

**Research Article**

# An Evaluation of Undergraduate Student Diversity Experiences in the College of Agriculture at Kansas State University

Lonnie Hobbs<sup>a</sup>, Jr., Zelia Z. Wiley<sup>a</sup>, Raymond Thomas<sup>a</sup>, Summer Santillana<sup>a</sup>, and Andrew Barkley<sup>a</sup>

<sup>a</sup>*Kansas State University*

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## Abstract

As diverse student populations increase in colleges of agriculture at Land-Grant universities, diversity experiences are critical to the academic and personal development of undergraduate students. At Kansas State University, where enrollment of nonwhite undergraduate students has increased from 8 percent (2008) to 12 percent (2022), proper understanding of the factors that affect experiences with diverse groups is vital to foster positive diversity experiences among students. This study applies an ordinary least square (OLS) regression estimation approach to identify and quantify the determinants of positive or negative diversity experiences for students enrolled in the College of Agriculture (COA) at Kansas State University. Data were collected in a survey during Fall 2020, with 359 observations included in the analysis. The period is unique due to the Covid-19 pandemic, causing the data to be particularly informative. The level of diversity experiences is found to be statistically associated with participation in diversity class activities and workshops, ethnic background, small-town background, degree being sought, and living situation. However, student diversity experience levels were relatively low. Overall, the results show that student diversity experiences could be increased through the implementation and promotion of diversity programming based on the determinants of diversity experiences identified in this study.

## 1 Introduction

Creating a diverse campus environment through positive diversity experiences is crucial to the academic and personal development of undergraduate students. Student experiences with diversity is defined as a measure of the degree to which students have interacted with individuals different from themselves in race, ethnicity, philosophy of life, political view, religious beliefs, or country of origin. It has been well documented that student involvement with diversity experiences positively impacts the overall college student experience and career preparation (Hurtado 2001; Jayakumar 2008; Carter, Hobbs, and Wiley 2019). Learning how to work and interact with individuals from various ethnic, cultural, and professional backgrounds can lead to more positive diversity interactions, creating a more inclusive campus environment for both undergraduate and graduate students.

Diversity experiences also provide students an opportunity to learn from the perspective of others (Pedlar and Tirone 2005) while increasing comfortability and confidence in their own identity (Phinney 1990; Cross 1991; Helms 1993; Pedlar and Tirone 2005) and providing a more inclusive environment in which students feel they belong (Hurtado 1992; Smith and Schonfeld 2000; Smith 2020). Moreover, students need experiences with diversity so they can better understand the value of tolerance and teamwork in their academic and professional careers (Smith and Schonfeld 2000; Brief 2008; Smith 2020), as well as in their own personal lives (Smith and Schonfeld 2000; Whitt et al. 2001; Smith 2020). Increased diversity experiences through proper implementation of diversity programs at universities can foster student inclusivity and belongingness (Gurin 1999; Smith and Schonfeld 2000; Brief 2008;

Smith 2020), likely leading to increased enrollment and retention of diverse students (Barkley et al. 2021).

Students attending primarily white institutions, such as Kansas State University may not be presented with situations in which they are exposed to diversity as regularly as the environments students could find themselves in after graduating (Brief 2008; Smith 2020). Therefore, primarily white institutions have an increased need to provide opportunities for experiences with diverse populations through the implementation of programs and courses focused on the topics of diversity and inclusion in an academic and professional setting (Smith and Schonfeld 2000; Alston, Roberts, and English 2019; Smith 2020). Furthermore, it is essential that students' diversity experiences are measured and analyzed to ensure that steps are taken to provide programming that promotes an equitable and inclusive campus for all students.

Previous studies highlight the benefits of diversity experiences among college students, yet literature focused on the determinants of those diversity experiences is still limited. Hu and Kuh (2003) found that the promotion of diverse interaction in learning and living environments positively impacts student diversity experience levels. Also, it has been reported by Chang et al. (2006) that greater diversity exposure and interaction prior to attending college increases the diversity experiences while at college, whereas Bowman (2011) found that diversity experiences are influenced by civic attitudes, behavioral intentions, and interpersonal interactions. Likewise, Barkley et al. (2021) identified that factors such as class discussion surrounding topics of diversity, diversity workshops, ethnicity, parent education, and student's field of study affects the level of openness to diversity among students. Moreover, these studies provide empirical evidence that personal characteristics, academic characteristics, participation in diversity workshops, and class discussions about diversity are key factors that affect student experiences with diversity.

Although these factors can impact students' diversity experiences while on campus, previous research also identifies students' feelings about these factors as an important predictor of the type of diversity experiences the student receives (Dickson, Jepsen, and Barbee 2008). More specifically, a student's feelings about the environment created by diversity programs and workshops determine the student's attitude and acceptance of diversity experiences. Thus, to foster an inclusive environment, the factors which lead to positive diversity experiences must be known.

The purpose of this study is to identify and quantify the determinants of the level of feelings associated with diversity experiences among enrolled students in the College of Agriculture (COA) at Kansas State University during Fall 2020 semester. More specifically, we utilize survey data to measure student levels of diversity experiences through interaction and feelings during exchanges with diverse students in the COA during the COVID-19 pandemic. This study utilizes a similar approach to Hu and Kuh (2003), Chang et al. (2006), and Barkley et al. (2021) to identify the feelings associated with students' experiences with diversity. Denson and Chang (2009) identified three forms of racial diversity in higher education that are evident in person and can be observed virtually: (1) structural diversity (racial composition of enrolled students), (2) curricular and co-curricular diversity (diversity programming targeted at enhanced knowledge of diversity), and (3) interaction diversity (informal relationships and interactions between enrolled students). This study provides a measure of curricular and co-curricular diversity and interaction diversity, exemplified by the Diversity Programs Office within the COA at Kansas State University.

The Diversity Programs Office seeks to implement and maintain curricular and co-curricular diversity experience programs, as well as promote diversity interactions within other departments in the COA. These curricular and co-curricular programs include the biennial "Growing our Mindset" forum, Project Impact Multicultural Academic Programs Success, and Project Impact KOMPASS, as well as two diversity-related classes (Carter et al. 2019). Each of which were historically attended in person but transitioned into virtual or hybrid programs for the duration of the COVID-19 pandemic. These programs are important because of the critical mass of multicultural populations in the COA. Smith and

Schonfeld (2000) state, “The numbers of diverse people, or more specifically the presence of a critical mass of diverse people, create greater opportunities for social support, role models, and mentors. Having diversity in the population creates greater opportunity for individuals to be seen as individuals, thus breaking down stereotypes” (p. 18).

The major implication of the statistical results implies that there exists an opportunity to increase student diversity experience levels through the implementation and promotion of diversity programs such as workshops and academic courses that enhance interaction and openness to people with different backgrounds, experiences, and beliefs. As a result, these programming efforts can be applied to the COA at Kansas State University, as well as other higher education institutions to increase student self-reported learning, personal development outcomes, and openness toward people from backgrounds different than themselves. This, in turn, has the potential to lead to increased recruitment and retention of underrepresented student populations.

It is essential that COA faculty, administrators, staff, and students understand the factors that affect diversity experiences, to help create a more inclusive campus/learning environment for all students. In what follows, we provide a literature review in the next section, followed by methodology in Section 3 and data in Section 4. The results of the study are found in Section 5, discussion in Section 6, and conclusions in Section 7.

## 2 Background and Previous Research

Students with greater openness to diversity and challenge are more likely to participate in diversity experiences. Openness to diversity and challenge developed through diversity experiences can have a large impact on changes in student attitudes, beliefs, and actions in the direction of greater tolerance to individual differences (Whitt et al. 2001). In addition, it has been shown that interactions with persons from different backgrounds can lead to positive impacts on self-reported learning and personal development outcomes. This shows the importance of diversity experience research to improve upon this aspect of student learning (Pedlar and Tirone 2005). Hu and Kuh (2003) used responses from over 53,000 undergraduate students enrolled in 124 American universities to examine the effects of diversity experiences. The results from this survey demonstrated that white students had a smaller number of interactions with students from a different background than with other white students.

