

## **Sexual Orientation and Differences in Mental Health, Stress, and Academic Performance in a National Sample of U.S. College Students**

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*This study examined the relationships of mental health issues and sexual orientation in a national sample of college students. Using the Fall 2009 American College Health Association-National College Health Assessment, responses from heterosexual, gay, lesbian, bisexual, and unsure students (N = 27,454) relating to mental health issues and impact of these issues on academics were examined. The findings indicate that gay, lesbian, bisexual, and unsure students consistently reported higher levels of mental health issues and a more frequent impact on academics because of these issues than heterosexual students. Bisexuals frequently reported higher levels than students identifying as gay, lesbian, and unsure.*

**KEYWORDS** *sexual orientation, mental health, college students, academics*

The relationship between sexual orientation, mental health, and psychological stress among adolescents and young adults has been studied comprehensively over the past few decades. However, there is limited work on the impact of such health and stress issues on sexual minority college students' academic outcomes. Current research in this area typically examines sexual minority college students' homonegative experiences (D'Augelli, 1992; Herek, 1993; Rankin, Weber, Blumenfeld, & Frazer, 2010; Waldo, 1998), perceptions of their campus climate (Rankin, 2003, 2005; Rankin et al., 2010), or factors influencing academic major/career choice (Nauta, Saucier, & Woodard, 2001; Schneider & Dimito, 2010). The purpose of this study is to compare mental health status, psychological stressors, and their

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impact on the academic performance of a national sample of heterosexual, bisexual, gay, lesbian, and sexually unsure college students.

## MENTAL HEALTH OF SEXUAL MINORITIES

Available empirical data indicate that gay, lesbian, and bisexual (GLB) individuals are at greater risk for mental health disorders (Cochran & Mays, 2000, 2005; Cochran, Sullivan, & Mays, 2003; Diamant & Wold, 2003; Gilman et al., 2001; Meyer, 2003) and engagement in negative risk behaviors, including substance use and abuse (Conron, Mimiaga, & Landers, 2010; Diamant, Wold, Spritzer, & Gelberg, 2000; Valanis et al., 2000), self-injurious behaviors (Balsam, Beauchaine, Mickey, & Rothblum, 2005), and suicidal behaviors (Balsam et al., 2005; Halpert, 2002; Kulkin, Chauvin, & Percle, 2000) than their heterosexual counterparts. Compared to heterosexuals, GLB individuals use psychotherapy and other mental health services more often (Balsam et al., 2005; Cochran et al., 2003).

Among GLB individuals, bisexuals appear to have worse mental health, as they report higher levels of mental distress (Fredriksen-Goldsen, Kim, Barkan, Balsam, & Mincer, 2010), including anxiety, depression, and negative affect than gay, lesbian, or heterosexual individuals (Balsam & Rothblum, 2002; Jorm, Korten, Rodgers, Jacomb, & Christensen, 2002). Additionally, bisexual individuals engage in more self-injurious behaviors (Balsam et al., 2005) and suicidal ideation (Conron et al., 2010; Jorm et al., 2002) than gay, lesbian, and heterosexual people. Similarly, Corliss, Austin, Roberts, and Molnar (2009) found that young women who report some same-sex attraction but do not identify as lesbian or bisexual report higher levels of depression and problems with drug use than exclusively heterosexual individuals. These findings are in contrast to Zhao Montoro, Igartua, and Thombs' (2010) findings that adolescent youth who identify as heterosexual and have same-sex attraction or fantasy did not have increased suicidal ideation or attempts.

Regarding the mental health of individuals identifying as unsure or questioning, there is little research. As Zhao et al. (2010) state, some studies include those identifying as unsure as GLB, whereas others include them as heterosexual or non-GLB. In their study, Zhao et al. found that adolescents identifying as unsure were more than three times as likely to report suicide ideation as students who identified as heterosexual with no same-sex attraction or fantasy, but these youth did not differ from youth identifying as GLB. Regarding suicide attempts, GLB and unsure youth were more likely to report at least one suicide attempt. Further analyses showed that a GLB identity was associated with a higher risk of suicide attempt, but those with an unsure identity did not have that risk. Whitlock, Eckenrode,

and Silverman (2006) found that those who were questioning their sexual orientation had a higher rate of self-injurious behavior compared to gay, lesbian, and heterosexual college students, but not higher than bisexual students.

