels. In the fixed condition, participants were exposed to an article that described an individual whose levels of prejudice stayed the same over the past ten years. In the malleable condition,

participants were exposed to an article describing a man whose levels of prejudice had changed over the past ten years. Participants' concerns about revealing prejudice either to others or themselves were then measured through a survey, revealing that prejudice levels were changed by the manipulation, and those in the fixed condition admitted to worry more about revealing prejudice both to themselves and others. Additionally, those in the fixed condition showed less interest in interracial interactions. If mindset is related to levels of prejudice, then it is possible that it is also related to attitudes toward affirmative action.

### **Mindset and Multiculturalism**

Prior research suggests relationships between mindset and exposure to diversity. Exposure to diverse experiences promotes a greater opportunity for growth (Gurin, Dey, Hurtado, & Gurin, 2002). Interacting with other cultures is related to increased flexibility in cognition and behavior, empathy, open-mindedness in regard to experience and people, and greater tolerance exhibited when faced with ambiguity (Paige, 1996; Antonio et al. 2004).

Narvaez and Hill explored the relationship between mindset and multiculturalism in a correlational study (2010). The researchers created and administered the Multicultural Experiences Questionnaire (MEQ) to undergraduates at a private Midwestern University. The scale sought to capture a representation of both multicultural experiences and openness to multiculturalism, and used this scale to predict growth intelligence and personality mindset. Like fixed and growth mindsets about intelligence, people hold similar beliefs about personality. Mindset was measured through the use of "four mindset constructs with two-item variables: Fixed Intelligence, Fixed Personality, Growth Intelligence, Growth Personality" (Narvaez and Hill, 2010, p. 48). The MEQ and mindset measures were administered concurrently in a web-based survey (along with other measures). Researchers found that MEQ scores were negatively

related to Fixed Intelligence and Fixed Personality, and positively related to Growth Intelligence and Growth Personality. Higher scores on the MEQ were predictive of a growth mindset, whereas lower scores were predictive of a fixed mindset. This suggests a relationship between having more multicultural experiences and exhibiting behaviors associated with a growth mindset.

In the previously mentioned study by Rattan et al. (2012), participants showed increased support for hypothetical policies that would invest in the providing of greater resources to low-income groups and creating more opportunities for minority groups. Specifically, researchers found that the more individuals held a universal belief about intelligence (i.e., that everyone has the ability to become highly intelligent), the more likely they were to support policies that would a lot a greater amount of educational resources to all students, as well as policies that would redistribute educational resources from high-income communities to low-income communities.

Although Narvaez and Hill looked at multiculturalism and mindset and Rattan et al. (2012) explored universal and incremental beliefs about intelligence as predictors of support for policies similar to affirmative action initiatives, no prior research has linked mindset and attitudes toward affirmative action. In this study, mindset was proposed as a way to better understand attitudes toward affirmative action that can be more widely accessible to individuals than multiculturalism and knowledge interventions alone.

### **The Current Study**

While previous research supports a relationship between growth mindset with multicultural experiences, there is no prior research linking mindset to attitudes toward affirmative action policies. Even though increasing knowledge of affirmative action may be beneficial to promoting positive views of affirmative action in classroom and laboratory settings,

individuals are not often exposed to this information throughout the course of their daily lives. Thus, it is important to see if there are other related factors that could help in understanding attitudes toward affirmative action. Within recent decades there has been a push for education and learning reform (e.g., Jones-Smith, 2011), and the cultivation of characteristics associated with a growth mindset (Dweck, 2010; Donohoe, Topping, & Hannah, 2012). Many individuals either have been or are have potential to be exposed to mindset reform, as mindset is implemented in many realms of daily life including schools, business organizations, sports, and music (Dweck, 2010). Additionally, universities often attempt to develop certain skills associated with a growth mindset (i.e., hard work and effort to reach accomplishments) indirectly, by challenging students and promoting critical thinking skills and offering opportunities to develop these skills.

