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POLICY BRIEF

Relationship of Peer Leadership Employment to Academic Outcomes in Texas Institutions of Higher Education

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What We Studied

The purpose of this quantitative study was to examine the relationship of participation and involvement in an undergraduate student success program to academic success and persistence among students in three programs sponsored by the Texas Higher Education Coordinating Board (THECB): The G-Force Collegiate Work-Study Mentorship Program, the Advancement Via Individual Determination (AVID) for Higher Education (AHE) program, and the THECB work-study program. Specifically, the study focused on selected and trained G-Force peer mentors and AHE peer tutors at Texas institutions of higher education as compared to students awarded work-study through the Texas Higher Education Coordinating Board.

The topic of student success has been a growing focus of research and practice in higher education. College enrollment, grades, persistence toward graduation, credit hour attainment, length of time to graduation, standardized test scores, and graduation have all served as primary indicators of college student success (Venezia, Callan, Finney, Kirst, & Usdan, 2005; Kuh, Kinzie, Buckley, Bridges, & Hayek, 2007). Moreover, the achievement of these student success indicators for specific collegiate populations such as underrepresented students and first-generation college students has been a primary focus; many whom are low-income and are may not be prepared for the academic rigors of higher education (Pascarella & Terenzini, 2005; Tinto, 1988). The breadth of influences on student success is ever growing. The framework for describing what matters to students succeeding in college includes the areas of pre-college experiences, student behaviors, institutional conditions, and post- college outcomes (Kuh et al., 2007). Student engagement, or the point of intersection between student behaviors and institutional conditions, has become an increasingly important area of focus for higher education as it largely includes elements that institutions can marginally control (Kuh, Kinzie, Schuh, Whitt, & Associates, 2005). These elements, which may include purposeful student-faculty and peer-to- peer contact, inclusive campus environments, and active and collaborative learning environments, can significantly contribute to the achievement of anticipated college outcomes and overall satisfaction of the college experience (Astin, 1984, 1993; Chickering & Gamson, 1987; Pascarella & Terenzini, 2005).

The Texas Higher Education Coordinating Board (THECB) has responded to national and state concerns of educational and student success by launching several initiatives since 2002 with the intention of contributing to the Closing the Gaps goals set by the 77th State Legislature and increasing overall student success and graduation attainment in Texas, specifically for African American, Hispanic, and male college students. Two primary programs initiated and supported by THECB are the Collegiate G-Force Work Study Mentorship Program and the AVID Postsecondary Project. These two programs employ college students in peer leadership roles to positively influence student awareness, education, retention, and success in higher education. The Collegiate G-Force Mentorship Program utilizes peer mentors to share the message of going to and succeeding in college. The AVID Postsecondary Project, or AVID for Higher Education (AHE), utilizes peer mentors and tutors to serve as role models in the first- year seminar and tutoring centers on the campuses to first year students and students in need of additional academic support. Both of

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these programs were created by THECB to meet rising demands of promoting student success and college degree attainment while supporting college student financial and educational needs.

How We Analyzed the Data

The following questions guided the research study:

- RQ 1: What are the demographic characteristics of students who serve as AHE peer tutors, G- Force Work-Study peer mentors, and students in other work study programs in Texas?
- RQ 2: Is there a difference in persistence among AHE peer tutors, G-Force peer mentors and students who participate in other work-study programs in Texas?
- RQ 3: Is there a difference in grade point average among AHE peer tutors, G-Force peer mentors, and students in other work-study programs in Texas?
- RQ 4: What is the relationship of being an AHE peer tutor or G-Force peer mentor position to student persistence, controlled for gender, race, ethnicity, pre-program GPA, and length of time in position, compared to students in other work study programs in Texas?
- RQ 5: What is the relationship of being an AHE peer tutor or G-Force peer mentor position to student grade point average, controlled for gender, race, ethnicity, pre-program GPA, and length of time in position, compared to students in other work study programs in Texas?

This study utilized quantitative methodology in order to make inferences about the data and used secondary data for analysis purposes. Utilizing Astin's I-E-O Model (1984) as a conceptual framework, participants were categorized as either a peer tutor in the AHE program or peer mentor in the G-Force Work -Study Mentorship Program or students awarded work-study through the THECB work-study program. The categorical variables measured included racial and ethnic background, gender, number of years in the program, and pre-program GPA. Data were gathered from the Education Research Center (ERC) at the University of Texas in Austin, TX. These variables were included in the data analysis in order to make inferences about the persistence and program GPA outcome variables.

