Current Issues in Education
Mary Lou Fulton Teachers College • Arizona State University
PO Box 37100, Phoenix, AZ 85069, USA

Volume 19, Issue 2 May 23, 2016 ISSN 1099-839X

The Inequality of Self-Efficacy between Junior College and Traditional University Students

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Abstract:
Higher education research highlights the difficulties students face when transitioning from a junior college to a traditional university. This study took place in the Midwestern United States, exploring a gap between junior college vs. traditional university students' academic self-efficacy beliefs. This study also controlled for SES, the effects of the student role-identity, and academic performance on academic self-efficacy. Results found that when junior college students were compared to a group of traditional university peers, junior college students experienced lower academic self-efficacy beliefs, despite having higher overall grade point averages. Additionally, junior college students reported that their student role-identity was less important to them compared to students at the large public university. Findings suggest the potential for structural disadvantage at the institutional level of higher education, mirroring inequalities found in society at large.

Keywords: Higher education, inequality, self-efficacy, junior college, traditional university

APA-Style Citation:
Morris, R. C. (2016). The inequality of self-efficacy between junior college and traditional university students. *Current Issues in Education*, *19*(2). Retrieved from http://cie.asu.edu/ojs/index.php/cieatasu/article/view/1565

Accepted: March 25th, 2016

A primary mission of the junior college system in the United States is to prepare students to transfer to baccalaureate granting institutions (Bragg, 2001). Research finds that students have a difficult time transitioning from the junior college setting to a traditional university (Alicia, John, & Melguizo, 2008; Townsend, McNearny, & Arnold, 1993). Important early studies by Clark (1960, 1980) articulated these challenges. Building on this work, contemporary research often focuses on the disadvantaged backgrounds junior college students come from (Cohen & Brawer, 2003; Niu & Tienda, 2013). Despite a strong program of research measuring predictors of college attendance and completion, few studies examine social psychological inequality at the institutional level of higher education (Aronson, Blanton, & Cooper, 1995). This study explores differences in self-efficacy beliefs between a group of junior college and traditional university students attending higher education in the same Midwestern county in the United States.

Structural inequality is defined as one group of people experiencing marginalization as a result of labels, stigmas, or categorization occurring relative to other people within a given social setting (Royce, 2009). For the purposes of this study, structural inequality is measured as a college student's experience of feeling empowered by the intuition of higher education they are attending. Measuring structural inequality in this way sensitizes the results to the contextual factors—roles and attached self-meanings—leading to the observed social psychological differences students experience in each academic setting. Essentially, this study asks if there are demonstrable difference in self-efficacy beliefs between junior college and traditional university students when controlling for well-established factors influencing college performance such as age, race, socioeconomic status (SES), sex, and prior and current academic performance (Krumrei-Mancuso, Newton, Kim, & Wilcox, 2013).

Self-efficacy is defined as a person's belief about their ability to exercise control over self and their environment (Bandura, 1997). Self-efficacy operates at an omnibus level of self-belief, called global or general self-efficacy. Self-efficacy also operates at a situational or micro level, called domain specific self-efficacy (Bong & Skaalvik, 2003; Gecas, 1989). This research considers both levels of self-efficacy; but, given the comparison between two different academic settings, this study is primarily focused on differences in domain (student) specific self-efficacy beliefs (Multon, Brown, & Lent, 1991).

Self-efficacy beliefs initially develop during childhood. However, self-efficacy beliefs are not static and continue to be adapted across multiple dimensions of the life-course (Bandura, Barbaranelli, Caprara, & Pastorelli, 2001); and because a person's self-efficacy beliefs are subject to change they are an ongoing mechanism of behavior (Britner & Pajares, 2006). An important factor influencing access to and success in higher education is a self-selection process involving these self-efficacy beliefs, called "matching" (Bandura et al., 2001; Choi, 2005). There are two parts to matching. First, students' beliefs about their ability to be successful in a given academic environment; and second, students' beliefs about institutional restraint or empowerment (Putwain, Sander, & Larkin, 2012). The sum of this self-efficacy belief is central to the decision to attend (Reay, David, & Ball, 2005) and remain in a higher education program (Mattern & Shaw, 2010).

Matching also includes a filtering process based on "social class and ethnic differences" (Ball, Davies, David, & Reay, 2002, p. 58). Students from disadvantaged backgrounds attending higher education programs often start college with a diminished sense of personal efficacy, irrespective of past performance (Chang, Eagan, Lin, & Hurtado, 2011). Pajares (1996) notes that diminished self-efficacy beliefs can overpower past performance in determining future performance (cf. Caprara, Vecchione, Alessandri, Gerbino, & Barbaranelli, 2011):

> Students with similar previous performance attainments and cognitive skills may differ in subsequent performance as a result of differing self-efficacy perceptions because these perceptions mediate between prior attainments and academic performances. (Pajares, 1996, p. 554)

Bandura (1986) links self-efficacy beliefs to behavior by pointing out that people think about the implications and possibilities of their actions; people guide their behavior using forethought. Bandura's emphasis on anticipation takes root in the different roles (e.g., student, employee, and friend) people occupy. Roles get defined by expectations, locating people within the immediate social structure (Turner, 1978). People consider their actions using these expectations, anticipating their ability to be a causal agent in a given role. For instance, the role

of "student" gets defined by a position within the academic setting and students interact with a wide variety of others (e.g., peers, teachers, administration). Interaction with an instructor carries a set of expectations differing from expectations for interacting with peers. The point is, a student's self-efficacy (actual and imagined) changes based on the anticipated expectations of the student role within the environment defining the role (cf. Ajzen, 1991).