Affirmative action is an important initiative that makes increasing diversity possible, yet the many misconceptions associated with affirmative action prevent individuals from understanding its value and how they can benefit from it. Although prior research shows that increasing knowledge and dispelling myths about affirmative action can help promote positive attitudes toward affirmative action, many individuals are not subjected to knowledge increasing initiatives. Thus, it is important to explore other ways to better understand individuals' attitudes toward affirmative action. Diverse experiences have also been shown as related to increasing positive views toward affirmative action, however those who are not subject to or involved in diverse or multicultural experiences are the ones who would benefit most from affirmative action, and are also most likely to not be supportive (Aberson, 2007). For these reasons, mindset was predicted to be another way to better understand attitudes toward affirmative action.

The current study sought to examine the relationship between mindset and attitudes toward affirmative action. In particular, the study investigated whether having a fixed or growth mindset in regard to intelligence and personality was predictive of having more positive or negative attitudes toward affirmative action initiatives. Because research has shown diverse experiences help foster more positive attitudes toward affirmative action policies (Aberson, 2007), diverse experiences measured through multicultural experiences will be used as a control to see if mindset can better predict attitudes toward affirmative action. It was predicted that students' scores on mindset scales as either fixed or growth will predict an individual's support of affirmative action initiatives. Individuals with more of a growth mindset see the potential to change and grow from both challenging and different situations, so it is predicted that a growth mindset will see opportunities for growth in affirmative action and diversity increasing initiatives. Specifically, it is predicted that individuals who score higher on growth mindset will have more positive attitudes toward affirmative action.

Students' perceptions of diversity initiatives at their own university (JMU) and the value they place on diversity in their experience were also of interest. Additionally, participants' perceptions of their own university's diversity initiatives were examined. It was predicted that students who score higher on growth mindset will report higher value on diversity at JMU and JMU's campus diversity initiatives.

## **Hypotheses**

*Hypothesis 1:* When controlling for social desirability, knowledge of affirmative action plans, and MEQ scores, both personality and intelligence growth mindsets would be predictive of more positive attitudes toward affirmative action.

*Hypothesis 2:* When controlling for social desirability, knowledge of affirmative action plans, and MEQ scores, both personality and intelligence growth mindsets would be predictive of more positive attitudes toward JMU diversity increasing initiatives.

*Hypothesis 3:* When controlling for social desirability, knowledge of affirmative action plans, and MEQ scores, both personality and intelligence growth mindsets would be predictive of higher value of campus diversity.

For exploratory purposes, responses to an open-ended question about definitions of diversity were also examined to look for common patterns or themes in responses.

## **Method**

### **Participants**

The sample ( $N = 384$ ) consisted of introductory psychology students for partial course credit ( $N = 251$ ) and undergraduates recruited through a bulk email with junior or senior ( $N = 133$ ) class standing from a large predominantly White Southern public university. Of the total sample, 65 participants did not complete the entire survey; their demographic information was not recorded. There were 197 female and 118 male participants (4 preferred not to respond). The mean age was 19.29 ( $SD = 1.27$ ). Of the sample, 248 participants identified as White, 22 as Asian/Pacific Islander, 16 as biracial, 15 as Black/African American, seven as Hispanic/Latin, and three as Middle Eastern. Six participants did not record race.

### **Design**

A correlational study examined a potential relationship among mindset, attitudes toward affirmative action, and attitudes toward university diversity increasing initiatives. Participants responded to a web-based survey including six subsections: (a) Mindset (intelligence and personality), (b) affirmative action (Attitudes toward Affirmative Action Scale (ATAAS) and selected items from Potential Components of an Affirmative Action Plan (PCAAP)), (c) JMU diversity initiatives, (d) multiculturalism (MEQ), (e) social desirability, and (f) demographics. In order to control for order effects, participants received components of the survey in randomized order on Qualtrics. Variables subject to randomization were mindset, affirmative action, JMU diversity initiatives, and multiculturalism. The social desirability scale was included as the first part of the survey and the demographics section as the last.

