

School Leaders Licensure Assessment, Principal Internship Mentors Assessment, and Grade Point Average as Predictors for the use of the Interstate School Leaders Licensure Consortium Standards

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Abstract

How principals are prepared is important. The purpose of this study is to assess the effectiveness of using the Interstate School Leaders Licensure Consortium (ISLLC) standards by analyzing test results on the ISLLC based internally designed Principal Internship Mentor Assessment (PIMA), ISLLC based externally designed School Leaders Licensure Assessment (SLLA), and Grade Point Average (GPA) for aspiring school leaders who attended an educational leadership program at a private university in the Mid-Eastern part of the United States from 2009-2014. The sample consists of 135 educational leadership students. Multiple analysis revealed predictive relationships ($p = .037$) between the PIMA scores and SLLA scores. GPA was found to be a significant predictor of the SLLA ($p = .001$) and PIMA ($p = .037$). No group differences were observed between age and gender although a significant predictive relationship was seen in ethnicity (SLLA, $p < .003$ and GPA, $p < .010$). These results confirm alignment of the program curriculum with the ISLLC standards and strategies for program improvement.

Keywords: Principal Internship, ISLLC Standards, School Leaders Licensure Assessment.

1. Introduction

“It is the principal, more than anyone else, who is in a position to ensure that excellent teaching and learning are part of every classroom. Leadership is second only to teaching among school related factors as an influence on learning” (The Wallace Foundation, 2012, p. 3). Principals are recognized as the key leader for high level student achievement and overall school success and how these leaders are prepared is important (NYCLA Aspiring Principal Program, 2016; The Wallace Foundation 2016; Anderson & Reynolds 2015; New Leaders Program, 2015; McCarthy, 2015; Fuller, Hollingworth & Young, 2014; Bellamy, Crocket, & Nordengren, 2014; Gaetane & Norman, 2014; New School Leaders, 2013; CCSSO, 2012; Darling-Hammond, Meyerson, LaPointe, & Orr, 2010; Forman & Soloff, 2010; Darling-Hammond, LaPointe, Meyerson, Orr & Cohen; 2007). “High quality preparation results in better trained principals who can lead more successful schools” (Anderson & Reynolds, 2015, p. 3).

Most principals receive their training through a university educational leadership preparation program, but “Far too many people completing state-approved principal preparation programs are not ready to assume assistant principal or principal positions” (UCEA and New Leaders, 2016, p.1). Five key elements have been recognized in the literature for high quality university school leadership preparation: recruitment and selection strategies, clinically rich internships, university school district partnerships, programs that seek continuous improvement, and pedagogy, and curriculum that is based on national standards (Anderson & Reynolds, 2015). One of these elements, clinically rich internships, has been cited in the research as persistently weak (The Wallace Foundation, 2008). Specific descriptors include “shallow or poorly designed” and “not sufficiently connected to the rest of the program” (p. 4).

More relevant hands-on internship experiences continues to be a dominate element for continuing school leadership program improvement (The Wallace Foundation, 2016; Patterson, Jiang, Chandler & Chan, 2012; Darling-Hammond, Meyerson, LaPointe, & Orr, 2010; Forman & Soloff, 2010; Darling-Hammond, La Pointe, Meyerson, Orr & Cohen, 2007; Chenoweth, Carr, & Ruhl, 2002). Another element in high quality preparation programs is curriculum that is based on national standards. The Interstate School Leaders Licensure Consortium (ISLLC) standards, designed in 1996, are national guidelines for exemplary school leadership. ISLLC standards have influenced the leadership models of existing administrators and shaped “knowledge, performances, and skills of prospective leaders in preparation programs” (Murphy, 2005, p. 155). Many states use ISLLC standards as their competencies for university school leadership preparation programs. Much has been written about university internships for school leaders but very limited research is available on internship assessment tools and even less on program outcomes as a result of using these instruments (Young et. al., 2013). The literature is void of internship assessment as a predictor of School Leadership Licensure Assessment (SLLA) scores. This study will identify a principal internship evaluation instrument from a university preparation program in the Mid-Eastern part of the United States, its use in the field, assessment results, its predictive nature toward the SLLA, and its impact on program improvement. This is challenging work because educational leadership preparation has been on the cusp of attack for half a century as a cause for poor school leadership, low student achievement, and failing schools (Levine 2015; Gabbard, 2013; Horsford, 2010; Young, Crow, Murphy, & Ogawa, 2009; Fossy & Shoho, 2006; Levine 2005; Cooper & Boyd 1988; & Ramsey, 1962).