Self-efficacy beliefs link directly to role-positions through the identities that are associated with a role. As people become more or less committed to a given role, a self-meaning known as an *identity* develops based on the role (Stryker & Serpe, 1994). Consider the example of a person with a student role and a recreational role, for instance an amateur competitive athlete. Within the student role domain, the person may have low self-efficacy beliefs as a student and yet as an athlete possess high self-efficacy beliefs. What accounts for the difference? Part of the answer comes from the student engaging in the anticipatory process Bandura mentions. The student engages in matching by asking: as a student do my actions have power? As the student considers their personal and environmental ability to be agentive they learn that their actions lack power. On the other hand, when this person considers their ability relative to other athletes their actions have power (both anticipatorily and behaviorally).

Another important piece of the answer comes from the importance of the student-role versus athlete-role within the individual's self-concept. Distinct role-identities have varying importance (Morris, 2012, 2013); and, role-identities with greater self-efficacy tend to be more central to the self-concept (Gecas & Schwalbe, 1983). As centrality increases the identity increasingly defines who the person is and how they will behave (Stryker & Serpe, 1994).

Self-efficacy is a mixture between internalized beliefs about agentive ability related to a particular role-identity *and* the social structural expectations that shape those beliefs (Bandura, 1986). In this view, self-efficacy is not purely an internal psychological process. The student role-identity is defined by role expectations that are sustained within a given academic environment and academic environments differ in their ability to empower students. Therefore, academic self-efficacy beliefs are a product of anticipation, expectations, and learned responses related to the student role-identity within a specific academic setting.

This research focuses on academic self-efficacy at two different settings of higher education. Academic self-efficacy (AE) is defined as a student's perception of empowerment to accomplish the things they want to do, as sustained by the institution they are attending (Majer, 2009). This study also considers how the student role-identity correlates with global feelings of empowerment, and how well-established factors influencing college performance such as age, race, SES, sex, and prior and current academic performance predict domain specific AE.[1]

Regardless of the academic setting, students entering higher education typically begin with an exaggerated sense of self-efficacy (Edman & Brazil, 2008; Vuong, Brown-Welty, & Tracz, 2010). However, research finds that junior college students face challenges that peers at a traditional university typically get insulated from, such as needing to work full-time, supporting families, and otherwise experiencing greater role-conflict (Archer, Hutchings, & Ross, 2003). As a result, junior college students' self-efficacy beliefs quickly diminish as they begin their college level work (Caballero de Cordero, 2005; Nakajima, Dembo, & Mossler, 2012). Despite these challenges, one of the principal goals of junior college programs is to transfer students to baccalaureate granting institutions, thus ostensibly providing students with greater life opportunities (van Dinther, Dochy, & Segers, 2011). Thus, the purpose of this study is twofold. First, testing differences in self-efficacy beliefs between junior college and traditional university

students; second, and importantly, extending previous research by assessing the extent to which inequitable positions exist within these differing academic settings.

Students begin college feeling confident; and, since self-efficacy beliefs "mediate between prior attainments and [current] academic performances" (Pajares, 1996, p. 554), do junior colleges bridge the gap by supporting self-efficacy beliefs that are relatively comparable to traditional university students (Robbins et al., 2004; Zajacova, Lynch, & Espenshade, 2005)? Based on the intersecting variables discussed, the following hypotheses are proposed:

Hypotheses

H1: Supporting established research, as SES increases the likelihood of attendance at the traditional university will increase.

H2: Students attending the junior college will have lower academic self-efficacy beliefs compared to peers at the traditional university.

H3: Students attending the traditional university will have higher global self-efficacy beliefs compared to peers at the junior college.

H4: Based on the full-time nature of a traditional university, the student role-identity will be more central for traditional university students.

Methods

Data for this study came from two sample populations; students at a large public university and students at a nearby junior college. Both campuses are located in the same Midwestern county in the United States. This study used a double-blind anonymous design with electronic response pads (clickers) in the classroom setting.[2] A total *N* of 1,062 students (470 men, 559 women) participated in surveys used for this analysis; 562 from the junior college and 500 students who reported first-year or sophomore status at the traditional university. The demographic makeup of each institution was successfully recreated through sampling.[3]

Analysis proceeded in five stages. The first stage was exploratory data analysis (EDA) where data were checked for distribution properties. Following EDA, the second and third stages ran construct validity and reliability checks using dimension reduction including measurement of Cronbach's alpha and McDonald's omega. Mean comparison results (t-test and ANOVA) relied on Bartlett factor scores (DiStefano, Zhu, & Mîndrilă, 2009). Multi-item latent constructs were also modeled during SEM analyses. See Table 2 and Figures 1-3 for complete details. The fourth stage assessed bivariate correlations. Stage five was the final step of statistical analysis; the final stage ran a series of Structural Equation Models (SEMs), including a multi-group SEM comparing results between the junior college and traditional university. Full SEM model details get presented in Table 4. SEM models made it possible to address the complex pathways and correlations under investigation. Full Information Maximum Likelihood Estimation was used to adjust for missing data points present in these data—missing was ≤ 5% (Enders, 2001).

The dependent variable, AE came from three items based on work by Pearlin and Schooler (1978) and Pajares (1996). The first two measures are Likert items ranging from *strongly agree* to *strongly disagree* with a sixth category for *don't know* and a seventh for *refuse to answer*.

Item 1: Based on just my educational experience at the institution where I am currently enrolled I expect to be able to do just about anything I really set my mind to.

Item 2: Based on my overall experience at the institution where I am currently enrolled I expect to be able to do just about anything I really set my mind to.

Item 3: To what extent would you say that the current institution at which you are enrolled has prepared you for success after graduation (item 3 is also a Likert item

ranging from a great deal to poorly with a sixth category for don't know and a seventh for refuse to answer – all emphases in original items)?

The primary predictor representing the higher education setting (HES) was measured as a binary variable: 0 = junior college 1 = traditional university.