Students who are from different backgrounds perceive diversity interactions in relation to their backgrounds and prior experiences. Providing diverse interaction opportunities aids in the development of an appreciation for personal practices, as well as those of other cultures (Pedlar and Tirone 2005). While diversity programs provide benefits, it is important to note that Dickson et al. (2008) found that ambience and feelings of students toward these programs is a significant predictor of positive cognitive attitudes toward issues of racial diversity. This finding shows the importance of creating a culturally sensitive environment within diversity experience programs, rather than creating a generic program. Therefore, when implementing programs and events that foster interactions and knowledge from across cultural groupings, the demographic groups involved must be considered and recognized (Gurin 1999; Gurin et al. 2002; Gurin and Nagda 2006).

The level of diversity experiences while on university campuses is affected by several personal and academic characteristics. For instance, Pascarella et al. (1996) found that students who lived on campus, studied the most, and were most engaged with their student peers tended to have the highest levels of openness to diversity, which in turn has been linked to higher levels of diversity interaction. Milem and Umbach (2003) studied how student plans for involvement in diversity-related activities in college varied across race, personality type, and experiences with diversity. The authors concluded that white students are the least likely to be prepared for diversity experiences and interactions in college. Students who selected social and artistic majors were more likely to plan to participate in diversity experiences, and personality has an influence on self-reported desire to engage in diversity experiences

(Milem and Umbach 2003). As noted, there are significant demographic factors that must be accounted for within school-related diversity experience programs (Gurin 1999; Gurin et al. 2002; Gurin and Nagda 2006). However, the location and format in which the diversity interaction takes place are also important (Gurin 1999; Gurin et al. 2002; Gurin and Nagda 2006).

Previous studies have shown the importance of diversity programming such as diversity courses, workshops, and class discussions (Gurin 1999; Gurin et al. 2002; Gurin and Nagda 2006). Demographic variables such as gender, year in college, and race/ethnicity are often included in survey research to identify and quantify differences between groups (Whitt et al. 1999; Whitt et al. 2001; Milem and Umbach 2003; Shim and Perez 2018; Alston et al. 2019). Previous research also demonstrated that a student's community of origin reflects exposure to racial diversity (Milem and Umbach 2003). Likewise, a student's peer group while enrolled in college often reflects experiences with and interaction with persons who are different from themselves (Gurin 1999; Whitt et al. 2001; Gurin et al. 2002; Milem and Umbach 2003; Gurin and Nagda 2006). In the next section, we discuss variables included in the survey to measure a student's community prior to entering college and peer group while enrolled in college.

### 3 Methodology

This study examines data collected via survey to assess the determinants for positive and negative diversity experiences of undergraduate students enrolled in the COA at Kansas State University. Econometric analysis using ordinary least square (OLS) regression provides a quantitative estimate of the impact of personal characteristics and college experiences on student diversity experiences. To identify the determinants of the experiences with diversity (DIVEXP), student demographic information, personal and academic characteristics, participation in diversity workshops, and class discussions about diversity were included as explanatory variables, as shown in equations (1) and (2), where  $i$  = positive or negative diversity experience, as explained below.

$$DIVEXP_i = f(\text{Diversity Workshops and Class Discussion, Personal Characteristics, Demographic Variables, Academic Characteristics}). \quad (1)$$

To estimate the effects of the above characteristics on student responses to the diversity experience questions, the function in equation (1) is further specified as an OLS regression as shown in Equation (2). Taking means and standard deviations of Likert scale variables is debated by statisticians and applied social scientists (Carifio and Perla 2007). Some researchers maintain that because Likert scales are ordered categories, the intervals between the scale values are not equal (i.e., the quantitative difference between "neutral" and "agree" may differ from the difference between "agree" and "strongly agree"; Jamieson 2004). In this view, numerical operations such as means and parametric tests are not valid representations of the data.

Others argue that parametric tests such as linear (OLS) regression using Likert scale items are valid (Glass, Peckham, and Sanders 1972; Lubke and Muthen 2004). For this study, if the underlying process of the five-point scale is assumed to be continuous, then we can also assume that the intervals between points are approximately equal. Glass, Peckham, and Sanders (1972) and Carifio and Perla (2007) showed that in most cases, the F-test is extremely robust and that parametric statistical tests can be used to analyze Likert scale data. Here, means of several similar Likert scale survey questions are used to synthesize and summarize the data into two broad categories. This is done to reduce the dimensionality of the survey results and statistical analyses of the results. Caution should be used when interpreting the results, recalling that the data come from ordinal data.

$DIVEXP_i$  represents eight survey questions, of which the first three are positive diversity experiences and the last five are negative diversity experiences. A linear regression equation is assumed where  $DIVEXP_i$  is the average of the responses for the positive or negative diversity experience questions where  $i = 1$  (if positive) and  $i = 2$  (if negative). The mean of questions 1–3 was used to

represent the positive DIVEXP dependent variable, and the mean of questions 4–8 represented the negative DIVEXP dependent variable.<sup>1</sup> The error term  $\varepsilon_i$  accounts for influences on the dependent variable from sources other than the independent variables. Equation (2) shows the regression estimation equation:

$$DIVEXP_i = \beta_0 + \beta_1 DIVCRSD_i + \beta_2 DIVWORKD_i + \beta_3 DIVCLASS_i + \beta_4 COLYEAR_i + \beta_5 GENDER + \beta_6 RACE + \beta_7 COMMUNE + \beta_8 HIGHED + \beta_9 LIVING + \beta_{10} NOJOB + \beta_{11} WORKHRS + \beta_{12} STUDYHRS + \varepsilon_i. \quad (2)$$

The coefficients  $\beta_n$  where  $n = 1 \dots, 12$  are partial regression weights for the independent variables detailing the respective impacts on  $DIVEXP_i$ , and  $\beta_0$  represents the regression constant. The primary diversity variables  $DIVCRSD_i$  and  $DIVWORKD_i$  indicate whether a student participated in any diversity courses or workshops, with 1 indicating *participation* and 0 indicating *nonparticipation*. Additional binary variables included *GENDER*, with 0 indicating *male* and 1 indicating *female*, and student interest in seeking an advanced degree (*HIGHED*), with 1 indicating *yes* and 0 indicating *no*. The variable  $DIVCLASS_i$  indicates the frequency of class discussions focused on diversity the students have experienced, with response options ranging from 1 to 4, with 1 being *Never* and 4 being *Very Often*. Independent variables for the students' demographic characteristics include: *Year in College (COLYEAR)* referring to the students' current year in school, *Race/Ethnicity (RACE, i.e., White, Black, Hispanic, etc.)*, *Community of Origin (COMMUNE)* indicating the type of area a student is from based on population, *Living Situation (LIVING)* referring to the students' current living arrangement and location (i.e., on- or off-campus, house or apartment, etc.), and *Time allocation (NOJOB, WORKHRS, STUDYHRS)* indicating the students current employment status and time allocated for work and studying.<sup>2</sup>