1.1 Statement of the Problem

One way to assess the effectiveness of the ISLLC standards is by reviewing outcome data from a university leadership preparation program. Two outcome measures derived from third party evaluators at a university educational leadership preparation program in the Mid-Eastern part of the United States are the School Leaders Licensure Assessment (SLLA) and the Principal Internship Mentor Assessment (PIMA). Third party denotes that assessment outcome evaluators are not faculty or other university personnel. The SLLA is scored by Educational Test Services (ETS) and the PIMA by practicing principals in the field. Grade Point Average (GPA) was also analyzed for any predictive nature. There is a high level of responsibility and accountability on educational leadership preparation programs to “ensure that future school leaders know and are able to execute specific competencies and skills associated with the academic success of all students” (Barton, 2004, p. 94).

1.2 Definition of Terms

1.2.1 Interstate School Leaders Licensure Consortium (ISLLC) standards

These standards are research based with, “knowledge, disposition, and performance necessary for exemplary school leadership...aligned with four broad themes: a vision for success, a focus on teaching and learning, an involvement of all stakeholders, and a demonstration of ethical behavior” (Koonce & Kelly, 2013, p. 11). The ISLLC standards were designed, “to serve as a broad set of national guidelines that states can use as a model for developing or updating their own standards” (Council of Chief State School Officers, 2008, p. 8).

1.2.2 Principal Internship Mentor Assessment (PIMA)

The PIMA is an instrument designed for an educational leadership preparation program in this study that measures student’s success in their internship. It is a 24 question Likert-type survey. Each question is rated on a 5-point-scale and each, “sub-score on the PIMA is directly linked to a correlating ISLLC standard” (Koonce & Kelly, 2013, p. 11).

1.2.3 School Leaders Licensure Assessment (SLLA)

The SLLA was developed by Educational Testing Service (ETS). The questions on the SLLA are derived from the ISLLC standards. The SLLA is administered in 32 states and, “is the major test for granting principal certification and/or endorsements in a number of these states...The SLLA is used as a measure to determine if ‘entry-level educational leaders’ have the knowledge necessary for their professional practice” (Koonce & Kelly, 2013, p. 11). The SLLA has 100 multiple choice questions and seven written response questions that directly align with each of the six ISLLC standards (Koonce & Kelly, 2013).

3. Methodology

3.1. Research Questions and Data Collection

The following research questions were created to explore internal (PIMA) and external (SLLA) assessments in the preparation of effective school leaders.

(R_1) Are the ISLLC standards as measured by the PIMA score predictive with the same standards as measured by SLLA scores? A standard multiple regressions were performed in order to determine if the PIMA will significantly predict the SLLA.

(R_2) Are the six PIMA subtest scores ($PIMA1$, $PIMA2$, $PIMA3$, $PIMA4$, $PIMA5$, and $PIMA6$), the intra-individual PIMA average score ($PIMA_{avg}$), and GPA (GPA) predictive of SLLA total scores ($SLLA_{tot}$)? A standard multiple regressions was conducted to see if the PIMA sub-scores and PIMA average will significantly predict the dependent variable, SLLA.

(R_3) Is there a relationship between GPA, PIMA average scores, PIMA sub scores, and SLLA total scores? A bi-variety correlation was conducted to determine what relationships, if any, exist among GPA, PIMA average scores, PIMA sub scores, and SLLA total scores.

(R_4) Are there gender differences among the intra-individual PIMA average scores ($PIMA_{avg}$), the six PIMA subtest scores ($PIMA1$, $PIMA2$, $PIMA3$, $PIMA4$, $PIMA5$, and $PIMA6$), GPA (GPA), and SLLA total scores ($SLLA_{tot}$)? A One-Way analysis of variance (ANOVA) was conducted to examine what gender differences, if any, exists and to what degree.