Pajares (1996) argues that research investigating the complex social psychological phenomenon of self-efficacy must include measures of both domain specific and global self-efficacy (GE). AE is the domain specific measure of interest. The original plan for measuring GE was to use a factor-scale measure similar to AE. Five Likert items from the International Personality Item Pool (IPIP) were factor analyzed to represent the latent construct of GE (Goldberg et al., 2014). During dimension reduction the five items for GE did not factor together. In fact, the psychometrician's who oversee the IPIP have since replaced this scale of GE. Based on this and the current factor analysis results, the measure of GE used in this study came from a single Likert item: *I can do just about anything I really set my mind to*. Response options again ranged from *strongly agree* to *strongly disagree* with a sixth category for *don't know* and a seventh for *refuse to answer*.

Measurement of academic performance came from self-reported grade point average (GPA). Respondents were asked to report both High School and current GPA (for a critique of this methodology see Frucot & Cook, 1994). The scale consisted of 8 categories (including *don't know*) beginning with < 1.0, moving up in .5 increments and topping out at 3.5 – 4.0.

Table 1

Descriptive Statistics and Factor Scales of Variables, N = 1,062

	AE	Age	GE		HES	Race	SES	Sex	SiD
Applicable Factor Loadings									
	Factor 1		Factor 1	Factor 2			Factor 1		
Item 1	.600		.492	.218			.757		
Item 2	.818		.599				.504		
Item 3	.784		.504	.300			.677		
Item 4				.653					
Item 5			.341	.423					
KMO	.676		.656				.641		
Alpha	.772		.545				.656		
McD Ω	.870		.670				.823		
Descriptive Statistics									
Mean	0[ASY]	3.08	GE	2.558	.587	.778	0[ASY]	.533	4.076
SD	1	1.18	results	1.258	.492	.416	1.181	.499	.923
Min	-3.549	1	of item	1	0	0	-2.757	0	1
Max	1.427	5	#4:	5	1	1	2.693	1	5

Variable Legend:
AE = Academic Efficacy
GE = Global Efficacy
HES = Higher Education Setting
SES = Socioeconomic Status
SiD = Student Identity Centrality

Statistical Legend:
Alpha = Cronbach's Alpha
[ASY] = Asymptotically Correct
KMO = Kaiser-Meyer-Olkin Measure of Sampling Adequacy
McD Ω = McDonald's Omega
SD = Standard Deviation

The measure of SES adopted in this study was based on previous research finding that resources available through parents captures the social stratification that students are likely to experience (Arrow, Bowles, & Durlauf, 2000). Structuring SES in this way provided a useful proxy measure for the various conditions that junior college vs. traditional university students

face, such as pressures to work while in school or attend part-time (Spilerman, 2000). Item one asked respondents to select the category containing the income for their "primary place of residence (permanent address)" on a Likert scale. The second item asked respondents to identify the level of education completed by their mother, and the third item asked respondents to identify the level of education completed by their father. Six categorical options were provided beginning with (1) Less than High School Diploma up to (6) PhD or Professional Degree.

Based on the research tradition providing the backbone for this paper (cf. Krumrei-Mancuso et al., 2013), the following controls of college performance were included during analyses. A measure of psychological centrality for the student role-identity (SiD) which asked, "Thinking only of your role as a student would you agree or disagree with the following statement: being a student is important to the way I think about myself (options again ranged from *strongly agree* to *strongly disagree* with a sixth and seventh categories for *don't know* and *refuse to answer*). Sex was measured as a binary variable 0 = Male 1 = Female. Age, a measure of birth year that was collapsed into five categories, as the numeric value of the category increased (more recent birth year) age decreased. Race was collapsed to a binary variable 0 = Other 1 = White. Dummying of race was necessary due to empty cells.

Demographic statistics for the variables used in this study, including factor loadings and measures of Cronbach's alpha and McDonald's omega, get reported in the Table 1.

Results

Test of Hypothesis 1

Table 2 displays mean comparisons between AE, GPA, and SES. As expected, SES was higher for students at the traditional university. This result confirmed the assumption presented in hypothesis 1: on average SES was higher for the students attending the traditional university (subsequent SEM results also support the first hypothesis).

Test of Hypothesis 2

Table 2 also shows that students at the junior college, on average, had lower AE compared to the students at the traditional university. This is particularly compelling in view of the results of Table 2 showing that students at the university reported lower average GPA scores. These results support the second assumption presented in hypothesis 2: on average, students attending the junior college had lower AE beliefs compared to traditional university peers.

Table 2

Two-Sample t-Test with Unequal Variances and One-Way ANOVA by HES

	t test						f test		
	AE		GPA		SES		AE	GPA	SES
	Mean	SD	Mean	SD	Mean	SD			
Junior College	-.121	1.067	5.880	1.13	-.467	1.214	f	f	f
University	.089	.938	5.542	1.102	.326	1.041	14.026	28.31	146.265
	$H_0 \neq 0$***		$H_0 \neq 0$***		$H_0 \neq 0$***		$p = .001$	$p = .001$	$p = .001$

AE = Academic Efficacy, GPA = Self-reported GPA, SES = Socioeconomic Status | H_0 = Two Tailed Test | *** P ≤ .001

A further test of these relationships gets presented as a pairwise correlation, presented in Table 3. The table is organized so that the first three columns display the principal variables of interest. In the first column, AE was significantly and positively related to the HES, providing further support for the second hypothesis. HES was also positively related to SiD, GE, current GPA, high school GPA, and Sex. In column two, SES was significant and positively related to HES, providing further support for the first hypothesis. SES was also significant and positively

related to age and high school GPA. Column three reports positive relationships for HES, they included age, SiD, and high school GPA. Column three also displays four negative relationships for HES, including GE, current GPA, race, and Sex.

Looking at the relationships between SES and GE presented in column two of Table 3, as SES increased GE decreased (GE β = -.071, p = .05). This finding questions the blanket assumption presented in hypothesis three assuming that students from more privileged backgrounds at the traditional would have higher GE. The multi-group SEM analyses presented below addresses the complex pathways and correlations of the variables presented thus far.

