
■ Understanding First-Generation Community College Students: An Analysis of Covariance Examining Use of, Access to, and Efficacy Regarding Institutionally Offered Services

Ryan Shumaker
J. Luke Wood

Ryan Shumaker is the Associate Dean of Athletics at Cuyamaca College in El Cajon, California.

Dr. Wood is the Director of the Doctoral Program in Community College Leadership at San Diego State University.

Institutionally offered student services (e.g., academic advising, career counseling, personal counseling, and educational planning) are available in community colleges to help students with the transition into postsecondary education, obtain success while in college, and transition to the next phase of their educational, career, and life journeys (Navarez & Wood, 2010). Access to, efficacy regarding, and use of these services are necessary to consume all of the benefits of these services (Wood, Harris, & Xiong, 2014). Although nontraditional students (e.g., first-generation college students, students of color, low-income students) tend to have the highest need for these services, they often do not to take full advantage of the services available to them (Atherton, 2014). This utilization gap can be examined to inform institutional practices aimed at improving student success for first-generation college students (FGCS) at the college level.

Community colleges have historically served nontraditional students, including first-generation college students (FGCS). The operational definition for FGCS is a college student whose parents did

not graduate from college with at least a bachelor's degree (Byrd, 2005). Large portions of FGCS have more limited preparation for college (Byrd, 2005) than traditional students. This fact only widens the achievement gap between FGCS and their peers. A student's ability to navigate the college culture has been closely tied to exposure to college-going culture, including parents who are college graduates. Furthermore, the navigation of this culture has also proven to contribute to academic success (Byrd, 2005). FGCS students often have more limited social and cultural capital, which can impede their success in college (Atherton, 2014). Because of this, many FGCS tend to become isolated while experiencing frustrations with the educational system, creating difficulties with transitioning from high school into postsecondary education (Atherton, 2014). This circumstance calls for further investigation into how FGCS experience services at their college. Additionally, it is imperative to explore how FGCS use institutionally offered services as well as uncover their feelings regarding the use of the services. This analysis focused on whether or not there were differences in service access, service efficacy, and service use for respondents based on their generational status of first-generation college student or non-first-generation college student (non-FGCS).

Because of the achievement gap that has been identified within the FGCS population, coupled with the budding population of FGCS in community colleges, institutions are now faced with the responsibility of addressing the needs of this student population (Gibbons & Woodside, 2014).

In general, there are two schools of thought regarding the role of the institution in facilitating success for students. One school of thought assumes that student success is a function of the student. From this perspective, many scholars have supported the notion that FGCS must adapt and overcome these obstacles to their education by employing characteristics of self-determination and internal motivation (Próspero et al., 2012). Another school of thought is that of institutional responsibility researchers (IRR) (Wood & Palmer, 2015). These researchers suggest that the onus of student success is on institutions. From this perspective, researchers acknowledge challenges but focus on the institutional role in alleviating pressures that are within their control. For example, Rendón mentions that students who are transitioning into college experiences struggle with negotiating their identity, being perceived as different, leaving old friends behind, separating from their families, and living between two worlds (Rendón, 1995). An institutional responsibility perspective necessitates understanding these struggles. From this view, institutions of higher edu-

cation have a responsibility to understand and examine the role that they play in the experience and success of their FGCS population. One critical way this occurs is through the provision of support services that can alleviate transition challenges and support student success. Bearing this in mind, this study sought to uncover how the experiences with support services may differ between first-generation and non-first-generation students. It is the researchers' hope that the information derived from this study would inform promising practices and deliver tangible solutions to administrators, staff, and faculty employed at institutions of higher education.