(R_5) Are there any differences among the intra-individual PIMA average scores ($PIMA_{avg}$), the six PIMA subtest scores ($PIMA1$, $PIMA2$, $PIMA3$, $PIMA4$, $PIMA5$, and $PIMA6$), GPA (GPA), and SLLA total scores ($SLLA_{tot}$)? A One-Way analysis of variance (ANOVA) was conducted to examine what age differences, if any, exists and to what degree.

(R_6) Are there ethnic differences among the intra-individual PIMA average scores ($PIMA_{avg}$), the six PIMA subtest scores ($PIMA1$, $PIMA2$, $PIMA3$, $PIMA4$, $PIMA5$, and $PIMA6$), GPA (GPA), and SLLA total scores ($SLLA_{tot}$)? An ANOVA was conducted to examine what ethnicity differences, if any, exists and to what degree.

3.2 Population

The population of this study consisted of 135 students who were enrolled in a graduate school leadership preparation program and completed the PIMA and SLLA as part of their program between the years of 2009 and 2014. Student GPA was also analyzed.

3.3 Procedures

The PIMA data was obtained from the Survey Monkey that currently serves as a central repository for program data. This data was sorted by year and degree and the means and standard deviations were calculated. SLLA and GPA were obtained on program completers from the university's central university-wide data repository system called Banner. All data was loaded into SPSS for statistical analysis.

3.4 Limitations of the Study

Since the entire study sample was obtained from master's and educational specialist students in the educational leadership program, these students are presumably high functioning so there may exist a predisposition for a potential ceiling effect among variables assessing academic performance and overall GPA. These conditions may increase the likelihood of internal Types I and Type II errors. Respectively, the findings of the present study may not be generalizable to student populations that are not academically representative of the immediate sample. The sample ($n = 135$) was comprised of 39 (29%) African Americans, 39 (29%) Caucasians, 3 (2%) Hispanic, and 54 (40%) identified as "Other" or did not indicate ethnicity.

Of the 135 students, 97 (72%) were female and 38 (28%) were male. The average age was 37.8 years-old ($SD = 8.6$ years). Descriptive statistics among each dependent variable are displayed in *Table 1*. Preliminary data screening revealed markedly negative skews and leptokurtic distributions among GPA calculations and the majority of PIMA subtests—thus indicating non-normal distributions along these measures. These observations were not unexpected considering the performance-based criteria used to select participants for the study which created a genuine ceiling effect along multiple measures. The students admitted into this program must have a 2.75 undergraduate GPA, pass a writing sample, and may be interviewed by the program chair. The majority of their scores are concentrated near the upper limit as seen in *Table 1*.

These observations represent threats toward the internal validity of the study as they may affect relationships existing between independent variables (GPA and PIMA) and dependent variable (SLLA).

3. Results

Regression results for Research Question One (R_1) indicate that the model significantly predicts SLLA total scores, $R^2 = 0.032$, $R^2_{\text{adj}} = 0.025$, $F(1, 133) = 4.42$, $p = .037$. Respectively, this model accounts for 30% of variance in SLLA total scores.

Data analysis for Research Question Two (R_2) revealed twelve cases of multivariate outliers with a Chi-Square (χ^2) value above 18.467 ($df = 4$, $p = .001$), however these cases were retained for their genuine variance contributions toward the analyses. Evaluation of linearity confirmed the presence of questionable linear relationships between several predictors and the dependent variable, the SLLA, through a bi-variant scatter plot. However, no data was transformed, no outliers removed, as these relationships were likely due to the influence of the ceiling effect based on the high entrance requirements for the students in this educational leadership program. Regression results indicate that the overall model significantly predicts SLLA total scores, $R^2 = 0.187$, $R^2_{\text{adj}} = 0.134$, $F(8, 122) = 3.51$, $p = .001$. Respectively, this model accounts for 18.7% of variance in SLLA total scores. A summary of regression coefficients is presented in *Table 2* and indicates that only one of the eight variables, GPA, significantly contributed toward the model.