### **Measures**

*Attitudes toward Affirmative Action Scale.* The ATAAS was used to assess the level of support for affirmative action plans and to help determine if there was a relationship between mindset and attitudes toward affirmative action. The ATAAS consisted of six items rated on a 5-point Likert scale with 1 as “strongly disagree” and 5 as “strongly agree” (e.g., “I would not like to work at an organization with an affirmative action plan.”) A total score was computed (total possible score of 30). Cronbach’s alpha for the current study was .82 for ATAAS.

*Potential Components of an Affirmative Action Plan.* Selected items from the Potential Components of an Affirmative Action Plan (PCAAP) were used to assess how much knowledge the participant has about legal affirmative action policies (e.g., “An affirmative action plan would involve quotas.”). Fifteen items were chosen from the original 24 item scale as representations to best address the most common misconceptions about affirmative action plans (e.g., Plous, 1996). Of these items, the two reverse coded were eliminated. Questions asked how likely participants believed the item was to be a component of an affirmative action plan, rated on a 5 point Likert scale with 1 as very likely and 5 as very unlikely. A total score was computed (total score possible of 65). ). Cronbach’s alpha for the current study was .70 for PCAAP.

*Multiculturalism Experiences Questionnaire.* The 15-item MEQ developed by Narvaez and Hill (2010) assessed the level of exposure to and interest in multicultural experiences and activities ( $\alpha = .75$ ). This questionnaire was used as a measure of diversity through both experience and values. An example item from this scale reads, “I want to have friends from different cultural-racial-ethnic backgrounds.” Cronbach’s alpha was .79 for the present study.

*Campus Perceptions of Diversity.* A series of questions were included in order to gauge value of diversity at JMU. This measure consisted of ten items, with items rated on a Likert scale from 1-5. Items were developed by the researchers and modeled on Hurtado’s findings on

linking diversity with higher education (Hurtado, 2007). An example item is, “How valuable is it to increase diversity at JMU?” Cronbach’s alpha was .92 for the current study. Additionally included in this section of the survey was a question asking, “How do you define diversity?” Responses were coded for inclusivity of the following components of diversity: race, ethnicity, religion, cultural background, gender, sex, socio-economic status, sexual orientation, age, ideas/beliefs, ability status, political affiliation, ethnicity, and experience/background. Additionally, responses were coded if they included a statement indicating that race is not included in their definition of diversity. Finally, responses were coded as generic if they gave a response that did not include any reference to these components of diversity (i.e., “variety”). Responses were coded with a “1” for each category they fit under, and a “0” for any category that they did not in order to compare components included in the definitions. See Appendix A for a full version of the questionnaire.

*JMU Diversity Initiatives.* A series of questions were included to assess participants’ value of specific initiatives implemented by JMU to increase and maintain a more diverse student body. The researchers selected the programs included in the scale from a webpage on the James Madison University website entitled “Diversity Increasing Initiatives.”<sup>1</sup> The measure consisted of five items rated on a 1-5 Likert scale. An example item is, “Centennial Scholars Program (CSP) was established in March 2004 to lower the financial barrier that bars qualified and/or under-represented students who would not be able to enroll at a four-year institution for financial reasons.” Cronbach’s alpha was .86 for the current study.

*Mindset.* The mindset questions measured for constructs, each with two items. They are (a) fixed intelligence (e.g., “Your intelligence is something very basic about you that you can’t

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<sup>1</sup> The webpage that groups these initiatives has been changed and is no longer available.

change very much”), (b) growth intelligence (e.g., “No matter how much intelligence you have, you can change it quite a bit”), (c) fixed personality (e.g., “You are a certain kind of person, and there is not much that can be done to really change,), and growth personality (e.g., “You can always change basic things about the kind of person you are”) (Dweck, 2006). Participants answered on a five-point Likert scale, from strongly disagree (“1”) to strongly agree (“5”), with higher scores being associated with a more growth mindset. A total score was computed for intelligence and personality mindset respectively. Cronbach’s alpha for intelligence mindset was .87 for the current study. See Appendix A for a full version of the questionnaire.

