

Cultural and Socioeconomic Differences in Academic Motivation and Achievement: A Self-Deterministic Approach

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Abstract

The purpose of this study was to examine academic motivation and achievement in relation to diverse cultural groups and socioeconomic levels. A total of 363 undergraduate students from four cultural groups completed the Academic Motivation Scale (AMS), Hollingshead Index of Social Position, and a demographic form. Results showed both culture and SES play a role in students' achievement and motivation. Culture contributes significantly to overall motivation, as well as to particular types of motivation, and does so even when accounting for socioeconomic status. However, this study did not find evidence that SES alone effected overall motivation.

Introduction

"Academic motivation" is the term associated with motivation within an academic setting; academic motivation can create confidence in one's ability, along with a desire to learn and value education (Deci, Vallerand, Pelletier, & Ryan, 1991). Deci and Ryan's (1985) Self-Determination Theory provides a comprehensive and multidimensional outlook of motivation, accounting for motivation regulation, energization, and social context. Based on this theory, motivation for a specific behavior is regulated by either internal choice (i.e., self-determined or intentional) or external force (i.e., non-self-determined or nonintentional). When behavior is self-determined, the locus of causality is perceived to be internal, and when others control behavior, the locus of causality is perceived to be external. Deci and Ryan (1985) divided motivation into three categories: intrinsic motivation, extrinsic motivation, and amotivation. Intrinsic motivation is the most self-determined and amotivation the least.

Intrinsic motivation leads individuals to engage in behaviors that increase their views of competency and self-determination (Deci, 1975). Behaviors that are intrinsically motivated derive from personal interest and satisfaction, and the performance of activities is voluntarily. Deci and Ryan (1985) separated intrinsic motivation into three categories, including intrinsic motivation to accomplish (IMTA), intrinsic motivation to experience stimulation (IMTES), and intrinsic motivation to know (IMTK). IMTA results from satisfaction of creating or achieving; IMTES stems from feelings generated from involvement with a stimulus; and IMTK is from the enjoyment of the acquisition of knowledge. These three categories are equivalent in regard to internalization and self-determination (Deci et al., 1991).

On the scale of self-determination, extrinsic motivation (i.e., motivation derived from rewards), is one step below intrinsic motivation (Deci, 1980). Deci and Ryan (1985) divided extrinsic motivation into four components of regulation: integrated, identified, introjected, and external. According to Deci et al. (1991), integrated regulation represents an individual's values or goals and is the most advanced form of extrinsic motivation. With integrated regulation, engagement in a specific behavior is fulfilled willingly as an expression of internal goals. The next level of internalization is identified regulation; at this level the person retains a sense of self-determination but is influenced by extrinsic factors. With introjected regulation, the person behaves according to a set of regulations based on values but lacks a sense that the behavior is self-determined. The least advanced form of extrinsic motivation is external regulation, which is regulated by external rewards or avoidance of negative outcomes (Deci et al., 1991).

Amotivation is a lack of motivation. Individuals who are amotivated do not see a link between behaviors and outcomes (Deci & Ryan, 1985). As a result, individuals feel as if they cannot achieve a desired goal, and their actions are void of intention, purpose, or logic. Learned helplessness, stemming from a perceived lack of control, is evident in amotivated individuals.

Within the educational setting, academic performance is influenced by the basic needs of competency, relatedness, and autonomy (Deci et al., 1991). Social contexts that sustain these basic needs enhance self-determined motivation; contexts that do not satisfy the basic needs lead to decreased motivation and inferior academic performance. Teachers, peers, or family members can support the basic needs. Thus, teacher or family involvement and acceptance of peers bolster the basic need of relatedness, which, in turn, enhances academic motivation. Positive feedback of a student's performance supports competency, and, as a result, increases academic motivation.

In order to be motivated, students must value their education. Thus, values are a fundamental element of academic motivation (Deci et al., 1991). The key to value acquisition is freedom of choice. As the value of an activity becomes internalized, students are more willing to engage in uninteresting assignments and requirements. Deci et al. found internalization to be enhanced when students comprehended the personal significance of the assignment, were given choices, and were shown acceptance for their views. Internalization and values are often influenced by one's culture, which encompasses the learned and valued ideals, skills, and traditions from an individual's background. The interpretations and practices within a culture can support, hinder, or be unrelated to academic motivation and achievement.

The literature shows marked differences between cultural groups and their GPA. European American college students report significantly higher GPAs than African American, Hispanic American, and Asian American college students (Allen, 1999; Strage, 2000). Cokley (2003) also found that European Americans had significantly higher GPAs; additionally, he

examined cultural differences in academic motivation across two universities and found significant differences between the two universities regarding academic motivation for African American students. African Americans attending a historically black university reported higher scores across the three types of intrinsic motivation than did African American students attending a predominately European American university. Conversely, the African American students at the predominately European American university reported higher extrinsic motivation scores; these African American students also reported higher extrinsic motivations scores and similar intrinsic motivation scores when compared to their European American counterparts. There were no significant differences between the two groups on academic motivation.