A number of correlations with GPA for Research Question Three (R_3) were observed as presented in *Table 3*. Notably, SLLA total scores demonstrated significant relationships with participants' GPA calculations ($r = .29$, $p = .001$, $n = 135$) and average PIMA scores ($r = .18$, $p = .037$, $n = 135$). Relationships between SLLA total scores and PIMA subtests ranged from insignificant with no observable correlation (*PIMA6*; $r = .07$, $p = .457$, $n = 133$) through significant and moderately correlated (*PIMA1*; $r = .21$, $p = .016$, $n = 135$).

Previously reported data screening for Research Question Four (R_4) indicated that data linearity is questionable, so the following results should be interpreted with caution. Notably, no significant gender differences were observed among any of the dependent variables. *Table 4* presents the ANOVA results.

Previously reported data screening for Research Question Five (R_5) indicated that data linearity is questionable, so the following results should be interpreted with caution. Notably, no significant age differences were observed among any of the dependent variables. *Table 5* presents the ANOVA results.

As only African Americans ($n = 39$) and Caucasians ($n = 39$) were represented within the sample, Hispanic ($n = 3$) and those who identified as "Other" or did not indicate their ethnicity were excluded from the study. Previously reported data screening for Research Question Six (RQ_6) indicated that data linearity is questionable, the following results should be interpreted with caution. Notably, significant differences were observed between African American and Caucasian participants among SLLA total scores, $F(1, 76) = 9.48$, $p < .003$, and GPA estimates, $F(1, 76) = 6.960$, $p < .010$. Specifically, African American participants presented with an SLLA total score average of 171 ($SD = 9.56$) and Caucasian participants presented with an SLLA total score average of 177 ($SD = 7.78$). Additionally, African American participants presented with a GPA average of 3.73 ($SD = 0.25$) and Caucasian participants presented with a GPA average of 3.86 ($SD = 0.17$). *Table 6* presents the ANOVA results.

4.0 Discussion of Findings

In R_1 the multiple regressions found the ISLLC standards as measured by the PIMA score significantly predicted the SLLA score. R_2 indicated that the educational leadership students' GPA predicted a higher score on the SLLA. Additionally, neither the PIMA nor the PIMA subtest scores had any effect on the SLLA score. This could be due to a ceiling effect which caused a majority of these high functioning students to score high on the PIMA.

R_3 shows a significant relationship between the SLLA and PIMA average scores and the SLLA and GPA. The PIMA subtest scores range from insignificant to significant. PIMA1, based on ISLLC Standard 1, creating a vision of learning, was significant with the SLLA score. PIMA2, based on ISLLC Standard 2, providing a culture of teaching and learning, was significant with the SLLA score. PIMA3, based on ISLLC Standard 3, managing learning, was significant with the SLLA score. PIMA4, based on ISLLC Standard 4, building relationships with border communities to foster learning, was not significant with the SLLA score. PIMA5 based on ISLLC Standard 5, providing integrity, fairness, and ethics in learning, was not significant with the SLLA score. PIMA6, based on ISLLC Standard 6, providing a political, social, economic, legal, and cultural context of learning, was not significant with the SLLA score.

R₄ and R₅ found that there was no significant correlation between GPA, PIMA, PIMA subtest score, and SLLA and the students' gender and age. R₆ found a significant correlation with ethnicity. Only African American and Caucasian were analyzed for this portion of the study due to the fact that only 3 students identified themselves as Hispanic and were not large enough to draw any conclusions. The results for ethnicity showed that Caucasians did significantly better on SLLA and had a significantly higher GPA. No difference was found on the PIMA average and PIMA subtest scores.

Finally, this research project demonstrated support that the ISLLC standards can be effectively used in the educational leadership program. PIMA scores significantly predict SLLA total scores indicating that the students do well on the PIMA when they perform well on the SLLA.

PIMA scores were predictive of the SLLA score with a p value of .037. PIMA scores do significantly predict the SLLA with a 30% variance. This finding makes the case for continued use of the SLLA and PIMA as measures in support of preparing school leaders in this educational leadership program. This result indicates that the program is preparing leaders who are able to perform well when they are observed in the field (PIMA). Additionally, these students are able to apply what they have learned to score successfully on the national SLLA. RQ2 reviewed the average PIMA scores, the six PIMA subtest scores and the students' GPA to see if they would predict the SLLA score. When these eight independent variables were combined in the multiple regression, the only variable that was statically significant was the student's GPA ($p = .001$). This means the model significantly predicted SLLA accounting for 18.7% variance. However, GPA was the only variable that significantly contributed to the model. The GPA took all the variance from the PIMA, meaning the GPA is a better predictor of the SLLA even though the PIMA is a significant predictor. A high GPA significantly increases the success rate in college (Kim & Ra, 2015). These findings can inform the program improvement strategies, particularly for the programs SLLA preparation course.