*Social Desirability.* The short form of the Marlowe-Crowne Social Desirability Scale was included at the beginning of the survey as a control measure. This scale is intended to assess whether participants are answering in ways that they think are favorable to others (Reynolds, 1982). The social desirability scale consists of 11 items scored in a true-false format with 1 for false and 2 for true (e.g., “There have been times when I was quite jealous of the good fortune of others”) (Reynolds, 1982). Cronbach’s alpha was .59 for the current study. See Appendix B for a full version of the questionnaire.

*Demographics.* Participants completed a brief demographic measure, reporting their gender, age, race, major, and graduation year and semester.

## Results

### Regression Analyses

A series of hierarchical multiple regressions were performed to determine the amount of variance that could be accounted for by the predictor, control, and criterion variables. Regression analyses were used to evaluate hypotheses one through three. See Table 1 for means and standard deviations for each of the variables.

*Hypothesis 1.* A three-stage hierarchical multiple regression was conducted with ATAAS as the criterion variable. SD was entered in the first step, PCAAP and MEQ were entered in the second step, and intelligence MS and personality MS were entered in the third step. PCAAP scores ( $\beta = .30, t = 7.20, p < .01$ ) and MEQ scores ( $\beta = .12, t = 2.40, p < .05$ ) predicted significant variance in ATAAS and accounted 17% of the variance in the criterion measure. Adding the two measures of growth mindset did not contribute significantly to the prediction of attitudes toward affirmative action ( $p > .05$ ). These results suggest that mindset is not predictive of attitudes toward affirmative action, which did not support the hypothesis. More accurate knowledge and multicultural experiences predicted more positive attitudes toward affirmative action. See Table 2 for all R<sup>2</sup> and  $\beta$  values for the model.

*Hypothesis 2.* Another three-stage hierarchical multiple regression was conducted with a scale measuring importance of campus diversity increasing initiatives as the criterion variable, SD in the first step, PCAAP, MEQ and ATAAS in the second step, and intelligence MS and personality MS in the third step. SD ( $\beta = .14, t = 2.68, p < .01$ ), MEQ ( $\beta = .25, t = 4.91, p < .01$ ), and ATAAS ( $\beta = .40, t = 7.33, p < .01$ ) predicted significant variance of importance of campus diversity increasing initiatives and accounted for 23% of the variance in the criterion measure. Adding the two measures of growth mindset did not contribute significantly to the prediction of

importance of campus diversity initiatives. These results suggest mindset is not predictive of value of JMU diversity increasing initiatives, which did not support the hypothesis. Higher scores on social desirability, higher scores on the MEQ, and more positive attitudes toward affirmative action were predictive of higher value of campus diversity initiatives. See Table 3 for  $R^2$  and  $\beta$  values for the model.

*Hypothesis 3.* A final three-stage multiple regression was conducted with a scale measuring value of diversity at JMU as the criterion variable. The variables were entered in the same order as the previous analysis. Responses to MEQ ( $\beta = .40, t = 8.22, p < .01$ ), PCAAP ( $\beta = -.18, t = -3.57$ ), ATAAS ( $\beta = .33, t = 6.44$ ), Intelligence MS ( $\beta = .14, t = 2.90, p < .05$ ) were most predictive of value of diversity at JMU and accounted for 30% of the variance in the criterion measure. Adding the two measure of growth mindset accounted for an additional 2% of variance, with all variables accounting for a total of 32% of variance in the criterion measure. This supported the hypothesis which predicted that growth mindset would be predictive of higher value of campus diversity. When controlling for social desirability, knowledge of affirmative action plans, and MEQ scores, both personality and intelligence growth mindsets would be predictive of higher value of campus diversity. This suggests that intelligence mindset predicted significant variance in attitudes toward affirmative action, with more growth intelligence mindset predictive more positive attitudes of affirmative action. Additionally, results suggest less accurate knowledge of affirmative action and more multicultural experiences were predictive of the value of diversity at JMU. See Table 3 for  $R^2$  and  $\beta$  values for the model.