The population for the study includes all students who are selected as peer tutors through AHE and peer mentors through G-Force work-study mentorship program at grant funded institutions in Texas during 2009-2013. The comparison group comprises of all students awarded work-study aid through the THECB work-study program during 2009-2013. To measure the descriptive characteristics of the sample in research question one, descriptive statistics were used. To address research question two, a chi- square test was used to measure the difference in persistence for peer tutors and peer mentors compared to work-study students. To address research question three, an ANOVA was used to test the difference in program GPA among the three groups, analyzing for any statistical significance. Data analysis to support research question four utilized logistic regression analysis to infer the relationship between involvement in AVID and G-Force and persistence towards graduation for the participants, while controlling for descriptive characteristics, in comparison to work-study students. Similarly, research question 5 utilized multiple regression analysis to examine the relationship between the involvement in the AVID and G-Force program and the descriptive variables on GPA for the participants, compared to work-study students.

What We Discovered

Appendix A includes tables outlining the demographic breakdown of the overall study population and the groups of study. Females made up a majority of the overall population. Hispanic students were a majority in the AHE and G-Force programs in the ethnicity category. White students and students who marked unknown were the majority in the racial category. GPA increased for the overall sample from pre-program to during program participation. Both AHE and G-Forced increased in GPA points while work-study decreased. Additionally, a large majority of students persisted in all groups in the persistence category.

The study aimed to measure the differences among the three groups in terms of program GPA and persistence as well as the relationship between the outcome variables and program association. The results found that while there were differences among the three groups in program GPA and persistence, there was no relationship between being a part of

the AHE, G-Force, or work-study program and whether a student received a high GPA while in the program or persisted toward graduation. The AHE and G-Force Work-Study Mentorship programs had significantly less students fail to drop out than expected, which is positive for the purposes of this study and the goals of the program. Both pre-program GPA and length of time in the program produced a statistically significant relationship to persistence and pre-program GPA produced a statistically significant relationship to program GPA. This suggests that the GPA prior to being admitted to one of the three programs is significant in its relation to persisting towards graduation and academic success while in a program, further supporting the idea that prior academic achievement has a strong influence on academic achievement as a student gets deeper into their studies (Kuh, Cruce, Shoup, Kinzie, & Gonyea, 2008).

Additionally, the length of time a student participates in the programs is significant in predicting if a student will persist towards graduation. This result reinforces Hu and Kuh's (2003) earlier study which found a relationship between amount of time involved and achieving academic outcomes. However, there was not a significant correlation between the particular programs and persistence, suggesting that consistency and repetition in program participation is more relevant to persistence than the particular program in which they are associated. Similarly, the individual programs produced no significant relationship with GPA.

Policy Recommendations

- Practitioners in academics and student affairs should continue to highlight the importance of high academic achievement early in the collegiate experience. Pascarella and Terenzini (2005) noted that grades are the single best indicator of persistence, degree completion, and graduate school enrollment, therefore its emphasis among students and in higher education research is warranted. First-year GPA is a critical starting point for students as they prepare to their academic goals and plan to get involved in student leadership and engagement opportunities. Transparency with students at this stage is paramount to their knowledge of how best to be successful as a college student, which includes not only academic achievement but also social integration and interaction with the collegiate environment. Programs such as AHE and the G- Force Work-Study Mentorship program facilitate and aide in these areas for students as they aim for college completion and academic success. It is recommended that increased focus on the academic success of students in the first and second year become a target area for these programs and institutions in the state through programmatic efforts inside and outside the classroom.

- Based on the results of this study, practitioners should also encourage participation in an involvement or employment opportunity beyond one year in order to facilitate an environment where persistence towards graduation is encouraged. It is through this continued participation that students may build a sense of community and responsibility to their peer leadership position; therefore the longer they participate in the program, the closer they draw to graduation. This length of time also allows for students to become more engaged in the program and their institution by solidifying peer relationships and faculty/staff interactions, which has been shown to positively contribute toward student success (Astin, 1993b, Kuh et al., 2007). However, considering Shook and Keup's (2012) research on peer leadership, practitioners should encourage a healthy level of involvement so as to not be a detriment to student's achievement of the intended educational outcomes due to over-involvement and associated stress.