RQ3 examined if a relationship exist between the SLLA and the PIMA average scores, PIMA sub scores, and SLLA total scores. Again, there was a significant correlation between SLLA and GPA. The six PIMA subtest scores which align with six ISLLC standards had varying results. PIMA subtest 1, creating a vision of learning, was significant with the SLLA score ($p = .016$). This research project reviewed collaborating literature that reinforced the importance of leaders: developing, communicating, implementing, monitoring, and evaluating their vision (Sashkin, 1986; Nor house, 2010; Wallace Foundation, 2013). PIMA subtest 2, providing a culture of teaching and learning, was significant with the SLLA score ($p = .019$). The four questions that are rated on PIMA subtest 2 are: a) does the intern value students and staff; b) is the intern developing and sustaining the schools culture; c) is the intern ensuing an inclusive culture; d) is the intern monitoring and evaluating the culture. Again, the intern is observing the principal creating a cultural of teaching and learning on a consistent basis. Providing a culture of teaching and learning is easily observable and applicable as noted by the subtest questions above and could be why there was a strong correlation. Once again, these results have positive implications for improving the program especially as directed towards strategies to improve teaching and learning.

PIMA subtest 3, managing learning, was significant with the SLLA score ($p = .043$). Similarly, the interns had many opportunities to observe the principal managing the learning in their school in a variety of ways, such as: a) implementing the curriculum; b) training teachers; c) visiting classrooms; and d) analyzing programs. This aligns with the questions asked on PIMA subtest 3: a) is the intern making management decisions to ensure successful teaching and learning; b) is the intern developing procedures to ensure successful teaching and learning; c) is the intern allocating resources to ensure successful teaching and learning; and d) is the intern creating a safe healthy, environment to ensure successful teaching and learning? These results continue to confirm alignment of the program curriculum with the ISLLC standards.

PIMA subtest 4, building relationships with the broader community to foster learning, was not significant with the SLLA score ($p = .070$). In reviewing the PIMA subtest qualitative data, the principal/mentor noted that they perceived that the interns lacked the time needed over the summer as a deterrent to understanding the communication needs. There may not have been an occasion for the intern to see community relationship building that effected learning over the summer internship. As a subtest evaluation, this may have made it difficult for the principal to evaluate the following: a) does the intern understand community needs; b) is the intern involving members of the community; c) is the intern providing opportunities for the community and school to serve each other; and d) does the intern understand diversity? These results can assist the program to strengthen its school and community coursework.

PIMA subtests 5 ($p = .439$) and subtest 6 ($p = .457$) were not statistically significant. They refer to providing integrity, fairness, and ethics in learning, along with a political, social, economic, legal and cultural context of learning. One reason for the lack of significance could be the timing of the year for the internship (summer) opportunity for the intern to be integrated into the overall culture for teaching and learning. In summer school there is only a sample of the regular student population, many of the regular school activities are put on pause for the summer and many of the regular staff are on vacation. Regular employed teachers are not contracted for summer school work. Program faculty should review these results as these assess two ISLLC standards, 5 and 6.

RQ4 examined if there were any gender differences in relation to the PIMA average scores ($p = .663$) the PIMA subtest scores (see table 4), GPA ($p = .239$), and the SLLA ($p = .331$). This study found no significant gender differences, which is a positive result for the PIMA. These findings support that the PIMA, SLLA test scores, nor the GPA are not biased by gender. If there was bias, that would hinder the validity of the test because that would infer the measure favored one gender over the other. Program faculty can view this result as positive because it integrates learning styles among gender, age, and ethnicity.