### **Post-hoc Analyses**

As post-hoc analyses, zero-order Pearson correlation coefficients were computed to assess the relationships between eight variables: Intelligence mindset, Personality mindset,

ATAAS, PCAAP, MEQ, JMU Diversity Initiatives, Value of diversity at JMU, and SD. See Table 4 for a table showing all correlation coefficients.

Intelligence mindset was significantly correlated with value of campus diversity ( $r = .19$ ,  $p < .01$ ) and SD ( $r = -.130$ ,  $p < .05$ ). ATAAS was significantly correlated with PCAAP ( $r = .38$ ,  $p < .01$ ), MEQ ( $r = .12$ ,  $p < .05$ ), diversity initiatives ( $r = .36$ ,  $p < .01$ ), campus diversity ( $r = .32$ ,  $p < .01$ ), and SD ( $r = -.13$ ,  $p < .05$ ). MEQ was significantly correlated with diversity initiatives ( $r = .292$ ,  $p < .01$ ) and campus diversity ( $r = .44$ ,  $p < .01$ ). Diversity initiatives and campus diversity were significantly correlated ( $r = .56$ ,  $p < .01$ ). There were no other significant correlations among variables ( $p < .05$ ).

As an additional post-hoc analysis, freshmen and sophomores were combined into a group referred to as underclassmen and juniors and seniors were combined into a group referred to as upperclassmen. A t-test revealed a marginally significant difference ( $t = 1.908$ ,  $p = .054$ ) between underclassmen ( $M = 13.84$ ,  $SD = 3.16$ ) and upperclassmen ( $M = 14.59$ ,  $SD = 3.47$ ) on intelligence mindset. There was no significant difference between underclassmen ( $M = 13.68$ ,  $SD = 3.06$ ) and upperclassmen ( $M = 13.71$ ,  $SD = 3.02$ ) on personality mindset ( $t = .086$ ,  $p > .05$ ).

### **Definitions of Diversity**

Of the 328 total responses to the question “How do you define diversity?” 28.9% were coded as generic, and therefore did not include any of the components of diversity. Of the remaining responses, 25.0% referenced ideas or beliefs, 22.1% referenced race, 20.1% referenced experience or background, 19.0% referenced cultural background, 16.1% referenced ethnicity, 9.4% referenced gender, 9.4% referenced religion, 6.8% referenced socio-economic status, 5.7% referenced sexual orientation, 3.9% referenced age, 1.6% referenced biological sex, 1.0%

referenced political affiliation, and .5% referenced ability status. Of the sample, 5.2% specifically stated that diversity was not race.

## Discussion

Growth mindset was expected to be predictive of attitudes toward affirmative action, value of JMU diversity increasing initiatives, and value of diversity at JMU. Results indicated that the mindset variables (intelligence and personality) were not predictive of most of the variables, with the exception of intelligence mindset significantly predicting value of campus diversity. Post-hoc analyses also revealed a significant correlation between intelligence mindset and value of campus diversity. The belief that intelligence is not a fixed characteristic and may be cultivated through challenges and experiences is related to value for an educational environment which incorporates people from diverse backgrounds, providing more opportunities for growth through exposure to different experiences.