Cokley's (2003) findings are similar to past research. Cokley, Bernard, Cunningham, and Motoike (2001) also found no significant differences between the levels of intrinsic motivation among African Americans and European Americans at the university level. However, unlike the study conducted in 2003, Cokley et al. found no differences between African Americans and European Americans in two of the extrinsic scales: identified regulation or introjected regulation. In a related study, Allen (1999) found significant differences in minority and non-minority groups' persistence. European Americans were more likely to complete college than members of minority groups. Differing motivational levels had no effect on European Americans' persistence, but motivation significantly impacted persistence in minority groups. Greater academic motivation in minority groups increased the likelihood of persistence.

Research has shown African Americans and Hispanic Americans are more likely to drop out of college than European Americans; African Americans and Hispanic Americans are also less likely than European Americans to enroll in college in the first place (Hauser & Anderson, 1991; Justiz, 1995; Maguire, 1986; Wharton, 1986). The number of African Americans and Hispanic Americans in the United States continues to increase, but their representation in higher education remains relatively unchanged. In the past 10 years, the rates of college enrollment for African Americans and Hispanic Americans have slightly increased; despite this increase, the rates of graduation among African Americans and Hispanic Americans remain unchanged (Saenz, 2004; Wilds & Wilson, 1998).

What leads to the stagnation of graduation rates for African Americans and Hispanic Americans? Hauser and Anderson (1991) explained this phenomenon by pointing to lower income levels in minority families, which place minorities at a disadvantage. Pintrich and Schunk (2002) claimed low socioeconomic status (SES) does not cause decreased academic motivation, but the factors tied with SES negatively impact academic motivation. In a meta-analysis of 13 studies from 1959 to 1980, Cooper and Tom (1984) evaluated different cultural groups and different levels of SES in regard to academic motivation. Results were the same for both African Americans and European Americans; greater desire for achievement correlated with increased SES. Therefore, according to Cooper and Tom, SES is a better predictor of academic motivation than culture. Current research also shows that socioeconomic factors play a strong role in academic motivation (Byrnes, 2003; Koutsoulis & Campbell, 2001; Wharton, 1986).

Koutsoulis and Campbell (2001) found significant differences between various SES groups. Families with higher SES provided children with greater psychological support and less pressure than families of lower SES; parents of higher SES levels encouraged their children to attend college and to reach for superior careers, thus influencing their educational aspirations. Faria (2004) also found significant results for socioeconomic factors. Students in high socioeconomic categories felt a greater sense of internal control over success, intellectual ability, and memory in comparison to students in low socioeconomic categories. Faria concluded perceptions of internal control directly impact achievement. However, Byrnes (2003) found no significant difference between cultural groups when SES, learning opportunities, and perceived motivational abilities were controlled. Byrnes emphasized the importance of background variables as a source of differences across cultures in academic motivation and ability, rather than differences between cultures. Strage's (2000) also found no differences between culture and the effects of family background on academic motivation and college integration, although socioeconomic levels were significantly positively correlated with GPA.

The present study evaluated an under-examined area of research: academic motivation and achievement for multiple cultural groups and varying socioeconomic levels (Cokley et al., 2001; Pintrich & Schunk, 2001). The majority of research on academic motivation has focused on European Americans and one other culture rather than a comparison of multiple cultural groups and ignored socioeconomic differences. The following hypotheses were tested:

1. A significant difference exists between academic motivation based on cultural background after accounting for socioeconomic levels.
2. A significant difference exists between academic motivation scores of individuals based on SES.
3. A significant difference exists between SES, number of failed classes, and GPA based on cultural background.
4. A significant difference exists between the number of failed classes and GPA based on SES.

Method

Participants

Participants included 363 undergraduate students from a university in the southwestern United States. European Americans ($n = 226$) comprised the majority of participants, followed by African Americans ($n = 80$), Hispanic Americans ($n = 35$), and Asian Americans ($n = 22$). The kurtosis (.940) indicated a normal distribution of data for cultural groups. Participants were categorized based on their grade classification: seniors ($n = 112$), juniors ($n = 142$), sophomores ($n = 69$), and freshmen ($n = 40$). The mean GPA of participants was 3.142 ($SD = .5749$). Most students had not failed a class ($n = 246$); some students had failed one ($n = 55$), two ($n = 29$), three ($n = 15$), four ($n = 6$), five ($n = 4$), or more classes ($n = 8$). The majority of participants were women ($n = 246$), compared to the number of men ($n = 117$). Participants' ages ranged from 17 years to 55 years ($M = 23.86$, $SD = 6.873$). Educational funding for the majority of students was provided by financial aid/loans/grants ($n = 171$), followed by parents ($n = 84$), scholarships ($n = 58$), and self ($n = 50$). Based on the Hollingshead Index, most participants were in the middle ($n = 124$) and upper-middle categories ($n = 101$).