- It is recommended to review program elements of AVID and G-Force Work-Study Mentorship specifically because there were significant differences in GPA, to see how they may contribute to improve GPA while in the program, if at all. Both the AHE and Work-Study Mentorship programs are spread across several campuses in the state of Texas that each provides a unique environment to the students they serve. Practitioners looking to positively affect student success outcomes should review elements of various programs that may support and encourage a student's desire to persist and achieve better grades. Furthermore, valuable research would be gained from delving into student's perceptions of their participation experience to study whether there is a true program effect, institutional effect, or personal indicators that may affect student success.

- A future opportunity for research study would be the comparison across institutional type, longevity of the program, program size, admission requirements, training requirements, etc. to provide a deeper look at the elements that contribute to the differences in persistence and GPA.

- Further research study using a student survey, focus groups, or individual interviews to gain a deeper look at additional environmental factors that may contribute to persistence and GPA would provide great insight on the influential elements to student success, specifically for the diverse groups taking advantage of these programs. These environmental factors may include other student success initiatives/services, student involvement, program/degree requirements, faculty/staff/peer relationships, financial considerations, etc.

- In reviewing demographics of the students involved in the programs, these results show that the individual indicators do not make much difference in whether a student will persist or not towards graduation, or if there is a relationship to increasing their GPA. The study included various demographic characteristics but did not go to the extent of looking at the differences in persistence and GPA among the various ethnic, racial, and gender characteristics as well as other input factors that may address who the students are individually. The AVID and Work- Study Mentorship programs are geared primarily toward the success of minority and first- generation college students, therefore it would be beneficial for future research to look at the differences in outcome achievement among a wider range of descriptive variables for further understanding on who is benefitting from program participation and how to increase the overall success of all students involved in the programs.

The primary focus of this research was selected because of the vast amounts of time, energy, and funding dedicated to student success programs such as AVID for Higher Education and the Collegiate Work-Study Mentorship programs. These programs, and similar programs across college and university campuses, were created to positively affect educational outcomes such as enrollment in higher education and graduation, but also provide an on-campus resource for students who are in need of additional financial and academic support to achieve their personal and professional goals. The strategies behind these programs are based in higher education research; however, it is through additional research on the achievement of academic outcomes that the futures of programs that have helped so many students attend and complete college is justified. It is my hope that this research provides a foundation for future research on student success initiatives aimed at not only engaging students in educationally purposeful activities but are also contributing to the academic, professional, and personal success.

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Appendix A: Tables

Table A1: *Program and Gender Distribution by Total Sample and by Program*

			Gender			
	N	Percent	Male	Percent	Female	Percent
AVID	226	2.9%	76	33.6%	150	66.4%
WSM	588	7.6%	198	33.7%	390	66.3%
TX WS	6893	89.4%	2512	36.4%	4381	63.6%
Total	7707	100%	2786	36.1%	4921	63.9%

Table A2: *Ethnic Distribution by Total Sample and by Program*

			Program					
	N	Percent	AVID	Percent	WSM	Percent	TX WS	Percent
Hispanic or Latino Origin	3471	45%	134	59.3%	388	66%	2949	42.8%
Not Hispanic or Latino Origin	3418	44.3%	86	38.1%	157	26.7%	3175	46.1%
Not Answered	818	10.6%	6	2.7%	43	7.3%	769	11.2%
Total	7707	100%	226	2.9%	588	7.6%	6893	89.4%

Table A3: *Racial Distribution by Total Sample and by Program*

			Program					
	N	Percent	AVID	Percent	WSM	Percent	TX WS	Percent
White	3203	40.6%	109	47.6%	199	33.1%	2895	41%
Black	1684	21.3%	21	9.2%	91	15.1%	1572	22.3%
Asian	405	5.1%	3	1.3%	29	4.8%	373	5.3%
Native American	185	2.3%	5	2.2%	10	1.7%	170	2.4%
International	19	0.2%	0	0%	10	1.7%	9	0.1%
Pacific Islander	26	0.3%	0	0%	2	0.3%	24	0.3%
Unknown	2375	30.2%	91	39.7%	260	43.3%	2024	28.6%
Total	7897	100%	229	2.9%	601	7.6%	7067	89.4%