Table 3
Pairwise Correlations of Variables, N = 1,062

	AE	SES	HES	Age	SiD	GE	GPA Cur	GPA HS	Race	Sex
AE	1.000									
SES	-.039	1.000								
HES	.104***	.331***	1.000							
Age	-.033	.241***	.105***	1.000						
SiD	.284***	.023	.067**	-.032	1.000					
GE	.335***	-.071*	-.106***	-.0467†	0.114***	1.000				
GPA Cur	.133***	-.046	-.147***	-.092***	.091***	.084**	1.000			
GPA HS	.055*	.237***	.333***	.119***	.042	-.041	.143***	1.000		
Race	-.003	-.021	-.079**	-.029	.017	.041	.132***	.034	1.000	
Sex	.101***	-.11***	-.064*	-.059	.135***	.046†	.175***	.091***	.031	1.000

AE = Academic Efficacy, GE = Global Efficacy, GPA Cur = Self-reported Current GPA, GPA HS = Self-reported High School GPA, HES = Higher Education Setting, SiD = Student Identity Centrality *** P ≤ .001 | ** P ≤ .01 | * P ≤ .05 | † ≤ P .10

Mean comparisons and bivariate relationships between variables suggest support for the first and second hypothesis. However, the third hypothesis, assuming that a simple linear relationship exists between SES and GE was called into question. This result may be a product of the combined sample analyses presented thus far. A multi-group SEM will allow for more nuanced analyses of each HES. Bivariate correlations also suggested support for the fourth hypothesis; results show that as HES increased the centrality of SiD also increased.

SEM of all Hypotheses

The final stage of analysis was a series of SEMs. Figures 1-3 present the results of the final parsimonious SEMs. Model fit statistics and standardized parameter estimates also get presented in Figures 1-3. Table 4 provides detailed parameter estimates and model fit statistics for each of the SEMs. Both correlation and regression estimates get reported in Table 4; for the regression paths standard error estimates are in parentheses.

Each of the models presented is the best fitting model with non-significant paths and variables removed. All significant relationships between variables were retained during the final stage of modeling, including significant covariate relationships, allowing antecedent or indirect effects to retain model influence (Bollen & Davis, 2009). All of the models fit these data well.

Beginning with the measurement model (found in Table 4) the comparative fit index (CFI) of .948, the incremental fit index (IFI) of .948, and the normed fit index (NFI) of .937 demonstrated a reasonably strong fit. The root mean square error of approximation (RMSEA)

was .056 (p = .198) with a confidence interval (CI) low of .48 and high of .065. Based on the large sample size, chi-square was not a primary fit statistic.

Model 1 ran the combined sample with a dummy variable controlling for the HES and Models 2 and 3 were run as a multi-group SEM separating the sample populations based on HES, testing the hypothesized relationships among the different student populations.

Test of hypothesis 1 and 2. SEM analyses show that SES was only significant for junior college students (e.g., Model 2: SES β = -.133, p = .034). The significant effect for SES in the combined sample reported in Table 2 and 3 and Model 1 of the SEM analysis was coming from the junior college respondents. Model 1 of the SEM analysis shows that SES was not a significant predictor of students' perceptions of AE at the traditional university, and for junior college students there was a negative effect between SES and AE. As SES increased AE decreased. The difference in effect also explains the results found in the bivariate correlation matrix and the smaller fit than expected for the combined sample. These results indicate that when it comes a junior college vs. traditional university setting, students at the traditional university do not experience negative SES strains in the way that students at the junior college do, adding support for hypotheses one and two.

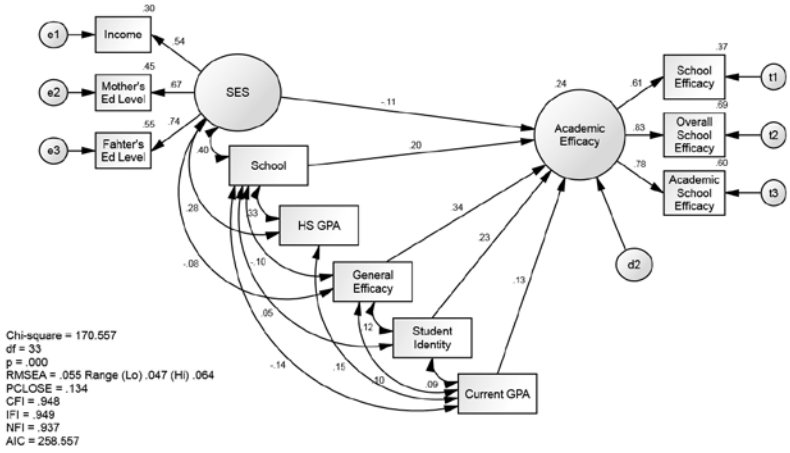

Figure 1. Combined SEM standardized parameter estimates of academic self-efficacy.

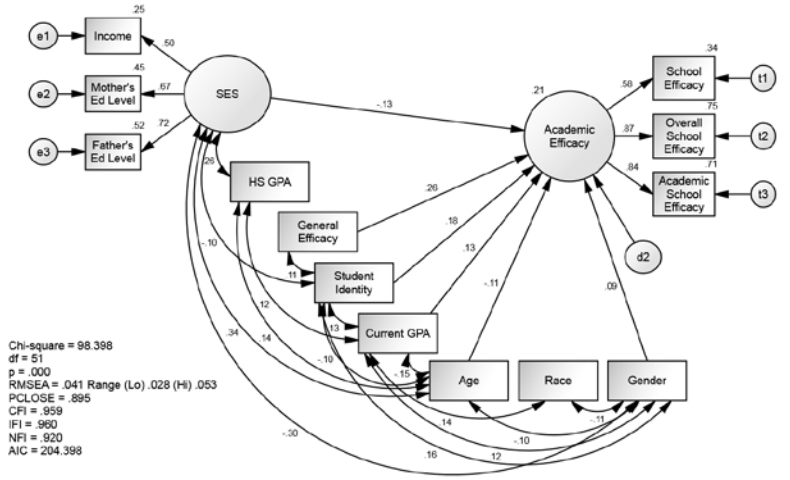

Figure 2. Multi-group SEM standardized parameter estimates at junior college.