The amount of juniors and seniors who completed the entire survey was much smaller than the amount of freshman and sophomores, due to convenience sampling. This could impact scores of mindset, as students who have had more experience in a university setting could have been exposed to more experiences that cultivate a growth mindset. The t-test revealing a marginally significant difference between upper and lower classmen on intelligence mindset scores suggests that there may be a difference in students with differing amounts of college experience. Future studies incorporating more participants with junior and senior class standing could explore this possibility. Additionally, many of the junior and senior students who participated did not complete the entire survey. This could potentially be related to motivational differences, juniors and seniors were contacted through bulk-mail and not offered participation points or monetary compensation. It is important for future research to have greater amount of participants completing the entire survey. Offering some form of incentive could help to motivate participants to complete the entire survey.

Although mindset was not predictive of attitudes towards affirmative action or value of specific diversity initiatives, the current study still provided some notable results that provide support for previous research. Results indicated having more accurate knowledge of an affirmative action plan was the best predictor of positive attitudes toward affirmative action, which supports previous research (Kravitz, 1995; Plous, 1996). This suggests that simply knowing more can foster better attitudes, which is especially important for settings with very homogeneous populations where interactions with diverse groups is uncommon. Additionally, the results suggest that having more diverse experiences can help promote better attitudes toward affirmative action policies (Aberson, 2007). Therefore, institutions that wish to incorporate affirmative action policies should provide as many opportunities for immersion in diverse groups and experiences as possible in order to promote positive attitudes towards initiatives.

Social desirability, MEQ scores, and attitudes toward affirmative action policies were most predictive of reported importance of diversity initiatives specific to the participants' university, suggesting that having diverse experiences may promote higher value of the importance of initiatives aimed at providing resources to recruit and retain individuals from diverse backgrounds (Aberson, 2007). Additionally, having a positive attitude toward affirmative action may help cultivate a higher sense of importance toward these initiatives. Overall, scores on the PCAAP were very low, with the mean score being 19.76 out a total possible 35, suggesting that most students do not have accurate ideas about what is included in an affirmative action plan.

Knowledge, multicultural experiences, and intelligence mindset were most predictive of the value of diversity at JMU, which suggests that having more accurate knowledge about affirmative action policies could help to increase the value placed on increasing diversity in

student body and faculty in terms of race and ethnicity, gender, sexual orientation, age, and socio-economic status. Having more diverse experiences could make the lack of diversity at JMU more salient to participant's with these experiences, thus increasing their value. Having a more growth mindset in terms of intelligence could also predict the value of diversity. This could be related to their experiences as well, as shown by Narvaez and Hill's (2010) results that found a relationship between mindset and multicultural experiences. Students with a growth mindset may be more open to and place higher value on diverse and multicultural experiences.

Race and ethnicity were the most frequently included components of diversity, with a combined total of 38.2% of responses making reference to either race or ethnicity. This supports previous research in which participants most frequently defined diversity in terms of race and ethnicity (Greene et al., 2009). However, overall the responses including race and/or ethnicity were very low. Furthermore, a surprising amount of responses included the phrase “not race” (about 5%). From these responses, it seems that many students do not include race or ethnicity in their definitions of diversity, which contradicts previous research. The next most common responses made reference to either ideas and beliefs or experience and background. Cultural background was the next most common response. The other components followed with much smaller percentages of responses mentioning them. Less than 5% of participants referred to age, political affiliation, and ability status. This suggests that many participants did not have inclusive definitions of diversity. Students can benefit from many different aspects of diversity. For example, diversity in age provides perspectives and viewpoints from others with differing life experiences. However, results suggest that many students do not include many of these categories in what they define as diversity.

Additionally, it is noteworthy to mention some events occurring at the university at the time that the survey was completed, specifically during the second wave of data collection with the survey being emailed to junior and senior students. During this time, an article was posted on a blog maintained by JMU students focused on feminist discourse. One particular blog post was published by an author of the blog recounting her experiences of racial discrimination as a student ambassador at JMU, and emphasized the lack of racial diversity at the university (Wiltz, 2014). Anecdotally, the article gained much publicity throughout the university and was met with a lot of backlash from the student population. Other articles were published and responses on social media sites were posted defending the university and its levels of diversity, many making reference to other components of diversity. Additionally, many responses included reference to diversity in thoughts, experiences, as an important factor of diversity. Results of the definitions of diversity reflect this as well, with large amounts of the definitions including reference to thoughts and ideas or background and experience. This could also be related to the amount of responses that specifically stated race was not a component included in their definition of diversity.