RQ5 examined if there were any age differences in relation to PIMA average scores ($p = .273$), PIMA subtest scores (see table 5), GPA ($p = .817$), and SLLA ($p = .556$). No significant age differences were found, which resulting in a favorable outcome for the PIMA because the measure ensures that all ages are treated equally. RQ6 examined if there were ethnicity differences seen in relation to the PIMA average scores ($p = .356$), PIMA subtest scores (see table 6), GPA ($p = .010$), and SLLA ($p = .003$). Notably, significant differences were observed between African American and Caucasian participants among SLLA total scores with $p = .010$. Also, the sample size was small so there may be possible limitations, with 39 participants in each group as 49 students did not indicate their ethnicity or described themselves as "Other." This finding is consistent with research that notes that African Americans score lower than Caucasians, "on tests that claim to measure scholastic aptitude and intelligence" scoring 75% lower on most standardized tests (Jencks & Phillips, 1989). Additionally, Caucasians obtain a higher GPA than African Americans (Johnson-Motoyama et al., 2014).

5.0 Recommendations for Leadership Practices

Results from this study will inform further adjustments in the PIMA as the new 2015 version of the ISLLC standards are implemented. The study further validates the use of the PIMA; thus, the program can have a measure of assurance in continuing this format in design and development to capture all 10 of the new standards. The field of educational leadership and ETS will also be designing a new SLLA in the near future based on the new (10) ISLLC standard format. Upon the revision to the SLLA and completing the new PIMA the program should replicate this study to better inform curriculum alignment and program improvement strategies. This study revealed the need for the program to be more proactive to identify ethnicity among program candidates or to provide further validation that a large number of candidates are indeed identifying themselves as "Other". The finding of statistical significance is very encouraging and a plus for the program. A clearer picture that takes into consideration these recommendations would be very beneficial for program awareness and improvement. A future study could also analyze PIMA qualitative data. This qualitative data is waiting for further study and analysis to better inform improvement efforts and train candidates for the reality of today's school leaders.

6.0 Conclusion

The literature indicates deficiencies in the preparation of educational leaders in today's university preparation programs. The literature is limited as to ways to measure the success of these educational leadership preparation programs. Results from this study concluded that the scores on the PIMA were effective in predicting scores for the SLLA. GPA was also an effective predictor of the SLLA. Additionally, PIMA subtests 1, 2, and 3 predicted SLLA scores. There are many questions still unanswered but the educational leadership preparation program in this study can immediately use the outcomes of this research project for program improvement.

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Table 1: Univariate Descriptives

	Mean	SD	Min	Max	Skewness	Kurtosis
GPA	3.81	0.22	2.82	4.00	-1.68	3.38
SLLA	174	9.20	150	194	-0.30	-0.30
PIMA_avg	3.61	0.34	2.58	4.00	-0.74	-0.10
PIMA1	3.46	0.50	2.00	4.00	-0.37	-0.80
PIMA2	3.69	0.40	2.75	4.00	-0.94	-0.51
PIMA3	3.58	0.41	2.00	4.00	-0.76	0.33
PIMA4	3.59	0.41	2.00	4.00	-0.73	0.34
PIMA5	3.81	0.34	2.50	4.00	-1.81	2.32
PIMA6	3.50	0.50	1.25	4.00	-1.14	2.20

Table 2: Coefficients for Model Variables

Predictor	B	β	t	p	Bivariate r	Partial r
GPA	13.3	0.31	3.56	.001	.296	.307
PIMA_avg	-78.1	-2.85	-1.16	.248	.203	-.104
PMSC1	15.3	0.83	1.34	.184	.232	.120
PMSC2	17.9	0.76	1.48	.141	.215	.133
PMSC3	14.9	0.67	1.31	.192	.201	.118
PMSC4	16.3	0.72	1.41	.160	.163	.127
PMSC5	12.4	0.46	1.04	.301	.091	.094
PMSC6	6.56	0.36	0.60	.550	.069	.054

Table 3: Relationships between GPA, PIMA Average Scores, PIMA Sub Scores, and SLLA Averages