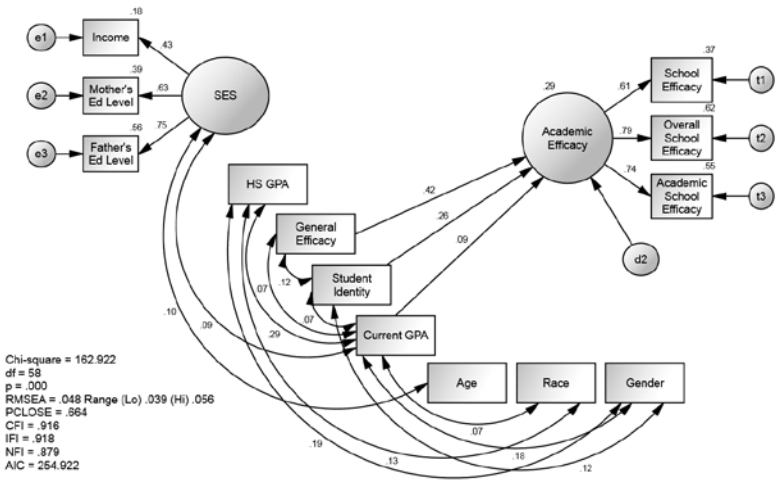

Figure 3. Multi-group SEM standardized parameter estimates at traditional university.

Test of hypothesis 3. Of all predictors modeled, GE had the strongest effect on AE; as GE increased domain specific AE increased (Model 1: β = .342, p = .001 | Model 2: β =.258, p = .05 | Model 3: β = .420, p = .001), with the strongest effect present at the traditional university. Additionally, looking at Model 1, compared to students at the junior college traditional university students had higher AE (β = .201, p = .001). This finding supports hypothesis three and is a noteworthy psychological finding, uncovering a multidimensional aspect of the self-concept predicting a domain specific one.

The negative relationship between GE and SES found in the bi-variate correlation matrix (β = -.071, p = .05) was only present for the combined sample found in Figure 1 (SEM covariate correlation = -.082, p = .01). The correlation between GE and SES in the SEM for the traditional University was -.056 (p = .197), and for the junior college the correlation was -.037 (p = .432). This was the only relationship present in the full sample reported in Model 1 to disappear from both Models 2 and 3 when running a Multi-group SEM analyzed by HES. The combined strength from both student populations was necessary to produce a significant correlation.

Test of hypothesis 4. As SiD increased AE increased (Model 1: β = .233, p = .001 | Model 2: β =.176, p = .001 | Model 3: β = .259, p = .001), with the strongest effect present at the traditional university. Additionally, looking at Model 1, compared to students at the junior college traditional university students had higher SiD (β = .233, p = .001). This finding supports hypothesis four suggesting that students at the traditional university should rate the student role-identity as more central to their self-concept based on the conditions at a traditional university.

Finding this effect strongest among traditional university students also supports the other results reported, contextualizing the role factors leading to the observed individual social psychological differences experienced (Gecas & Schwalbe, 1983).

Looking at additional control variables, high school GPA was not a significant predictor of current AE, but current GPA was. Too, when current GPA increased, so did AE. It is worth noting that a one-standard deviation increase of current academic performance (β = .126, p = .006) had a similar amount of influence on AE as did SES (β = -.133, p = .026). Controls for age and Sex were only significant at the junior college, and race was not significant as a predictor for any of the SEMs. At the junior college younger students had lower self-efficacy beliefs than

older students (β = -.107, p = .022) and women were more likely to report positive self-efficacy beliefs (β = .092, p = .046.

Table 4
Standardized FIML Estimates for SEM Models Predicting Academic Self-Efficacy

			Measurement Model	Model 1 – Full SEM	Model 2 – SEM for Junior College	Model 3 – SEM for Traditional University
					β (Std. Error)	
AE	←	SES		-.106** (.022)	-.133* (.034)	
AE	←	HES		.201*** (.040)		
AE	←	GE		.342*** (.024)	.258***(.034)	.420*** (.033)
AE	←	SiD		.233*** (.019)	.176*** (.027)	.259*** (.026)
AE	←	Curr GPA		.127*** (.016)	.126** (.023)	.090** (.020)
AE	←	Age			-.107* (.019)	
AE	←	Sex			.092* (.054)	
Age	←→	SES			.338***	.103*
GE	←→	SES		-.082**		
Curr GPA	←→	SES				.092*
HES	←→	SES		.395***		
HS GPA	←→	SES		.276***	.264***	
Race	←→	SES				.126***
Sex	←→	SES			-.303***	.192***
SiD	←→	SES			-.100*	
SiD	←→	HES		.053*		
HS GPA	←→	HES		.329***		
HES	←→	GE		-.100***		
SiD	←→	GE		.118***	.113**	.119***
Curr GPA	←→	GE		.095***		.073*
Age	←→	Curr GPA			-.152***	
HES	←→	Curr GPA		-.140***		
SiD	←→	Curr GPA		.088**	.130**	.072*
HS GPA	←→	Curr GPA		.151***	.122**	.293***
Race	←→	Curr GPA			.137**	.075*
Sex	←→	Curr GPA			.122**	.181***
Race	←→	HS GPA				.126***
Age	←→	HS GPA			.135**	
Age	←→	Sex			-.096*	
Race	←→	Sex			-.110**	
Sex	←→	SiD			.159***	.116***
Age	←→	SiD			-.096*	
Obs1(AE)	←	AE	.608+	.608+	.583+	.610+
Obs2(AE)	←	AE	.834***	.834***	.867***	.787***
Obs3(AE)	←	AE	.777***	.777***	.844***	.743***
Obs1(SES)	←	SES	.739+	.738+	.722+	.750+
Obs2(SES)	←	SES	.670***	.671***	.669***	.627***
Obs3(SES)	←	SES	.545***	.544***	.498***	.425***
Chi-Square- χ^2 (df)			170.341*** (32)	170.557*** (33)	98.398*** (51)	162.922*** (58)
RMSEA (PCLOSE)			.056 (.098)	.055 (.134)	.041 (.895)	.048 (.664)
CFI			.948	.948	.959	.916
IFI			.948	.949	.960	.918
NFI			.937	.937	.920	.879
AIC			260.341	258.557	204.398	254.922
				N = 1062	n = 562	n = 500