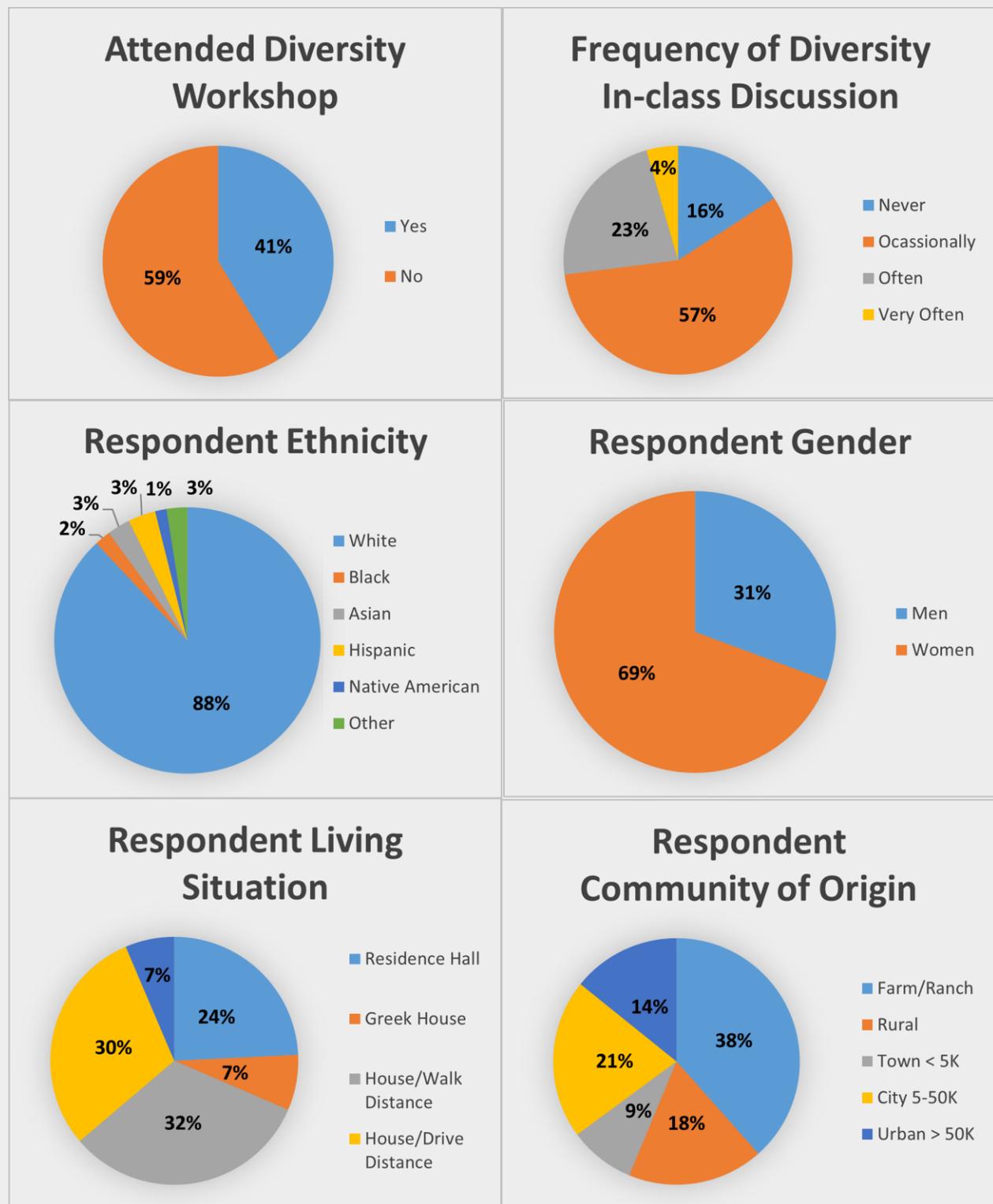
## 4 Data

This study focuses upon survey results retrieved during Fall 2020 semester. An electronic survey was sent to 2,163 undergraduate students in the COA at Kansas State University. There were 359 students who submitted complete, usable responses, yielding a 16.6% response rate from the overall population. The diversity experience (DIVEXP) questions were taken from Shim and Perez (2018) as reported in the next section and detailed in Appendix 1. Survey respondents were asked to respond to the eight statements on a Likert scale from 1 = *Never* to 4 = *Very often*. Responses ranged between the lowest value (=1) and the highest value (=4) for each question. Questions 1–3 are used to represent positive peer interaction of students, while questions 5–8 are used to represent negative peer experiences.

The online survey was administered via email during the COVID-19 pandemic. Due to the large number of positive COVID-19 cases and student quarantines/isolation, all classes at Kansas State University were offered online per the university's remote status. Throughout Fall 2020 semester, students were sent daily emails regarding operation instructions and wellness checks during the pandemic. As a result, there was likely some degree of "survey fatigue" among students. Although the survey for this research survey was sent several times and reminder messages were sent, many students likely had a sense of information overload, resulting in fewer responses than expected. However, the

<sup>1</sup> Separate regressions were estimated using each of the eight diversity experience questions (reported in Table 1) as the dependent variables, using both multinomial logit and OLS techniques. Given the unwieldy regression results, we combined diversity experience questions into "positive" and "negative" groups to reduce the dimensionality of the results and make the research results more meaningful. Results were qualitatively similar to those presented in Table 3 for the average variables of DIVEXP for positive and negative student experiences.

<sup>2</sup> For each group of categorical variables, the variable with the highest frequency of responses is omitted from the regressions as the default category. These omitted default variables are: "Never" for diversity in class discussions and assignments, First Year Student, White, Farm/Ranch, Both Parents College, 12–14 Credit Hours, House/Drive Distance, Other Students, and Major in Animal Sciences (Table 2).



**Figure 1. Data Characteristics**

results are interesting and important and should be interpreted as such.

Data characteristics are displayed in Figure 1. Of the 359 COA student respondents, more than half of the sample were female students (69 percent). Regarding ethnicity, 88 percent of student respondents were Caucasian, 2 percent African American, 3 percent Hispanic, 3 percent Asian, 1 percent

Native American, and 3 percent identified as other. The respondents’ community of origin included 38 percent from a farm or ranch, 18 percent from rural communities, 9 percent from towns of less than 5,000 residents, 21 percent from a city with a population of 5,000–50,000, and 14 percent from an urban area with a population greater than 50,000 people. Also, many respondents lived in a house either walking distance (32 percent) or driving distance from campus (30 percent), respectively. The remaining respondents reported living in a residence hall (24 percent), Greek house (7 percent), or other (6 percent). Forty one percent of respondents reported attendance to a diversity workshop. Regarding frequency of diversity in in-class discussion, more than half of the students (57 percent) reported occasional in-class discussion focused on diversity. In contrast, 23 percent reported participation in in-class discussions on diversity “often,” 4 percent had diversity discussions “very often,” and 16 percent reported “never” participating in in-class discussions on diversity.

## 5 Results

### 5.1 Descriptive Results

The degree to which survey participants are representative of the total college student population during Fall 2020 is shown in Table 1. Statistically significant differences between the sample and population are found for five of the seven categories. This is not unexpected, given the small number of observations in each category. African American and multiracial/other categories were not statistically significant. Although the sample appears to be somewhat representative, the differences between sample respondents and population means must be kept in mind as the results are interpreted.

**Table 1. Fall 2020 Demographics for Kansas State University College of Agriculture**

	Population	Survey	Difference	t-stat
	-----(percent)----			
African American	2.0	2.0	0	0
American Indian/Native American	0.5	1.0	-0.5	9.61*
Asian	1.1	3.0	-2.0	12.34*
Hispanic/Latinx	4.7	3.0	1.7	11.04*
Multiracial/Other	3.2	3.0	0.2	1.31
White	85.9	88.0	-2.1	3.77*
Female	60.0	69.0	-9.0	3.68*

*Note:* The number of observations equals 359. The asterisk indicates statistical significance at the 10 percent level.

Descriptive statistics for survey responses are displayed in Table 2. Questions 1–3 represent the positive peer interaction of the students, examining how often the respondents engage in positive discussions with diverse students. Questions 4–8 measure the respondents’ level of negative diversity experience. The mean values of the positive and negative Likert scale responses for the eight survey statements are used as a measure of the diversity interaction and experiences of undergraduate students while attending the COA at Kansas State University.