Theoretical Framework

The theoretical framework employed in this study was the Socio-Ecological Outcomes (SEO) model as articulated by Wood, Harris III, and White (2015). The SEO model is informed by the published research on college men of color. The model adheres inputs, experiences, and outcomes framework. There are two primary types of inputs, background/defining and societal. Background/defining variables refer to background characteristics of the students, such as their age, socioeconomic status, and defining characteristics (e.g., time status, academic proficiency), which influence their experiences in college. Societal factors refer to large socio-cultural issues facing men of color, including stereotypes, prejudice, and economic stress. These background/defining and societal factors serve to influence their success in college, particularly through their intersection with four socioecological domains. These domains include the following: a) noncognitive domain—comprised of effective dispositions and salient identities (e.g., masculine, racial) that influence the ways they interact and interpret their college experiences; b) academic domain—representing their interactions and involvement on campus with faculty, staff, student services, and their commitment to their course of study; c) environmental domain—encapsulating challenges that occur outside of college that influence student success inside of college, namely transportation concerns, finances, familial responsibilities, and stressful life events; and d) campus ethos—accounting for the campus climate and culture that fosters or inhibits and environment that is welcoming, affirming, validating, and that meets students' needs. Part of this domain includes students' access to services and perceived efficacy of services. With respect to this current study, the researchers were most interested in the interplay between the campus ethos domains, particularly as it related to students' perceptions of services, and the noncognitive domain.

METHODS

Data from this study were derived from the Community College Success Measure (CCSM). The CCSM is an institutional-level needs assessment tool employed by community colleges to examine factors affecting the success of historically underrepresented and underserved students, particularly men of color. The instrument has been randomly distributed to 17,000 men across 68 community colleges. The instrument is designed to assess factors associated with the aforementioned SEO model. This sample was delimited to a sample of 1,398 students at a large, suburban, high-transfer community college. This institution was selected for analysis because of its role as a high-transfer institution. Specifically, the researchers were interested in how service access, service use, and service efficacy differed by generational status at an institution that was successful in transferring students. As such, the outcome variables employed in this study were service access, service efficacy, and service use. Service access was defined as the perceived level of accessibility provided by campus services. Service efficacy was defined as the perceived level of usefulness provided by campus services. Service use was defined as the amount of time respondents have spent using campus services (i.e., academic advising, career counseling, transfer services, school library, computer labs, tutoring service). These variables were all composite scales derived from students' responses to multiple items reflective on the construct.

The factor variable was generational status among community college students including: first-generation and non-first-generation. Several covariates were used, including gender identity, hours worked off-campus, stressful life events, and total credits earned. These variables were chosen to control because they are known to have a compounding effect on relationships with institutional services as shown in the Community College Socio-Ecological Model (Wood, Harris, & Xiong, 2014).

Data in this study were analyzed using analysis of covariance (ANCOVA). After controlling for the covariates, separate models were generated for each of the factor variables. Custom models were employed to test the homogeneity of slopes assumption, with tradition ANCOVA models used for omnibus tests. Effect sizes were tested using partial eta squared and R^2 for the full model. Partial eta effect sizes of .01, .06, and .14 were interpreted as small, medium, and large, respectively (Green & Salkind, 2009). All post hoc tests were assessed at .05 but engaged Bonferroni corrections to adjust for potential Type 1 errors.

RESULTS

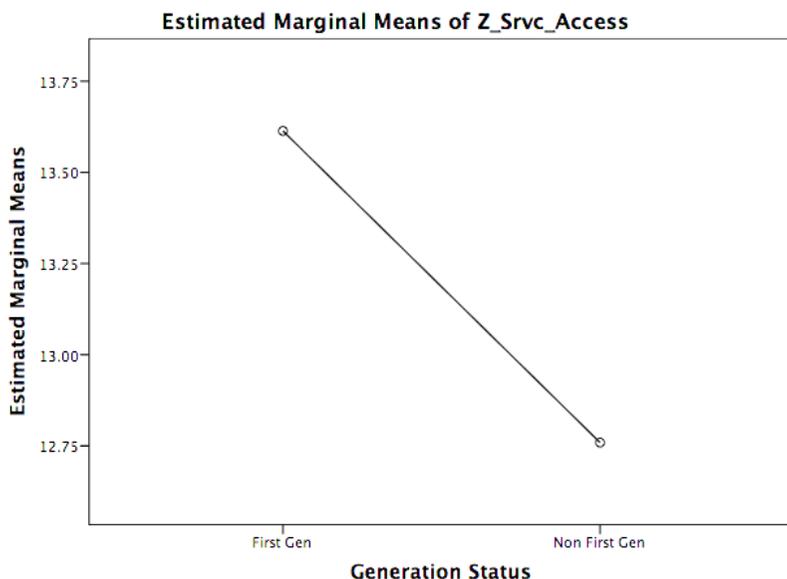
Service Use

The first analysis focused on whether or not there were differences in service use for respondents based on their generational status of first-generation college student (FGCS) or non-first-generation college student (non-FGCS). The test for homogeneity of slopes was not violated. The ANCOVA test indicated that there were no significant differences between groups on the outcome of service use ($F=0.972$, $p= .324$).