Legend: AE = Academic Efficacy; Curr GPA = Current GPA; GE = Global Efficacy; HES = Higher Education Setting (Junior vs. Traditional); HS GPA = High School GPA; Obs#(Construct) = Observed Item for Latent Variable; SES = Socioeconomic Status; SiD = Student Identity Centrality

+ Fixed Parameter for Identification / * P ≤ .05 / ** P ≤ .01 / ***P ≤ .001

Discussion

Of primary interest was the answer to the principle research question motivating this paper, presented in the second hypothesis: do students at the junior college have equivalent academic self-efficacy beliefs compared to traditional university peers? Previous research has shown that across higher education settings, incoming students typically begin their studies with

high positive expectations (Edman & Brazil, 2008). Results presented in Table 1 found that despite having higher overall grade point averages, students at the junior college experienced lower academic self-efficacy beliefs compared to their traditional university peers. While it is true that junior college students typically face unique challenges (e.g., attending college later in life, pressure to work, and/or attend school part-time) the findings reported held when controls for Age, Sex, Race, and SES were included. In addition, the multi-group SEM found that SES was not a significant predictor for students at the traditional university, indicating that the strains of low SES were only a significant negative predictor of self-efficacy for junior college students.

Based on the exploratory nature of this study, using cross-sectional data, it is difficult to know if the lower self-efficacy beliefs were a product of the filtering produced by SES. Students at the junior college typically came from backgrounds of lower overall SES and research has found that these students experience significant challenges and internal conflict relating to an academic identity, when compared to students from higher SES backgrounds (Aronson & Inzlicht, 2004). Potentially, these findings uncover that AE is the product of a self-selection bias. However, rather than a confounding result this outcome was expected a priori. The hypotheses presented assume that SES is a predictor of the higher education setting a student attends. Results presented are not a definitive casual argument that structural inequality is the main producer of these findings; however, finding higher overall grades among junior college students and lower AE suggests an important need for further—ideally longitudinal—investigation into structural conditions of inequality within stratified higher education settings.

Further, finding that SES background did not significantly impact a traditional university student's self-efficacy belief suggests that in addition to being relatively insulated from the contemporary economic challenges facing higher education, students from higher SES backgrounds are also relatively insulated from negative psychological effects impacting AE.

The student role-identity was more central for the university students' self-concept. Findings support previous research suggesting that the cycle of inequality that students from lower SES face socializes them to expect less of themselves. In other words, lower SES students hedge their bets and psychologically compartmentalize self-meanings according to the structural conditions of inequality that they face (Festinger, 1964; Osborne, 1995). For example, a student might ask herself: why should I place the role-identity of student in a central place of importance for my self-concept? Thereby protecting herself from negative feedback related to this identity.

The analysis also suggests that a student's current GPA predicts the current sense of academic self-efficacy, but previous GPA does not. Pajares (1996) notes that the linkage between a student's previous performance and current performance is strongly mediated by self-efficacy beliefs (cf. LaBelle, Martin, & Weber, 2013). When it comes to a student's feelings of empowerment as fostered by the academic environment, previous accomplishments influence current performance insofar as current beliefs about agentive ability support performance. What matters is the "here and now". These findings support the mediating link identified by Pajares (1996). This linkage is essentially the heart of this study. Recognizing that self-efficacy plays a key role influencing future life opportunity this study set out to test potential differences in self-efficacy beliefs between junior college and traditional university students. These findings indicate that there is an inequality of self-efficacy beliefs between students in these two institutions of higher education. Past performances can be minimized by current self-efficacy beliefs, and students from the junior college report that they feel less empowered by their academic environment.

The significance of this study centers on finding higher average grades and lower self-efficacy beliefs among junior college students when compared to traditional university peers.[4] This result suggests that the inequalities found in society are potentially mirrored as structural inequality within the higher education settings under investigation; and, that students experience part of this structural inequality at a social psychological level impacting their domain specific self-efficacy beliefs. The impact of which, as Pajares notes, predicts a diminished ability among junior college students to successfully transition to and graduate from a traditional university.

Limitations and Concluding Remarks

The major limitation of this study has already been suggested; data comes from a large cross-sectional study, limiting a causal argument. Future research working on higher education and self-efficacy beliefs would be strengthened by a longitudinal design using a panel study to track students from primary education, through college, and into life beyond schooling. A longitudinal design would allow future researchers to address the possibility of a self-selection bias. The hope is that the present study acts as motivation for continued research into the impact institutions of higher education have on the social psychological processes impacting student outcomes.

While considerable care was taken to get representative samples of students, the idiosyncrasies of each institution must be taken into account. The Midwestern setting and the types of students who attended both institutions (disproportionately white, relatively privileged and conservative) likely influenced the results to some degree. Additionally, data were managed to include only first and second year students from the traditional university with a measure of SES as a proxy for role-strains, but based on the limitations of these data it was not possible to further filter students by full-time and part-time status, a status that likely impacts a student's performance, commitments, and related self-efficacy beliefs. Subsequent research would benefit from a larger and more diverse pool of students *and* institutional settings. Greater generalizability would provide more robust conclusions about how structural inequality in higher education permits as well as reflects the social psychological inequalities identified in this study.