The mean of each positive experience question shows that, on average, respondents answer “Occasionally.” The researchers consider this to indicate the respondents’ level of positive interaction with diverse students is relatively low. The mean response for negative diversity experiences shows that, on average, respondents’ answer “Never” for these questions. The researchers consider this to indicate that, on average, students are having positive diversity experiences while in the Kansas State University COA. Yet, it is suspected that this is due to the low level of interaction with diverse students. Summary statistics for the included variables in the 2020 survey are reported in Table 3, together with the regression results in Table 4.

**Table 2. Survey Responses to Diversity Experience Questions (Fall 2020)**

Question	Never	Occasionally	Often	Very Often
	----- Count (%) -----			
<i>DIVEXP 1</i> I had discussions regarding intergroup relations with diverse students.	152 (42.34)	152 (42.34)	40 (11.14)	15 (4.18)
<i>DIVEXP 2</i> I had meaningful and honest discussions about issues related to social justice with diverse students while attending this college.	130 (36.21)	139 (38.72)	61 (16.99)	29 (8.08)
<i>DIVEXP 3</i> I shared personal feelings and problems with diverse students while attending this college.	140 (39.00)	138 (38.44)	56 (15.60)	25 (6.96)
<i>DIVEXP 4</i> I had guarded, cautious interactions with diverse students.	219 (61.00)	106 (29.53)	26 (7.24)	8 (2.23)
<i>DIVEXP 5</i> I felt silenced by discrimination from sharing my own experiences with diverse students.	257 (71.59)	74 (20.61)	16 (4.46)	12 (3.34)
<i>DIVEXP 6</i> I had hurtful, unresolved interactions with diverse students.	324 (90.25)	22 (6.13)	10 (2.79)	3 (0.84)
<i>DIVEXP 7</i> I had tense, somewhat hostile interactions with diverse students.	315 (87.74)	30 (8.36)	10 (2.79)	4 (1.11)
<i>DIVEXP 8</i> I felt insulted or threatened based on my race, national origin, values, or religion with diverse student while attending this college.	288 (80.22)	52 (14.48)	11 (3.06)	8 (2.23)

*Note:* Number of observations equals 359. Survey responses are: 1 = “Never,” 2 = “Occasionally,” 3 = “Often,” and 4 = “Very Often.”

**Table 3. Means of Variables Included in Diversity Experience Regression<sup>1</sup>**

Variable	Mean
<b><i>Diversity Experience</i></b>	
Diversity Course	0.58
Diversity Workshop	0.41
<b><i>Diversity in Class Discussions and Assignments</i></b>	
Never	0.16
Occasionally	0.57
Often	0.23
Very Often	0.04
<b><i>Year in College</i></b>	
Freshman	0.24
Sophomore	0.23
Junior	0.23
Senior	0.25
Five or more years	0.05
<b><i>Personal Characteristics</i></b>	
Female	0.69
Age (years)	20.0
<b><i>Race/Ethnicity</i></b>	
White	0.88
Black/African American	0.02
Asian/Asian American	0.03
Hispanic/Latinx	0.03
Native American	0.01
Other	0.03
<b><i>Community of Origin</i></b>	
Farm/Ranch	0.38
Rural Area	0.18
Town <5,000 people	0.09
City 5,000-50,000 people	0.21
Urban >50,000 people	0.14
<b><i>Academic Characteristics</i></b>	
Seek Adv. Degree	0.60

Table 3 continued

Variable	Mean
<b><i>Living Situation: Location</i></b>	
Residence Hall	0.24
Greek House	0.07
House/Walk Distance	0.32
House/Drive Distance	0.30
Other	0.06
<b><i>Time Allocation</i></b>	
No Job	0.38
Work Hours/Week	11.21
Study Hours/Week	14.23

Note: The Number of observations equals 359.

## 5.2 Estimation Results

Table 4 displays the results from the OLS estimation for positive ( $DIVEXP_1$ ) and negative ( $DIVEXP_2$ ) diversity experience questions. Each independent variable administered as a multiple-choice option on the survey uses a base (default) option indicated by “–” in the results table.

Examining  $DIVEXP_1$  results, attendance in diversity workshops ( $DIVWORKD$ ) increased the likelihood of positive diversity experiences with an estimated coefficient equal to 0.22 ( $p < 0.01$ ). Likewise, the variable for class discussions on diversity ( $DIVCRSD$ ) is also significant with positive coefficients at all response levels. These results of  $DIVCRSD$  show the mean for positive response questions increase on the four-point Likert scale as the quantity of in-class discussion and assignments on diversity-related topics increases.

This is displayed as the coefficient for each response level increased from 0.27 ( $p < 0.05$ ) for “Occasional” discussion to 0.49 ( $p < 0.01$ ) and 0.95 ( $p < 0.01$ ) for “Often” and “Very Often,” respectively. These estimated coefficients are interpreted as a change in the average response rate for the mean of the three positive experience questions: for students responding, “Occasionally,” for diversity class discussions, the average response to the three positive diversity questions increased by 0.27 on the four-point Likert scale.

Ethnic identity results indicate the Hispanic/Latinx variable had a positive coefficient of 0.78 ( $p < 0.01$ ). This result is measured against the base ethnicity Caucasian. Thus, we interpret the positive coefficient relative to the Caucasian student mean response for the positive diversity experience questions. Similarly, the community of origin results indicate a positive relationship on the  $DIVEXP_1$  questions for students from urban communities with greater than 50,000 people. This is displayed through the 0.20 ( $p < 0.05$ ). Regarding student living situations, the residence hall variable is 0.22 ( $p < 0.10$ ). House/walk distance variable is also statistically significant with a 0.21 ( $p < 0.05$ ). Both living situation variables were referenced to the base house/drive category and indicated higher levels of positive diversity experience.

Results for  $DIVEXP_2$  displayed four statistically significant variables. The gender variable (FEMALE) is statistically significant and negative. Additionally, the estimated coefficient on age equals 0.07 ( $p < 0.05$ ), indicating higher negative diversity experiences among older students. In contrast, the coefficient for students who originated from cities with a population of between 5,000–50,000 people is -0.15 ( $p < 0.10$ ). Last, the independent variable indicating a student’s interests in pursuing an education beyond a bachelor’s degree is 0.11 ( $p < 0.10$ ).

**Table 4. Diversity Experience Regression Results<sup>1</sup>**

Variable	<i>DIVEXP<sub>1</sub></i>		<i>DIVEXP<sub>2</sub></i>	
	POSITIVE EXPERIENCE		NEGATIVE EXPERIENCE	
	Coefficient	Standard Error	Coefficient	Standard Error
<i>Intercept</i>	-0.02	0.723	-0.19	0.485
<i>Diversity Experience</i>				
Diversity Course	0.10	0.085	0.01	0.057
Diversity Workshop	0.22***	0.083	0.07	0.056
<i>Diversity in Class Discussions and Assignments</i>				
Never	-	-	-	-
Occasionally	0.27**	0.106	-0.06	0.071
Often	0.49***	0.126	0.04	0.084
Very Often	0.95***	0.202	0.06	0.136
<i>Year in College</i>				
Freshman	-	-	-	-
Sophomore	-0.08	-0.132	0.07	0.889
Junior	-0.05	0.154	0.00	0.103
Senior	-0.10	-0.175	-0.08	0.118
Five or more years	-0.02	0.261		
<i>Personal Characteristics</i>				
Female	-0.02	0.084	-0.12**	0.056
Age (years)	0.06	0.038	0.07***	0.025
<i>Race/Ethnicity</i>				
White	-	-	-	-
Black/African American	0.36	0.264	0.20	0.177
Asian/Asian American	0.23	0.226	0.13	0.152
Hispanic/Latinx	0.78***	0.203	0.12	0.136
Native American	-0.09	0.305	-0.29	0.204
Other	0.35	0.235	0.09	0.158
<i>Community of Origin</i>				
Farm/Ranch	-	-	-	-
Rural Area	-0.08	0.103	-0.03	0.069
Town <5,000 people	-0.14	0.137	-0.12	0.092
City 5,000-50,000 people	-0.02	0.102	-0.15	0.069**
Urban >50,000 people	0.20	0.118**	-0.10	0.079