Scores on the social desirability measure were significant in predicting campus diversity initiatives, and were correlated with intelligence mindset and attitudes toward affirmative action. Social desirability bias is a common concern with research involving self-report and questionnaires, and has been shown to specifically affect measures of self-reported behaviors (Mensch & Kandel, 1988), personality (Mick, 1996), and attitudes (Fisher, 1993). This can negatively impact construct validity. Thus, further research is needed to determine the extent of the effect of this bias. This study used the short version of the Marlowe-Crowne Social Desirability Scale (Reynolds, 1982). Decreasing items in a measure can sometimes decrease

reliability (Haghighat, 2007), so future research should consider using a longer or the full-length scale.

As previously stated, mindset was not predictive of attitudes toward affirmative action. The inconsistency between positive attitudes toward affirmative action and value of diversity in this study could potentially be due to a negative stigma attached to the term “affirmative action.” While students with a growth mindset seem to value diversity in their experience at JMU, it does not seem that there is any conclusive attitude among students about affirmative action. However, more accurate understanding about affirmative action policies was related to positive attitudes. Future research could explore whether increasing knowledge about affirmative action policies impacts attitudes toward affirmative action for students with a growth mindset.

Though personality mindset did not appear to be related to any other variables, which does not support previous research, intelligence mindset was significantly predictive of value of diversity. This is a noteworthy finding as it is applicable to the population from which the sample for this study was taken, which consisted of undergraduate students. Students are met with intellectual challenges and are expected to develop and utilize problem solving and critical thinking skills throughout their undergraduate career. These experiences are similar to those associated with intelligence growth mindset. Students may see personal qualities as being more fixed, which was shown by the difference in mean scores between intelligence and personality mindset (see Table 1). Future research could investigate why students showed more growth mindset in regard to intelligence compared to personality.

The current study suggests that individuals with a growth intelligence mindset report higher value of diversity in their experience at JMU. Thus, cultivating a growth mindset through rigorous academic activities could help to increase the value of diversity among other students at

JMU. It should be noted, however, that the third regression analysis with value of diversity at JMU as the predictor, adding mindset scores only contributed an additional 2%  $R^2$ . Though this was statistically significant, the practical significance of this could be limited. Adding the other variables as predictors (MEQ, ATAAS, PCAAP, and importance of diversity increasing initiatives, diversity accounted for about 30% of the change in  $R^2$ . Thus, it appears that these variables are more practically significant in predicting value of diversity at JMU. If administrators wish to foster more value towards diversity at the university and positive perceptions of affirmative action policies, then it may be more beneficial to provide more multicultural experiences and knowledge about affirmative action policies than it is to focus on cultivating a growth mindset in students. However, cultivating a growth mindset is still related to many other benefits (Dweck, 2006), so interventions aimed at increasing growth mindset could still be beneficial to student development. If such interventions do occur, then future research could further explore the practical significance of growth mindset on attitudes toward affirmative action and diversity.

## Tables

Table 1

*Means and Standard Deviations for Study Variables*

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	<i>M</i>	<i>SD</i>
Social Desirability	17.11	2.30
MEQ	48.78	7.63
PCAAP	19.76	5.22
ATAAS	19.69	3.78
JMU Diversity	32.19	7.81
Diversity Initiatives	19.28	3.77
Intelligence MS	14.07	3.27
Personality MS	13.69	3.04

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Table 2

*Hierarchical Multiple Regression Analysis Predicting Attitudes toward Affirmative Action*

	R <sup>2</sup>	β
Step 1	.017	
Social Desirability		-.131*
Step 2	.168	
Social Desirability		-.101
MEQ		.122*
PCAAP		.371**
Step 3	.173	
Social Desirability		-.094
MEQ		.114*
PCAAP		.369**
Int. MS		.048
Pers. MS		.042

\*\*  $p < .01$  level.