Notes

[1]Students responding to items asking about how empowered they feel *by* the school they are attending sensitizes measurement to the individual level. This represents a novel measurement strategy for assessing structural inequality. However, despite the novelty, this is not a new theoretical conceptualization of macro structural conditions being recursive with micro processes. For example, the Social Structure and Personality tradition rests on the notion that, "…social actors *are* constrained by the structures in which they are embedded, but they also *reproduce* those structures through their actions/[attitudes] (emphasis added)" (McLeod & Lively, 2003, p. 86).

[2]Instructors who donated a class session began their class with an introduction, turned the time over, and then departed. At the beginning of each class session a recruitment script was read including voluntary participation and risk disclosures. 31 classes at the junior college and 18 at the traditional university are represented in these data. No student at either institution elected not to participate.

[3]Full details of these data are available upon request.

[4]As one reviewer noted, differences in individual level performance could be the result of, "…different grading methods or philosophies between junior colleges and universities." A measure of grading strategies was beyond the scope of the present study. However, rather than confounding an argument for the presence of structural inequality, institutional difference in academic standards supports this study's suggestion that institutional level variables impact individual level experiences of inequality, such as self-reported beliefs about academic self-efficacy.

References

Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes, 50*(2), 179-211. doi:10.1016/0749-5978(91)90020-T

Alicia, C. D., John, J. C., & Melguizo, T. (2008). Transfer access from community colleges and the distribution of elite higher education. *The Journal of Higher Education, 79*(4), 442-472. doi:10.1353/jhe.0.0010

Archer, L., Hutchings, M., & Ross, A. (2003). *Higher education and social class: Issues of exclusion and inclusion*. New York, NY: Psychology Press.

Aronson, J., Blanton, H., & Cooper, J. (1995). From dissonance to disidentification: Selectivity in the self-affirmation process. *Journal of Personality and Social Psychology, 68*(6), 986-996. doi:10.1037/0022-3514.68.6.986

Aronson, J., & Inzlicht, M. (2004). The ups and downs of attributional ambiguity: Stereotype vulnerability and the academic self-knowledge of African American college students. *Psychological Science, 15*(12), 829-836. doi:10.1111/j.0956-7976.2004.00763.x

Arrow, K. J., Bowles, S., & Durlauf, S. N. (Eds.). (2000). *Meritocracy and economic inequality*. Princeton, NJ: Princeton University Press.

Ball, S. J., Davies, J., David, M., & Reay, D. (2002). 'Classification' and 'judgement': Social class and the 'cognitive structures' of choice of higher education. *British Journal of Sociology of Education, 23*(1), 51-72. doi:10.1080/01425690120102854

Bandura, A. (1986). *Social foundations of thought and action : A social cognitive theory*. Englewood Cliffs, NJ: Prentice Hall.

Bandura, A. (1997). *Self-efficacy: The exercise of control*. New York, NY: W.H. Freeman.

Bandura, A., Barbaranelli, C., Caprara, G. V., & Pastorelli, C. (2001). Self-efficacy beliefs as shapers of children's aspirations and career trajectories. *Child Development, 72*(1), 187-206. doi:10.1111/1467-8624.00273

Bollen, K. A., & Davis, W. R. (2009). Two rules of identification for structural equation models. *Structural Equation Modeling: A Multidisciplinary Journal, 16*(3), 523-536. doi:10.1080/10705510903008261

Bong, M., & Skaalvik, E. M. (2003). Academic self-concept and self-efficacy: How different are they really? *Educational Psychology Review, 15*(1), 1-40.

Bragg, D. D. (2001). Community college access, mission, and outcomes: Considering intriguing intersections and challenges. *Peabody Journal of Education, 76*(1), 93-116. doi: 10.1207/s15327930pje7601_06

Britner, S. L., & Pajares, F. (2006). Sources of science self-efficacy beliefs of middle school students. *Journal of Research in Science Teaching, 43*(5), 485-499. doi: 10.1002/tea.20131

Caballero de Cordero, A. (2005). *Self-efficacy perceptions and their Impact on Latino and White community college student persistence.* (Unpublished doctoral dissertation). University of California, Santa Barbara, Santa Barbara, CA.

Caprara, G. V., Vecchione, M., Alessandri, G., Gerbino, M., & Barbaranelli, C. (2011). The contribution of personality traits and self-efficacy beliefs to academic achievement: A longitudinal study. *British Journal of Educational Psychology, 81*(1), 78-96. doi: 10.1348/2044-8279.002004

Chang, M. J., Eagan, M. K., Lin, M. H., & Hurtado, S. (2011). Considering the impact of racial stigmas and science identity: Persistence among biomedical and behavioral science aspirants. *The Journal of Higher Education, 82*(5), 564-596. doi: 10.1353/jhe.2011.0030

Choi, N. (2005). Self-efficacy and self-concept as predictors of college students' academic performance. *Psychology in the Schools, 42*(2), 197-205. doi:10.1002/pits.20048

Clark, B. R. (1960). The "cooling-out" function in higher education. *American Journal of Sociology, 65*(6), 569-576. doi:10.1086/222787

Clark, B. R. (1980). The “cooling out” function revisited. *New Directions for Community Colleges, 1980*(32), 15-31. doi:10.1002/cc.36819803204

Cohen, A. M., & Brawer, F. B. (2003). *The American community college* (4th ed.). San Francisco, CA: Jossey-Bass.

DiStefano, C., Zhu, M., & Mîndrilă, D. (2009). Understanding and using factor scores: Considerations for the applied researcher. *Practical Assessment, Research & Evaluation, 14*(20), 1-11. Retrieved from http://pareonline.net/pdf/v14n20.pdf

Edman, J. L., & Brazil, B. (2008). Perceptions of campus climate, academic efficacy and academic success among community college students: An ethnic comparison. *Social Psychology of Education, 12*(3), 371-383. doi:10.1007/s11218-008-9082-y

Enders, C. K. (2001). The impact of nonnormality on full information maximum-likelihood estimation for structural equation models with missing data. *Psychological Methods, 6*(4), 352-370. doi:10.1037/1082-989x.6.4.352

Festinger, L. (1964). *Conflict, decision, and dissonance*. Redwood City, CA: Stanford University Press.