**Table 4 continued.**

Variable	<i>DIVEXP<sub>1</sub></i>		<i>DIVEXP<sub>2</sub></i>	
	POSITIVE EXPERIENCE		NEGATIVE EXPERIENCE	
	Coefficient	Standard Error	Coefficient	Standard Error
<b><i>Academic Characteristics</i></b>				
Seek Adv. Degree	0.18	0.077	0.11**	0.051
<b><i>Living Situation: Location</i></b>				
Residence Hall	0.22	0.127*	0.02	0.085
Greek House	0.08	0.157	-0.04	0.105
House/Walk Distance	0.21	0.096**	-0.06	0.064
House/Drive Distance	-	-	-	-
Other	0.16	0.157	-0.10	0.106
<b><i>Time Allocation</i></b>				
No Job	0.01	0.117	-0.00	0.078
Work Hours/Week	0.01	0.005	0.00	0.003
Study Hours/Week	0.00	0.004	0.00	0.003
Observations	395		395	
Root MSE	0.6626		0.4447	
R-Square	0.2859		0.1385	

Note: Level of significance is denoted as: \*\*\*  $p < 0.01$ ; \*\*  $p < 0.05$ ; \*  $p < 0.10$ .

## 6 Discussion

The diversity workshop variable for the *DIVEXP<sub>1</sub>* regression indicates that student participation in diversity workshops increases the average response for the positive diversity experience questions by 0.22. The positive in-class discussion variable also indicates a positive relationship between in-class discussions on topics relating to diversity and positive diversity experiences on campus. Higher levels of in-class discussion and assignments related to diversity topics increases positive diversity experiences on campus. These are the main results of the survey research presented here and represent an important finding for the promotion of diversity at colleges and universities: diversity educational programs, both inside and outside of formal classroom settings, can lead to greater levels of positive diversity experiences for students.

As highlighted by Carter et al. (2019), the COA Diversity Programs Office provides diversity workshops and a course on diversity in the COA at Kansas State University. Given the positive experience results, there is a need to continue with programs and courses provided through the COA Diversity Programs Office, which fosters positive diversity experiences among students. This result provides some evidence of the positive contribution that diversity programs can provide student experiences with higher education.

Examining the race/ethnicity results for *DIVEXP<sub>1</sub>*, Hispanic/Latinx students were more likely to respond indicating they were having positive diversity experiences when compared to the base ethnic category of Caucasian. However, it is difficult to know the cause of this result. Therefore, additional research is needed to explore the relationship between ethnicity and positive diversity experience. Regarding community of origin, *DIVEXP<sub>1</sub>* results infer students from urban communities with greater than 50,000 people reported higher positive diversity experience on average, when compared to the default of those from a farm/ranch background. This is suspected to be due to a higher representation of

and exposure to diversity in larger urban areas, as opposed to smaller rural areas, which have been found to show lower levels of diversity (Slama 2004). This result is important for colleges and universities that have significant student populations from rural backgrounds: it may take more diversity exposure, education, and training to increase the level of positive diversity experiences of rural students to the same level as students from backgrounds other than rural.

The students' living situation indicates that students who live within walking distance of the university indicated more positive diversity experiences on campus when compared to students living in a house within driving distance of campus. As highlighted in Graham, Hurtado, and Gonyea (2018), student engagement in conversation with other diverse students tends to be higher among students who live closer to campus. The findings in Table 4 corroborate the results that living within walking distance of the university can increase positive diversity experiences. This result is important to consider when colleges and universities develop housing policies. A positive contribution to diversity experiences could be the design and implementation of diversity programs for off-campus students. However, it is important to note this result may be influenced by the COVID-19 pandemic, as students were more isolated and many lived in their hometowns during quarantine.

Regarding the  $DIVEXP_2$  results, the gender coefficient indicates women have a lower average response to the negative diversity experiences on campus. Therefore, showing that women may have fewer negative diversity experiences than men. The reasoning for this could be supported by Glass and Cook (2018), who found that women were more likely to champion diversity in their respective organizations. Therefore, it is possible that women experienced lower levels of negative diversity experiences because they are more likely to be open to diversity experiences. The age coefficient for the  $DIVEXP_2$  regression suggests that students who were older reported higher levels of negative diversity experiences on campus. Students interested in pursuing a higher degree ( $HIGHED$ ) also displayed higher levels of negative diversity experiences responses on average. This result provides an area for improvement with diversity education and training programs. In contrast, the community of origin coefficient indicates students from cities with 5,000–50,000 people have fewer negative diversity experiences when compared to students from farm/ranch backgrounds. Coinciding with the urban positive experiences results in  $DIVEXP_1$ , students from larger city areas have more positive experiences with diverse groups. This provides evidence that diversity programming is necessary for rural students to ensure positive diversity experiences on campus.

## 7 Conclusions

Overall, the regression results indicate the positive and negative levels of experiences with diversity were found to be statistically associated to a variety of factors. These factors include having taken a diversity course or workshop, having diversity as a topic in class discussions and assignments, gender, race/ethnicity (Hispanic/Latinx), community of origin, seeking an advanced degree, residence hall living, and residence near or on campus. The identification of student characteristics associated with positive or negative diversity experiences allows students, faculty, and administrators information useful for addressing future institutional diversity programming objectives. Overall, these results allow for a more targeted application of diversity programming efforts.

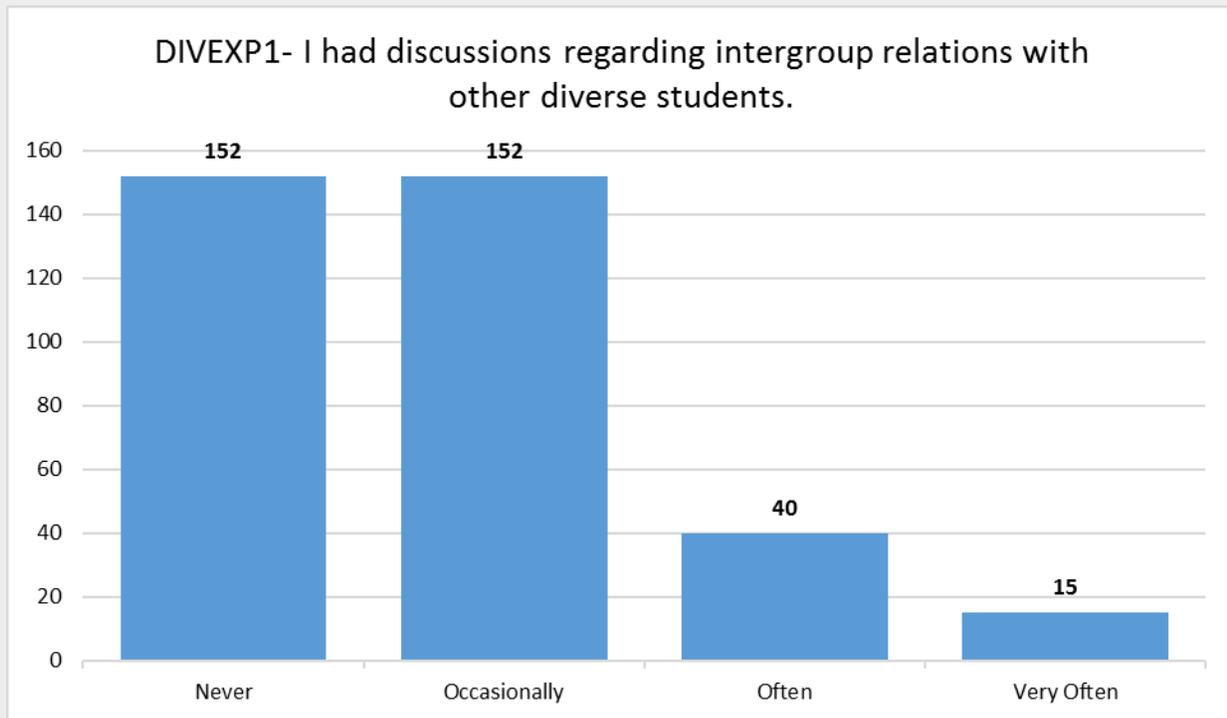
The major implication of the statistical results is that there exists an opportunity to enhance student diversity experiences through implementation and promotion of diversity programming such as workshops and academic courses that enhance interaction and openness to people with different backgrounds, experiences, and beliefs. Although a large percentage of students did not experience feelings of hurtful, intense, or guarded actions while in the COA at Kansas State University, there is a small group who did experience this. These negative emotions and feelings due to diversity experiences could likely be the result of the low levels of discussion and interactions with diverse students. Therefore, more diversity programming and diverse involvement within courses and workshops has the