\*  $p < .05$  level.

Table 3

*Hierarchical Multiple Regression Analyses Predicting Value of Campus Diversity and Importance of University Diversity Increasing Initiatives*

	Diversity Increasing Initiatives		Value of Diversity	
	R <sup>2</sup>	β	R <sup>2</sup>	β
Step 1	.073		.002	
SD		.073		-.043
Step 2	.22688		.295**	
Social Desirability		.129*		-.010
MEQ		.247**		.397**
PCAAP		-.137*		-.184**
ATAAS		.399**		.342**
Step 3	.230		.325*	
Social Desirability		.136**		.025
MEQ		.241**		.391**
PCAAP		-.136*		-.181**
ATAAS		.395**		.332**
Int. MS		.028		.144**
Pers. MS		.049		-.229

\*\*  $p < .01$  level.

\*  $p < .05$  level.

Table 4

*Correlations Among Study Variables*

	1	2	3	4	5	6	7	8
1. Intelligence Mindset	___							
2. Personality Mindset	-.025	___						
3. ATAAS	.090	-.050	___					
4. PCAAPSum	.058	-.050	.400**	___				
5. MEQ	.074	.059	.123*	.039	___			
6. Diversity Initiatives	.086	.030	.361**	.083	.292**	___		
7. JMU Diversity	.188**	.011	.319**	.031	.444**	.562**	___	
8. Social Desirability	-.130*	.005	-.127*	-.046	-.058	.072	-.043	___

\*\*  $p < .01$  level.

\*  $p < .05$  level.

## Appendix

### Campus Diversity Questions

1. How would you define “diversity”?\*
2. How would you rate JMU’s level of diversity?
3. How important is it to increase diversity at JMU?
4. How important is it to have a diverse student body at JMU?
5. How important is it to have a diverse faculty at JMU?
6. How important is it to have coursework that emphasizes an understanding of what it means to live in a diverse society?
7. How valuable would you rate a diverse range of student organizations at JMU?
8. How important is it to increase racial/ethnic diversity at JMU?
9. How important is it to increase gender diversity at JMU?
10. How important is it to increase age diversity at JMU?
11. How important is it to increase socio-economic backgrounds at JMU?

### JMU Diversity Increasing Initiatives Questions:

1. The Centennial Scholars Program (CSP) was established in March 2004 to lower the financial barrier that bars qualified and/or under-represented students who would not be able to enroll at a four-year institution for financial reasons.  
  
How would you rate the value of this initiative at JMU?
2. The Innovative Diversity Efforts Award Program is run by the Office of the Special Assistant to the President, who put out an annual call for nominations to be made for individuals and groups/departments that have an impact on diversity in the JMU community.  
  
How would you rate the value this initiative at JMU?

3. The goal of the Innovative Diversity Efforts Award is to provide funds to students, faculty and staff members who want to test innovative ideas and/or develop sustainable activities and projects that would enrich the diversity of JMU. Individuals, departments, units or groups submit proposals for activities designed to enhance diversity in its broadest terms including socioeconomic status and background, ethnicity, religion, sexual orientation, national origin, gender, age, disability, veteran/military service status, or any combination.

How would you rate the value of this initiative at JMU?

4. The Professor in Residence program is an initiative from the faculty senate, is an outreach endeavor to promote the educational attainment and college aspirations of Virginia high and middle school students.

How would you rate the value of this initiative at JMU?

5. The Preparing Future Faculty program is a program that transforms the way aspiring faculty members plan their academic careers. The program provides doctoral students and some master's or postdoctoral students, the opportunity to observe and experience faculty responsibilities at a range of academic institutions, each having different missions, student bodies, and expectations for faculty members.

How would you rate the value of this initiative at JMU?

\* *Open-ended question.*

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