Materials

The Academic Motivation Scale (AMS) (Vallerand, Pelletier, Blais, Briere, Senecal, & Valieres, 1992) is a 28-item self-report, which determines college students' motivational levels for academic success. This scale was based on Deci and Ryan's (1985) three types of motivation. The AMS is comprised of seven sub-scales, including three scales for intrinsic motivation (i.e., IMTK, IMTA, and IMTEX), three scales for extrinsic motivation (i.e., external regulation, introjected regulation, and identified regulation), and one for amotivation. Each scale consists of four items. Respondents rate the items on a Likert scale ranging from one (not at all true) to seven (completely true). The validity and reliability of this scale have been noted in previous research; results show high internal validity ($\alpha = .81$) and test-retest reliability ($r = .79$).

The Hollingshead Two-Factor Index of Social Status (Hollingshead, 1957) is a scale to evaluate SES. This scale measures social status based on occupation and education. Professions and educational levels are divided into groups on a seven point scale. The Hollingshead Two-Factor Index of Social Status has high reliability and validity (Miller & Salkind, 2002).

Demographic data was collected, including age, gender, location of birth, cultural group, GPA, number of classes failed, educational classification, method of payment for school, parent's education, and parent's occupation.

Procedure

Professors were contacted prior to data collection and a time to collect the data was set up during regular classroom hours. Before admission of the scales, students were reminded that participation was voluntary and responses were confidential. Each survey was reviewed to ensure that the responses were properly documented. Packets with incomplete information were discarded, and surveys in which individuals classified themselves as belonging to the cultural category of "other" were not used in this study.

Results

A multivariate analysis of covariance (MANCOVA) was conducted on the effects of cultural group memberships on motivation. The independent variable was group membership and the dependent variables were IMTK, IMTA, IMTE, EMID, EMIN, EMEX, and AM. The total N = 363. There were no univariate or multivariate outliers. A square root transformation was used to correct for skewness. Assumptions of linearity and homogeneity were met (See Table 1 for Descriptive Statistics).

Table 1
Descriptive Statistics

Group	Mean	SD	N
European American	2.4425	.99722	226
African American	3.1000	1.09775	80
Hispanic American	3.4857	1.17251	35
Asian American	2.2273	1.06600	22
Total	2.6749	1.10704	363

Statistically significant differences were found among the four groups on the dependent measures when controlling for SES status, Wilks' lambda = .890, $F(21, 1011) = 1.99$, $p = .005$. The results reflected a small to moderate association between group membership and the combined DVs, partial eta squared = .04. Analysis of variance (ANOVA) on the dependent variables was conducted as a follow-up to the MANCOVA. Using the Bonferroni method, each ANOVA was tested at the .25 level. There was a statistically significant difference between groups on IMTE, $F(3, 358) = 4.897$, $p = .002$ and on EMEX, $F(3, 358) = 5.904$, $p = .001$. Partial eta squared = .04 and .05 respectively indicating a moderate level of significance (See Table 2). Post hoc analysis indicated there were significant differences between European Americans and Asian Americans and between African Americans and Asian Americans on IMTE (MD = -4.465 and -3.383 respectively). There were also significant differences between European Americans and African Americans (MD = -2.774) and between European Americans and Asian Americans on EMEX (MD = -2.343).

Table 2
Analysis of Variance for Culture

Motivation	df	F	partial eta ²	p
IMTK	3	2.319	.019	.075
IMTA	3	2.598	.021	.052
IMTE	3	4.918	.040	.002
EMID	3	.617	.005	.605
EMIN	3	1.617	.014	.173
EMEX	3	5.963	.048	.001
AM	3	.685	.006	.562
error	358			

A multivariate analysis of variance (MANOVA) was conducted on the effects of membership in a cultural group on GPA, number of classes failed, and socioeconomic status (SES). The independent variable was group membership and the dependent variables were GPA, number of failed classes, and SES. Statistically significant differences were found among the four groups on the dependent measures, Wilks' lambda = .773, $F(9, 868) = 10.776$, $p < .001$. The results reflected a moderate association between group membership and the combined DVs, partial eta squared = .082. Analysis of variance (ANOVA) on the dependent variables was conducted as a follow-up to the MANOVA. Using the Bonferroni method, each ANOVA was tested at the .25 level. There was a significant difference between the groups on SES and GPA, $F(3,359) = 16.164$, $p < .001$, partial eta squared = .122 and $F(3,359) = 18.543$, $p < .001$, partial eta squared = .134 respectively (See Table 3). Post hoc analysis showed a significant difference between European Americans and African Americans (MD = -.698) and Hispanic Americans (MD = -1.043) on SES. There was also a significant difference between European Americans and African Americans (MD = .454), Hispanic Americans (MD = .203), and Asian Americans (MD = -.249) on GPA.