potential to decrease these negative emotions and result in a more inclusive college atmosphere for students. It is hoped that greater experiences with diversity will reduce negative responses to diverse interactions over time.

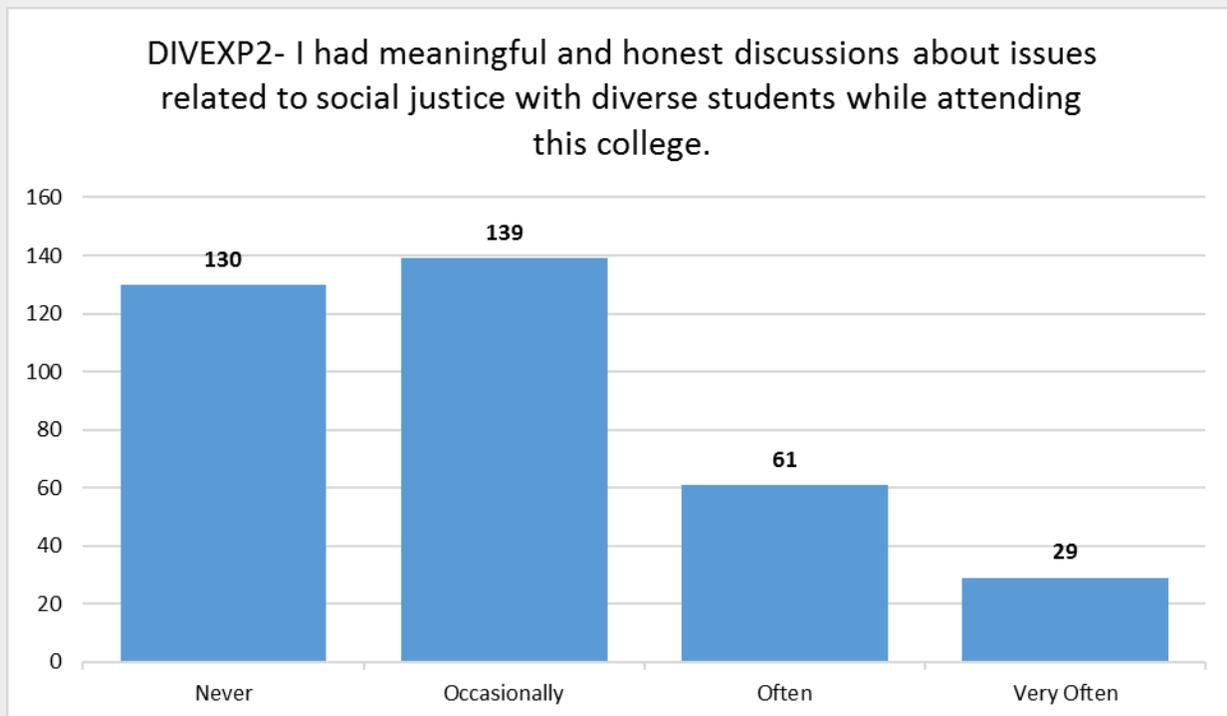
This study has limitations, including the time frame of the study during the COVID-19 pandemic. The results of the study are influenced by the increase in virtual interactions and decrease in face-to-face interaction between instructors and students. The lack of ability to safely interact with others in person due to the COVID-19 pandemic may have influenced the student level of diversity interactions and decreased opportunities for diversity experiences within universities. At the time of this study (Fall 2020), many universities had transitioned school learning and events into a hybrid or online format due to the COVID-19 pandemic. Therefore, it may have been difficult for students to know if they were interacting with someone from a different background than themselves. Additionally, Pagoto et al. (2020) conducted a study during Spring 2020 semester that determined having less interaction and communication with instructors and students had a negative impact on students throughout the pandemic. Thus, future research should examine diversity experiences in the normal (nonvirtual) university setting and compare with results found in this study. In addition, this study had a relatively small response rate, also likely due to the pandemic. These issues must be considered when interpreting the results of the study. Efforts to increase the response rate in future research could provide enhanced results compared to those presented here.

**About the Authors:** Lonnie Hobbs, Jr. is a PhD student and Research Assistant at Kansas State University. Zelia Z. Wiley is an Assistant Dean and Director of the College of Agriculture Diversity Office at Kansas State University. Raymond Thomas is a PhD student and Research Assistant at Kansas State University. Summer Santillana is the Diversity Office Program Coordinator in the College of Agriculture at Kansas State University. Andrew Barkley is a Professor and University Distinguished Teaching Scholar at Kansas State University (Corresponding author: [barkley@ksu.edu](mailto:barkley@ksu.edu)).

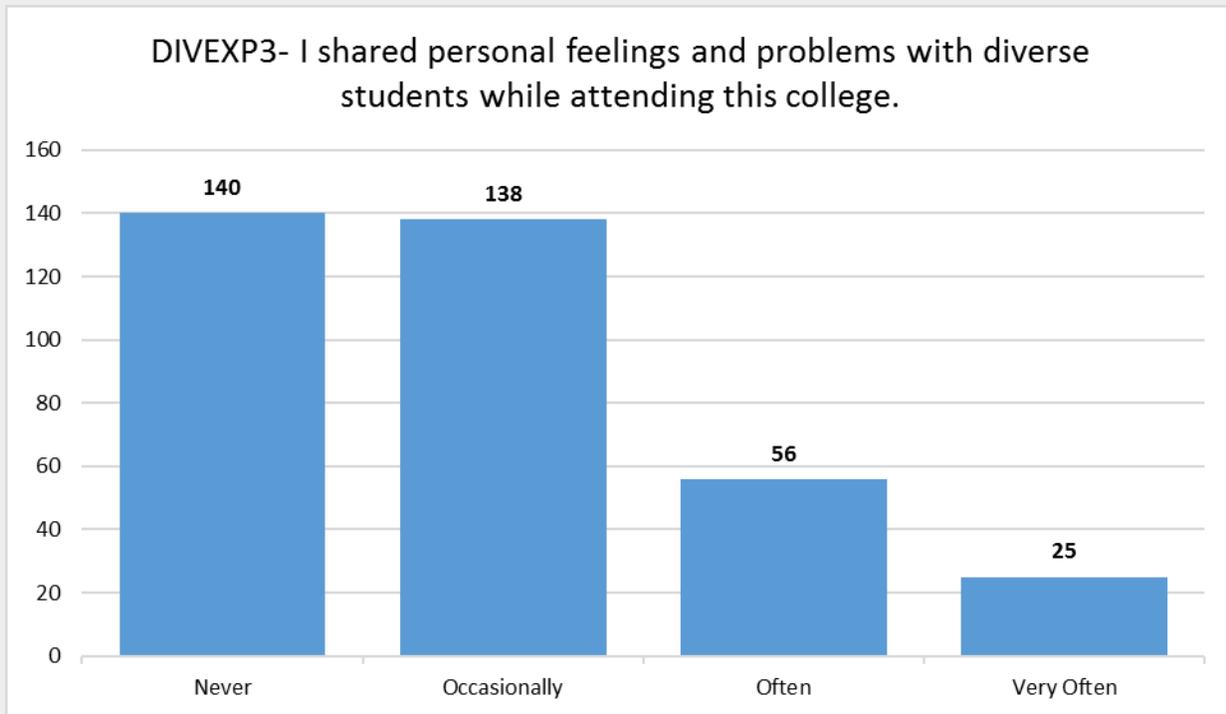
## Appendix 1: Survey Results for Diversity Experience Questions (*DIVEXP*)