Table A4: *Means for Pre-Program GPA and Program GPA Variables by Total Sample and by Program*

Overall			Program					
			AVID		WSM		TX WS	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Pre-Program GPA	2.83	.663	3.25	.569	2.97	.681	2.81	.660
Program GPA	2.85	.757	3.27	.575	3.03	.650	2.78	.828
Difference	+.02		+.02		+.06		-.03	

Table A5: Persistence Distribution *by Total Sample and by Program*

		Overall		Program					
		N	Percent	AVID	Percent	WSM	Percent	TX WS	Percent
Persistence	Yes	6142	79.7%	200	88.5%	520	88.4%	5422	78.7%
No		1565	20.3%	26	11.5%	68	11.6%	1471	21.3%
Total		7707	100%	226	100%	588	100%	6893	100%

Table A6: *Chi-Square Analysis-Differences in Persistence by Program*

	Program				
	AVID	WSM	TX WS	$\chi 2$	Φ
No	26 (-2.9)	68 (-4.7)	1471 (1.9)	43.141**	.075
Yes	200 (1.5)	520 (2.4)	5422 (-1.0)		
Total	226	588	6893		

Table A7: *ANOVA Descriptives*

				Interval for Mean	
	N	Mean	SD	SE	Lower Bound	Upper Bound
AVID	194	3.2719	.57367	.04119	3.1906	3.3531
WSM	193	3.0340	.68822	.04954	2.9363	3.1317
TX WS	221	2.79691	.84154	.05661	2.6845	2.9077
Total	608	3.0234	.74143	.03007	2.9644	3.0825

Table A8: *Logistic Regression Analysis for Persistence*

						95% C.I. for Exp(*B*)	
Independent Variable	*B*	SE	*z*	*P >z*	Exp(*B*)	Lower Limit	Upper Limit
AVID	-.071	.311	-.23	.820	.93	-.680	.539
WSM	.413	.233	1.77	.076	1.51	-.044	.870
TX WS	Baseline Grp						
Gender	-.117	.099	-1.18	.238	.89	-.311	.077
Pre-Program GPA	.841	.075	11.28	.000	2.32	.694	.987
Length of Time	.434	.106	4.08	.000	1.54	.226	.643
Latino/a	.161	.102	1.57	.117	1.17	-.040	.361
White	-.404	.406	-1.00	.319	.67	-1.20	.391
Black	-.332	.410	-.81	.418	.72	-1.14	.472
Asian	.311	.458	.68	.496	1.37	-.586	1.21
Native American	.367	.435	.84	.399	1.44	-.486	1.22
Unknown	-.265	.426	-.62	.533	.77	-1.10	.596
Pacific Islander							
Constant	-1.033	.516	-2.00	.045	.36	-2.04	-.022

Model χ2	181.26	p <.001
McFadden's R^2	.0596	
N	3572	

Note: TX WS omitted because of collinearity. International predicted success perfectly therefore was dropped and four observations were removed. Pacific Islander was not included in the count due to small numbers.

Table A9: *Multiple Regression Coefficients*[a]

Independent Variable	*B*	SE	*t*	Sig.	Tolerance	VIF
AVID	.030	.078	.39	.697	.713	1.403
WSM	Baseline group					
TX WS	-.061	.045	-1.366	.172	.701	1.427
Gender	-.188	.022	-5.369	.000	.983	1.017
Pre-Program GPA	.618	.016	37.811	.000	.927	1.079
Length of Time	.027	.020	1.334	.182	.986	1.014
Latino/a	.008	.022	.352	.725	.478	2.094
White	.077	.089	.870	.384	.061	16.439
Black	-.061	.090	-.676	.499	.075	13.260
Asian	.142	.095	1.488	.137	.215	4.658
Native American	.068	.087	.778	.437	.778	1.286
Unknown	.002	.093	.019	.985	.054	18.470
Pacific Islander						
Constant	1.125	.121	9.330	.000		

[a]*Dependent Variable: Cumulative Program GPA*