Service Access

The second analysis focused on whether or not there were differences in service access for respondents based on their generational status of FGCS or non-FGCS. The test for homogeneity of slopes was not violated. As a result, all control variables were used in the full factorial model. The ANCOVA test indicated that there were significant differences between groups on the outcome of service access ($F=20.424$, $p< .001$). The model accounted for 2.1% in the outcome according to the n^2 ($\text{adj}R^2= .014$). This represents a small effect size.

Prior to adjustment, the mean scores for levels of access were as follows: FGCS ($M=13.61$) and non-FGCS ($M=12.76$). After adjustment, the mean scores of the factors were: FGCS ($M=13.61$) and non-FGCS ($M=12.76$). Pairwise comparisons were made using the Bonferroni procedure. FGCS had higher levels of access to services than non-FGCS ($MD= .855$, $p< .001$).

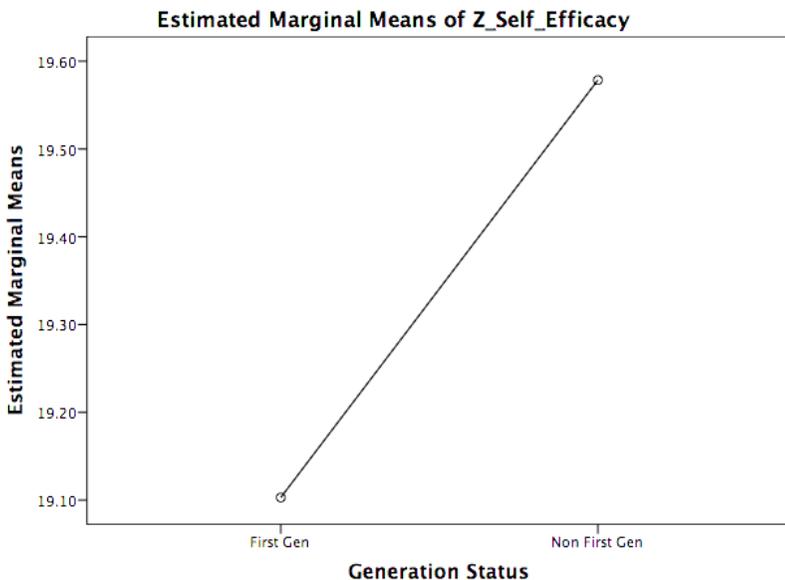


Covariates appearing in the model are evaluated at the following values: GENDER_IDNTY = 1.56, HRS_WORKING_OFF = 2.92, STRESS_NEW = 3.3439, HRS_WORKING_OFF_NEW = 2.8000

Service Efficacy

The third analysis focused on whether or not there were differences in service efficacy for respondents based on generational status. As with the prior analyses, the test for homogeneity of slopes was not violated. The ANCOVA test indicated that there were significant differences between groups on the outcome of service efficacy ($F=4.491$, $p<.05$). The model accounted for 2.4% ($adjR^2=.020$) of the variance in the dependent variable, according to n^2 . This represents a small effect size.

Prior to adjustment, the mean scores for levels of access were as follows: FGCS ($M=19.13$) and non-FGCS ($M=19.57$). After adjustment, the mean scores of the factors were: FGCS ($M=19.10$) and non-FGCS ($M=19.58$). Pairwise comparisons were made using the Bonferroni procedure. FGCS had lower levels of efficacy to services than non-FGCS ($MD=.475$, $p<.05$).



Covariates appearing in the model are evaluated at the following values: GENDER_IDNTY = 1.56, HRS_WORKING_OFF = 2.93, STRESS_NEW = 3.3371, HRS_WORKING_OFF_NEW = 2.8061

While this section has provided contextualized information regarding relationships between factors, the following section will further substantiate the findings of this study.