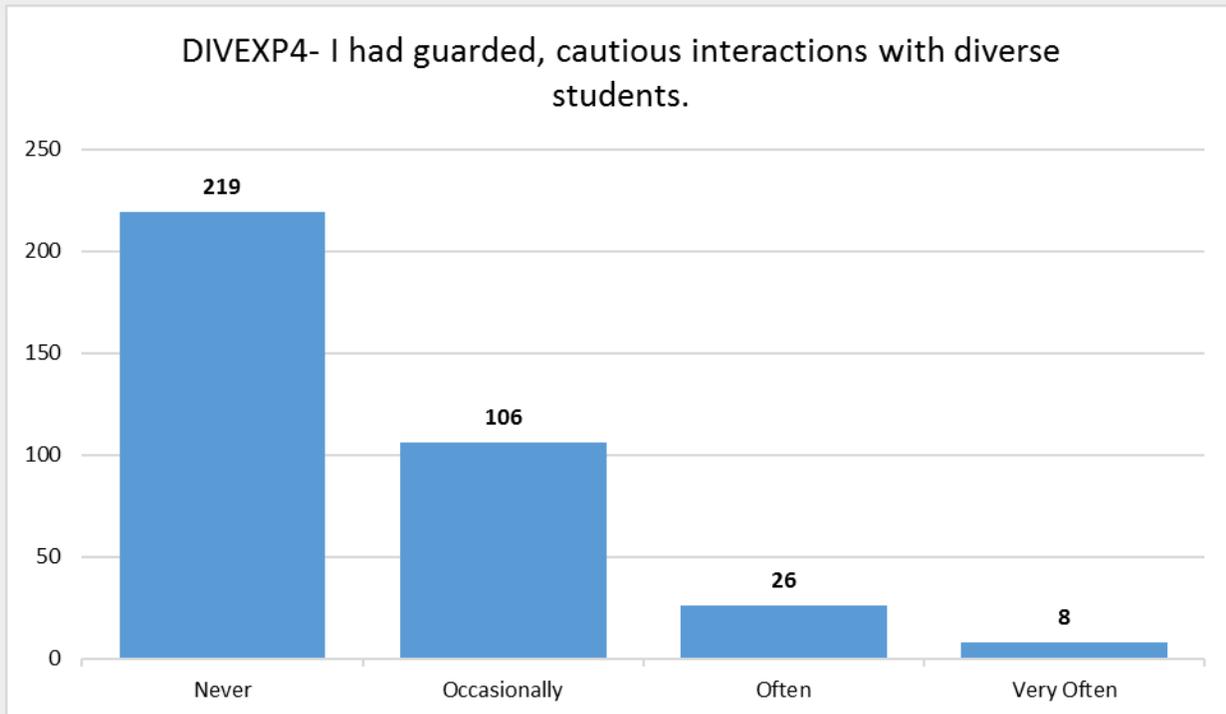
**Figure A1: Response Frequency for *DIVEXP1* Variable**



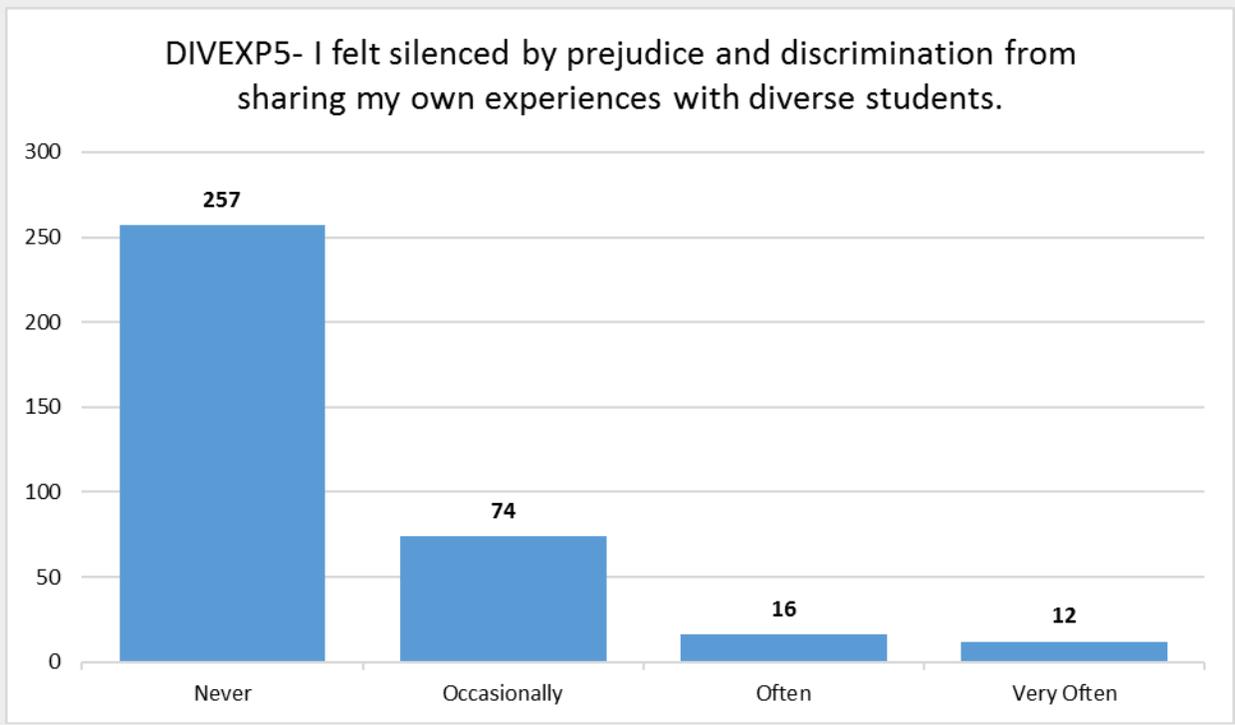
**Figure A2: Response Frequency for *DIVEXP2* Variable**