	GPA	SLLA	PIMA	PIMA1	PIMA2	PIMA3	PIMA4	PIMA5	PIMA6
GPA	---	.29**	.23**	.28**	.09	.22*	.10	.08	.28**
SLLA	.29**	---	.18*	.21*	.20*	.18*	.16	.07	.07
PIMA	.23**	.18*	---	.81***	.83***	.83***	.73***	.75***	.82***
PIMA1	.28**	.21*	.81***	---	.60***	.67***	.41***	.50***	.57***
PIMA2	.09	.20*	.83***	.60***	---	.59***	.59***	.64***	.57***
PIMA3	.22*	.18*	.83***	.67***	.59***	---	.50***	.59***	.62***
PIMA4	.10	.16	.73***	.41***	.59***	.50***	---	.37***	.61***
PIMA5	.08	.07	.75***	.50***	.64***	.59***	.37***	---	.52***
PIMA6	.28**	.07	.82***	.57***	.57***	.62***	.61***	.52***	---

Notes. * Indicates significance at $p < .05$. **Indicates significance at $p < .01$. *** Indicates significance at $p < .001$. Several cases presented with missing data fields, however all correlational relationship samples ranged from $n = 131$ through $n = 135$.

Table 4: ANOVA Summary Table

DV	Gender	N	M	SD	Min	Max	F	df1	df2	p
GPA							1.40	1	133	.239
	Female	97	3.83	0.19	3.29	4.00				
	Male	38	3.78	0.27	2.82	4.00				
	Total	135	3.81	0.22	2.82	4.00				
SLLA							0.95	1	133	.331
	Female	97	175	9.12	150	194				
	Male	38	173	9.06	152	188				
	Total	135	174	9.15	150	194				
PIMA							0.19	1	133	.663
	Female	97	3.62	0.36	2.58	4.00				
	Male	38	3.58	0.31	2.71	4.00				
	Total	135	3.60	0.35	2.58	4.00				
PIMA1							0.22	1	133	.643
	Female	97	3.48	0.51	2.00	4.00				
	Male	38	3.42	0.47	2.50	4.00				
	Total	135	3.45	0.53	1.25	4.00				
PIMA2							0.05	1	133	.821
	Female	97	3.70	0.39	2.75	4.00				
	Male	38	3.67	0.40	2.75	4.00				
	Total	135	3.68	0.39	2.75	4.00				
PIMA3							0.31	1	133	.578
	Female	97	3.59	0.41	2.00	4.00				
	Male	38	3.55	0.41	2.50	4.00				
	Total	135	3.58	0.41	2.00	4.00				
PIMA4							1.29	1	131	.258
	Female	95	3.61	0.41	2.00	4.00				
	Male	38	3.52	0.39	2.50	4.00				
	Total	133	3.59	0.41	2.00	4.00				
PIMA5							1.46	1	133	.229
	Female	97	3.79	0.37	2.50	4.00				
	Male	38	3.86	0.26	3.00	4.00				
	Total	135	3.80	0.35	2.50	4.00				
PIMA6							0.52	1	131	.471
	Female	95	3.52	0.46	2.25	4.00				
	Male	38	3.46	0.59	1.25	4.00				
	Total	133	3.51	0.50	1.25	4.00				