Table 3
Analysis of Variance for Culture

Group	df	F	partial eta ²	p
GPA	3	15.230	.113	<.001
Classes Failed	3	.324	.003	.808
SES	3	16.614	.122	<.001
error	359			

A multivariate analysis of variance (MANOVA) was also conducted on the effects of membership in a SES group on GPA and number of classes failed. The independent variable was SES membership and the dependent variables were GPA and number of failed classes. Statistically significant differences were found among the five groups on the dependent measures, Wilks' lambda = .945, $F(8, 714) = 2.57$, $p = .009$. The results reflected a small association between group membership and the combined DVs, partial eta squared = .028. Analysis of variance (ANOVA) on the dependent variables was conducted as a follow-up to the MANOVA. Using the Bonferroni method, each ANOVA was tested at the .25 level. There was a significant difference between the groups on GPA, $F(4, 358) = 4.238$, $p = .002$, partial eta squared = .045. Post hoc analysis showed a significant difference between the highest level of SES and the two lowest levels on GPA, $MD = .234$ and $MD = .423$ respectively (See Table 4).

Table 4
Analysis of Variance for SES

Group	df	F	partial eta ²	p
GPA	4	4.070	.043	.003
Classes failed	4	1.527	.017	.194
error	358			

Discussion

The purpose of this study was to evaluate academic motivation and achievement in relation to diverse cultures and varying levels of SES. Other factors were examined to their role in impacting academic motivation and achievement. Results show significant differences and relationships exist. Multivariate analysis of covariance indicated that statistical significance did exist between the cultural groups when the variance caused by socioeconomic status was removed. European Americans and African Americans tended to report lower levels of internal motivation to know than did Asian Americans, while European Americans reported lower levels of external extrinsic motivation than did Asian Americans. Like previous studies previous (Byrnes, 2003), this study found significant differences in cultural group's reported motivation when accounting for SES, but did not support past research that SES is a better predictor of academic motivation than culture (Koutsoulis & Campbell, 2001; Wharton, 1986).

Although there were significant differences overall in motivation between groups, certain types of motivation were more influential for some groups. The results support previous research

on academic motivation that did not account for the SES of cultural groups, which showed that African Americans tended to score higher than European Americans on the extrinsic subscale of externally regulated motivation (Cokely et al., 2001; Cokley, 2003). However, in this study, African Americans reported higher scores for external extrinsic motivation, which may indicate that SES is an important factor in other types of extrinsic motivation.

The second hypothesis, that a significant difference existed between academic motivation scores of individuals in higher socioeconomic levels compared to individuals of lower socioeconomic levels, was not supported by this study. Hypothesis three stated that a significant difference existed between the cultural groups regarding SES, number of failed classes, and GPA. The results showed that European Americans reported higher SES than African Americans and Asian Americans. European Americans also reported higher GPAs than did African Americans and Hispanic Americans, but lower GPAs than did Asian Americans.

The findings regarding significant differences for culture and SES could explain why African Americans and Hispanic Americans are more likely to drop out of college, less likely to enroll in college, and less likely to graduate (Hauser & Anderson, 1991; Justiz, 1995; Maguire, 1986; Wharton, 1986). Hauser and Anderson attributed minorities' disadvantage to SES factors. Even though an education increases one's job opportunities, and, thus, promotes the advancement one from low SES to a higher level of SES, college requires money.

The fourth hypothesis stated that a significant difference existed between the means of SES groups with GPA. Results showed that students in the highest SES group reported higher GPAs than did students in the lowest two SES groups. These results confirm past research, as Strage (2000) found a significant correlation between SES and GPA. Koutsoulis and Campbell (2001) established a positive correlation between SES and educational aspirations. Hauser and Anderson (1991) showed that a desire for achievement was related to higher levels of SES. Faria (2004) found that higher levels of SES were related to levels of academic achievement.

Overall, this study found that both culture and SES play a role in students' achievement and motivation. Culture seems to contribute significantly to overall motivation and does so even when accounting for socioeconomic status. However, the results did not find evidence that SES alone effected overall motivation. Future research needs to further evaluate the effect of SES and culture as interaction variables on academic motivation. The need for further research in this area is underscored by the findings that culture is associated with SES and GPAs. As universities struggle to recruit and retain students, factors that influence students' abilities to matriculate through a program and graduate should be of paramount interest to faculty and administration alike. Clearly the impact of culture, socioeconomic status, and academic motivation needs to be better understood if we are to improve students' academic success.

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