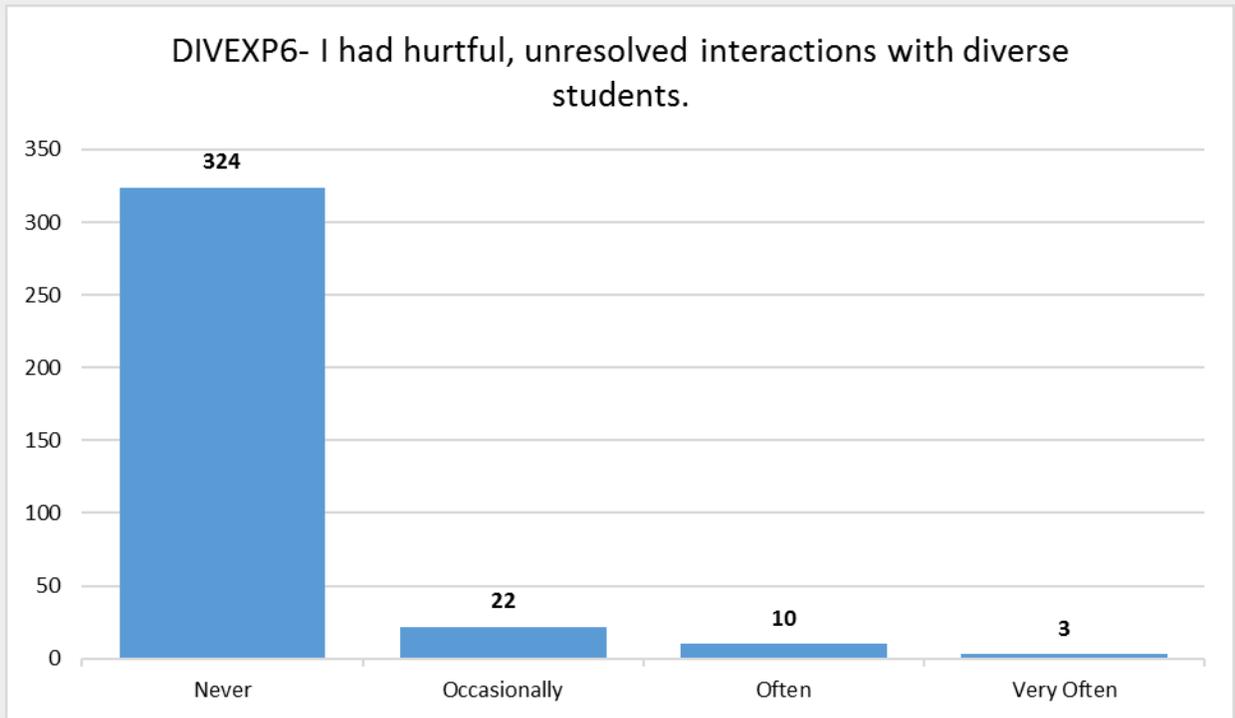
**Figure A3: Response Frequency for *DIVEXP3* Variable**



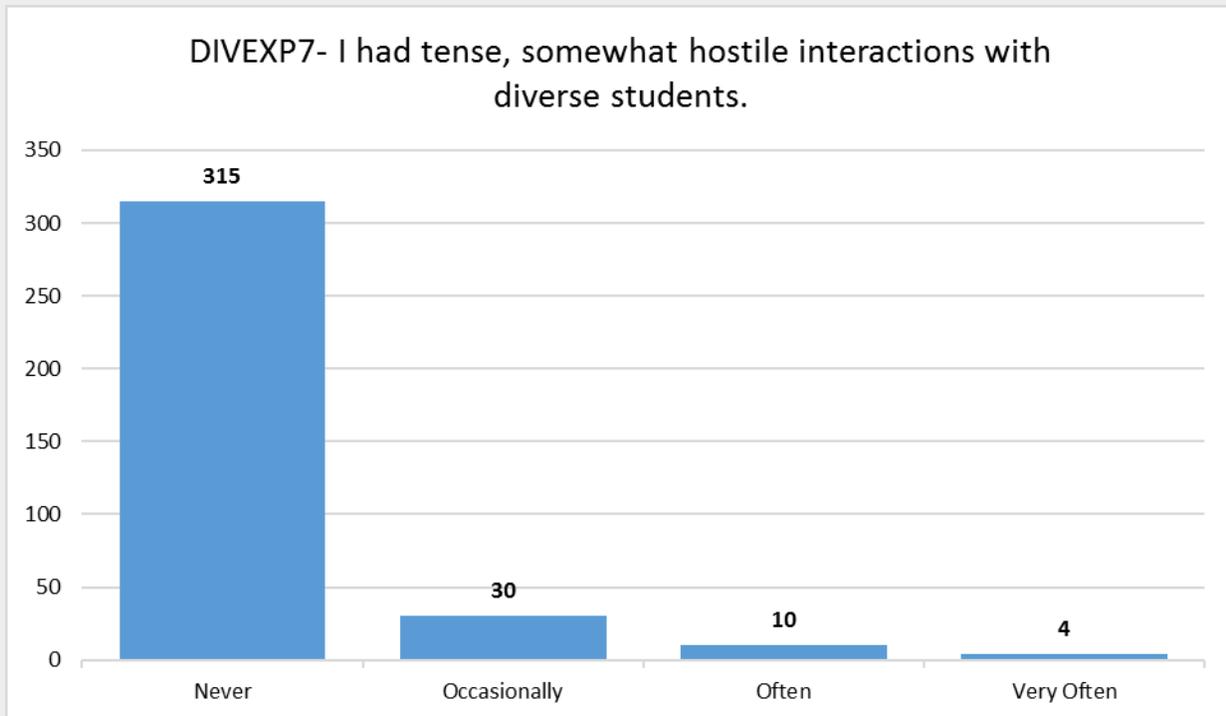
**Figure A4: Response Frequency for *DIVEXP4* Variable**



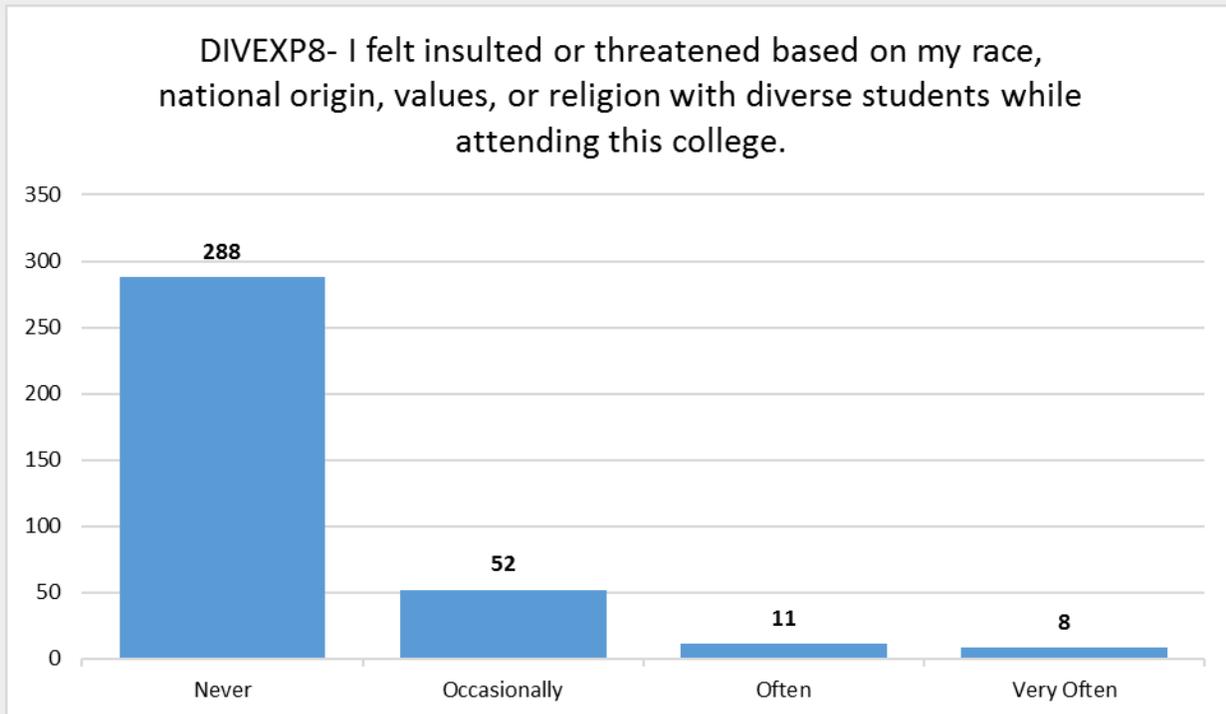
**Figure A5: Response Frequency for *DIVEXP5* Variable**



**Figure A6: Response Frequency for *DIVEXP6* Variable**



**Figure A7: Response Frequency for *DIVEXP7* Variable**



**Figure A8: Response Frequency for *DIVEXP8* Variable**

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