Table 5: ANOVA Summary Table

<i>DV</i>	<i>Age Group</i>	<i>N</i>	<i>M</i>	<i>SD</i>	<i>Min Max</i>	<i>F</i>	<i>df1</i>	<i>df2</i>	<i>p</i>
<i>GPA</i>						0.31	3	130	.817
<30 y.o.	19	3.77	0.20	3.40	4.00				
30-37	50	3.81	0.22	2.82	4.00				
38-46	42	3.82	0.24	3.08	4.00				
46<	23	3.84	0.18	3.44	4.00				
Total	134	3.81	0.22	2.82	4.00				
<i>SLLA</i>						0.70	3	130	.556
<30 y.o.	19	176	7.15	163	188				
30-37	50	175	9.01	157	194				
38-46	42	173	9.11	152	189				
46<	23	172	10.8	150	189				
Total	134	174	9.14	150	194				
<i>PIMA</i>						1.31	3	130	.273
<30 y.o.	19	3.47	0.35	3.00	4.00				
30-37	50	3.59	0.35	2.65	4.00				
38-46	42	3.66	0.35	2.58	4.00				
46<	23	3.61	0.32	3.00	4.00				
Total	134	3.60	0.35	2.58	4.00				
<i>PIMA1</i>						1.063	130	.367	
<30 y.o.	19	3.33	0.59	2.00	4.00				
30-37	50	3.38	0.56	1.25	4.00				
38-46	42	3.54	0.51	2.00	4.00				
46<	23	3.50	0.44	3.00	4.00				
Total	134	3.45	0.53	1.25	4.00				
<i>PIMA2</i>						1.13	3	130	.341
<30 y.o.	19	3.55	0.46	2.75	4.00				
30-37	50	3.70	0.39	2.75	4.00				
38-46	42	3.70	0.34	3.00	4.00				
46<	23	3.64	0.43	3.00	4.00				
Total	134	3.68	0.39	2.75	4.00				
<i>PIMA3</i>						1.29	3	130	.282
<30 y.o.	19	3.47	0.37	3.00	4.00				
30-37	50	3.55	0.39	2.75	4.00				
38-46	42	3.67	0.47	2.00	4.00				
46<	23	3.54	0.39	3.00	4.00				
Total	134	3.58	0.41	2.00	4.00				
<i>PIMA4</i>						0.42	3	130	.737
<30 y.o.	19	3.50	0.42	3.00	4.00				
30-37	48	3.59	0.39	2.50	4.00				
38-46	42	3.59	0.44	2.00	4.00				
46<	23	3.64	0.39	3.00	4.00				
Total	132	3.59	0.41	2.00	4.00				
<i>PIMA5</i>						2.54	3	130	.060
<30 y.o.	19	3.63	0.50	2.50	4.00				
30-37	50	3.84	0.30	3.00	4.00				
38-46	42	3.86	0.30	2.75	4.00				
46<	23	3.73	0.38	3.00	4.00				
Total	134	3.80	0.35	2.50	4.00				
<i>PIMA6</i>						1.24	3	128	.297
<30 y.o.	19	3.33	0.39	2.75	4.00				
30-37	48	3.49	0.47	2.00	4.00				
38-46	42	3.55	0.59	1.25	4.00				
46<	23	3.60	0.44	3.00	4.00				
Total	132	3.50	0.50	1.25	4.00				

Table 6: ANOVA Summary Table

<i>DV</i>	<i>Ethnic Group</i>	<i>N</i>	<i>M</i>	<i>SD</i>	<i>Min Max</i>	<i>F</i>	<i>df1</i>	<i>df2</i>	<i>p</i>
<i>GPA</i>						6.96	1	76	.010
	African American	39	3.73	0.25	2.82				
	Caucasian	39	3.86	0.17	3.29				
	Total	78	3.79	0.23	2.82				
<i>SLLA</i>						9.48	1	76	.003
	African American	39	171	9.56	150				
	Caucasian	39	177	7.78	157				
	Total	78	174	9.18	150				
<i>PIMA</i>						0.86	1	76	.356
	African American	39	3.55	0.33	2.65				
	Caucasian	39	3.62	0.31	3.04				
	Total	78	3.58	0.32	2.65				
<i>PIMA1</i>						1.48	1	76	.228
	African American	39	3.31	0.56	1.25				
	Caucasian	39	3.46	0.52	2.00				
	Total	78	3.39	0.54	1.25				
<i>PIMA2</i>						0.01	1	76	.942
	African American	39	3.68	0.39	2.75				
	Caucasian	39	3.67	0.39	2.75				
	Total	78	3.68	0.39	2.75				
<i>PIMA3</i>						0.39	1	76	.532
	African American	39	3.52	0.37	3.00				
	Caucasian	39	3.58	0.41	3.00				
	Total	78	3.55	0.39	3.00				
<i>PIMA4</i>						0.12	1	75	.734
	African American	38	3.60	0.39	2.50				
	Caucasian	39	3.63	0.37	3.00				
	Total	77	3.61	0.38	2.50				
<i>PIMA5</i>						1.79	1	76	.185
	African American	39	3.72	0.44	2.50				
	Caucasian	39	3.83	0.33	2.75				
	Total	78	3.78	0.39	2.50				
<i>PIMA6</i>						0.45	1	74	.505
	African American	37	3.45	0.41	2.75				
	Caucasian	39	3.52	0.45	2.75				
	Total	76	3.49	0.43	2.75				