DISCUSSION

As previously discussed, this study sought to analyze whether or not there were differences in service access, service efficacy, or service use for respondents based on their generational status of first-generation college student (FGCS) or non-first-generation college student (non-FGCS). After employing relevant controls, this research did not identify a difference in service use scores for students by generational status. The study did indicate significance in rates of service access and service efficacy between FGCS and non-FGCS. While these represented a small effect size, they illustrated a common pattern, which showed that community colleges may struggle to facilitate parity in the benefits of institutional services for first-generation students, even though they use them to the same degree as non-first-generation students. These findings substantiate assumed dissimilarities between the groups examined in the study.

IMPLICATIONS & CONCLUSION

Traditionally, practitioners in higher education have believed that FGCS simply did not use services as much as non-FGCS (Barry, Hudley, Kelly, Cho 2009). Contrary to prior research, this study found that FGCS actually use institutionally offered services at the same rate as non-FGCS, yet experience disparate benefits from the services. This finding is crucial in understanding that institutions have missed the mark on properly and successfully serving the FGCS population, even when the opportunity to serve these students is presented and executed.

Colleges and other practitioners in higher education should develop and cultivate programming to assist with the support of FGCS, especially in regards to service access and service efficacy. Human resources, professional development, student outreach, recruitment policies, and procedures should consider the FGCS population when examining promising practices within institutions of higher education. Appropriate delivery of services to FGCS from college stakeholders can help to narrow the achievement gap between FGCS and non-FGCS.

In conclusion, FGCS have offered institutions the opportunity to examine their promising practices and procedures with a critical lens. Unfortunately, most institutions are still operating at a deficit when it comes to serving the FGCS population in community colleges. The awareness gained through this study provides additional documentation that offers the conclusion that there is a lot of work to be done in community colleges when it comes to understanding the needs of the FGCS population regarding service access and efficacy.

While prior studies have found that FGCS use of institutionally offered services to be lower than that of their traditional student peers, this study sheds light onto an issue that has not yet been identified. While use of services was similar between FGCS and their non-FGCS peers, the FGCS in this study experienced disparate benefit of those services. Refinement of practice will prove helpful in supporting FGCS in the foreseeable future within institutions that are experiencing disparate impact within institutions of higher education.

CITATIONS

- Atherton, M. C. (2014). Academic preparedness of first-generation college students: Different perspectives. *Journal of College Student Development*, 55(8), 824–829. <http://doi.org/10.1353/csd.2014.0081>
- Barry, L. M., Hudley, C., Kelly, M., & Cho, S.-J. (2009). Differences in self-reported disclosure of college experiences by first-generation college student status. *Adolescence*, 44(173), 55–68.
- Byrd, K. L. (2005). Defining college readiness from the inside out: First-generation college student perspectives, 22–37.
- Gibbons, M. M., & Woodside, M. (2012). Addressing the needs of first-generation college students: Lessons learned from adults from low-education families. *Journal of College Counseling*, 17(1), 21–36. <http://doi.org/10.1002/j.2161-1882.2014.00045.x>
- Green, S. B., & Salkind, N. J. (2009). Using SPSS for Windows and Macintosh: Analyzing and understanding data (5th ed.). Upper Saddle River, NJ: Pearson
- Nevarez, C., & Wood, J. L. (2010). *Community college leadership and administration: Theory, practice, and change*. New York, NY: Peter Lang.
- Prospero, M., Russell, A. C., & Vohra-Gupta, S. (2012). Effects of motivation on educational attainment: Ethnic and developmental differences among first-generation students. *Journal of Hispanic Higher Education*, 11(1), 100–119. <http://doi.org/10.1177/1538192711435556>
- Rendon, L. I. (1995). Facilitating retention and transfer for first generation students in community colleges. *ERIC*, 1–13. Retrieved from <http://eric.ed.gov/?id=ED383369>
- Wood, J. L., Harris III, F., & White, K. (2015). *Teaching men of color in the community college: A guidebook*. San Diego, CA: Montezuma.
- Wood, J. L., Harris III, F., & Xiong, S. (2014). Advancing the success of men of color in the community college: Special issue on the Community College Survey of Men. *Journal of Progressive Policy and Practice*, 2(2), 129–133.
- Wood, J. L., & Palmer, R. T. (2015). *Black men in higher education: A guide to ensuring student success*. New York, NY: Routledge.