Frucot, V. G., & Cook, G. L. (1994). Further research on the accuracy of students' self-reported Grade Point Averages, SAT scores, and course grades. *Perceptual and Motor Skills, 79*(2), 743-746. doi:10.2466/pms.1994.79.2.743

Gecas, V. (1989). The social psychology of self-efficacy. *Annual Review of Sociology, 15*, 291-316.

Gecas, V., & Schwalbe, M. L. (1983). Beyond the looking-glass self: Social structure and efficacy-based self-esteem. *Social Psychology Quarterly, 46*(2), 77-88. doi: 10.2307/3033844

Goldberg, L. R., Johnson, J. A., Eber, H. W., Hogan, R., Ashton, M. C., Cloninger, C. R., & Gough, H. C. (2014). International personality item pool: A scientific collaboratory for the development of advanced measures of personality traits and other individual differences. Retrieved from http://ipip.ori.org/

Krumrei-Mancuso, E. J., Newton, F. B., Kim, E., & Wilcox, D. (2013). Psychosocial factors predicting first-year college student success. *Journal of College Student Development, 54*(3), 247-266. doi:10.1353/csd.2013.0034

LaBelle, S., Martin, M. M., & Weber, K. (2013). Instructional dissent in the college classroom: Using the Instructional Beliefs Model as a framework. *Communication Education, 62*(2), 169-190. doi:10.1080/03634523.2012.759243

Majer, J. M. (2009). Self-efficacy and academic success among ethnically diverse first-generation community college students. *Journal of Diversity in Higher Education 2*(4), 243-250. doi:10.1037/a0017852

Mattern, K. D., & Shaw, E. J. (2010). A look beyond cognitive predictors of academic success: Understanding the relationship between academic self-beliefs and outcomes. *Journal of College Student Development, 51*(6), 665-678. doi:10.1353/csd.2010.0017

Morris, R. C. (2012). The relative influence of values and identities on academic dishonesty: A quantitative analysis. *Current Research in Social Psychology*, 20(1), 1-20.

Morris, R. C. (2013). Identity salience and identity importance in identity theory. *Current Research in Social Psychology, 21*(8), 23-36.

Multon, K. D., Brown, S. D., & Lent, R. W. (1991). Relation of self-efficacy beliefs to academic outcomes: A meta-analytic investigation. *Journal of Counseling Psychology, 38*(1), 30-38. doi:10.1037/0022-0167.38.1.30

Nakajima, M. A., Dembo, M. H., & Mossler, R. (2012). Student persistence in community colleges. *Community College Journal of Research and Practice, 36*(8), 591-613. doi: 10.1080/10668920903054931

Niu, S., & Tienda, M. (2013). Delayed enrollment and college plans: Is there a postponement penalty? *The Journal of Higher Education, 84*(1), 1-26. doi:10.1353/jhe.2013.0007

Osborne, J. W. (1995). Academics, self-esteem, and race: A look at the underlying assumptions of the disidentification hypothesis. *Personality and Social Psychology Bulletin, 21*(5), 449-455. doi:10.1177/0146167295215003

Pajares, F. (1996). Self-efficacy beliefs in academic settings. *Review of Educational Research, 66*(4), 543-578. doi:10.3102/00346543066004543

Pearlin, L. I., & Schooler, C. (1978). The structure of coping. *Journal of Health and Social Behaviour, 19*(1), 2-21.

Putwain, D., Sander, P., & Larkin, D. (2012). Academic self-efficacy in study-related skills and behaviours: Relations with learning-related emotions and academic success. *British Journal of Educational Psychology, 83*(4), 633-650. doi:10.1111/j.2044-8279.2012.02084.x

Reay, D., David, M. E., & Ball, S. J. (2005). *Degrees of choice: Social class, race and gender in higher education*. Stoke on Trent, England: Trentham Books.

Robbins, S. B., Lauver, K., Le, H., Davis, D., Langley, R., & Carlstrom, A. (2004). Do psychosocial and study skill factors predict college outcomes? A meta-analysis. *Psychological Bulletin, 130*(2), 261-288. doi:10.1037/033-2909.130.2.261

Royce, E. C. (2009). *Poverty and power: The problem of structural inequality* (1st ed.). Lanham, MD: Rowman & Littlefield.

Spilerman, S. (2000). Wealth and stratification processes. *Annual Review of Sociology, 26*(1), 497-524. doi:10.1146/annurev.soc.26.1.497

Stryker, S., & Serpe, R. T. (1994). Identity salience and psychological centrality: Equivalent, overlapping, or complementary concepts? *Social Psychology Quarterly, 57*(1), 16-35. doi:10.2307/2786972

Townsend, B. K., McNerny, N., & Arnold, A. (1993). Will this community college transfer student succeed? Factors affecting transfer student performance. *Community College Journal of Research and Practice, 17*(5), 433-443. doi:10.1080/0361697930170504

Turner, R. H. (1978). The role and the person. *American Journal of Sociology, 84*(1), 1-23.

van Dinther, M., Dochy, F., & Segers, M. (2011). Factors affecting students' self-efficacy in higher education. *Educational Research Review, 6*(2), 95-108. doi: 10.1016/j.edurev.2010.10.003

Vuong, M., Brown-Welty, S., & Tracz, S. (2010). The effects of self-efficacy on academic success of first-generation college sophomore students. *Journal of College Student Development, 51*(1), 50-64. doi:10.1353/csd.0.0109

Zajacova, A., Lynch, S. M., & Espenshade, T. J. (2005). Self-efficacy, stress, and academic success in college. *Research in Higher Education, 46*(6), 677-706. doi:10.1007/s11162-004-4139-z.

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Volume 19, Issue 2 May 23, 2016 ISSN 1099-839X