## UNIQUE STRESSORS OF SEXUAL MINORITIES

Sexual orientation itself does not put sexual minorities at greater risk for mental health problems. The environmental responses to their sexual orientation are the factors that increase their risk. Stressors unique to sexual minorities may include sexual stigma, such as HIV-related stigma (Herek & Capitano, 1999); discrimination and victimization (Herek & Sims, 2007; Mays & Cochran, 2001); and heterosexism, including denial of same-sex marriages and condemnation from religious denominations (Herek, Chopp, & Strohl, 2007). Additionally, felt stigma, one's subjective experience of stigma against his/her/hir group, may influence an individual's decision regarding disclosure of his/her/hir sexual orientation (Burn, Kadlec, & Rexer, 2005), as "coming out" can have stressful consequences (Herek & Garnets, 2007). An individual's self-stigmatization, also referred to as internalized homophobia, internalized heterosexism, or internalized homonegativity, may influence one's decision to conceal his/her/hir sexual orientation, in order to prevent the aforementioned forms of stigma. This can intensify sexual minority stress (Herek & Garnets, 2007), as well as lead to negative mental (Lewis, Derega, Griffin, & Krowinski, 2003) and physical health outcomes (McGregor et al., 2001; Williams, 2000).

Bisexual individuals appear to experience a heightened amount of psychological stress and stigma. Bisexuals report higher rates of adverse life events, less positive family support, and more negative peer support, as compared to lesbian, gay, and heterosexual individuals (Jorm et al., 2002). Biphobia is the fear of bisexuals and can come from both heterosexual and gay and lesbian communities (Herek, 2002). Reasons for such negative attitudes include a fear that bisexuals spread HIV and other sexually transmitted infections to both heterosexual and gay and lesbian individuals. Additionally, some members of the gay and lesbian community resent bisexuals for not "fully coming out" (Volpp, 2010). A dual prejudice—prejudice against bisexuality and prejudice against homosexuality—places bisexual individuals at a greater risk for mental health problems (Jorm et al., 2002). To exacerbate the problem, bisexuals seek mental health services less frequently, and rate such services as less helpful with sexual orientation concerns, than gay and lesbian individuals (Page, 2004).

Individuals identifying as unsure or questioning also have unique stressors. The development and commitment to a sexual identity is complex, with recent theorists identifying many potential paths (Floyd & Stein,

2002; Maguen, Floyd, Bakeman, & Armistead, 2002; Rosario, Schrimshaw, Hunter, & Braun, 2006; Savin-Williams, & Diamond, 2000). Individuals who are exploring their identity—either emotionally or sexually—can be burdened by this uncertainty; whereas those with a consistent, committed GLB identity may experience less stress related to identity, be more integrated into the GLB community, and, as a result, have a stronger support system.

## SEXUAL MINORITY COLLEGE STUDENTS

In the academic realm, sexual minority college students encounter unique challenges and are often the least accepted group among underserved populations (Rankin et al., 2010). Lesbian, gay, bisexual, and queer college students are significantly more likely to experience harassment and be targets of derogatory remarks than their heterosexual counterparts. Gay men are most often targets of derogatory remarks and lesbians are most often ignored deliberately or excluded (Rankin et al., 2010). Moreover, sexual minority students often experience hostility (Waldo, 1998), harassment (Rankin et al., 2010), and physical violence (D'Augelli, 1992; Herek, 1993; Rankin et al., 2010). Not surprisingly, lesbian, gay, bisexual, and queer college students are significantly less likely to feel comfortable or very comfortable with the overall campus climate, department climate, and classroom climate than heterosexual college students (Rankin et al., 2010).

Such challenging and stressful experiences may prevent individuals from engaging in campus-related events, organizations, and clubs, as well as impede their academic potential (Rankin, 2003, 2005). Lesbian, gay, bisexual, and queer college students and faculty more often seriously consider leaving their institution, fear for their physical safety, and avoid disclosure of their sexual identity because of a fear of negative consequences (Rankin et al., 2010). Furthermore, sexual minority students who experienced high levels of anti-GLB discrimination report that their sexual orientation has a greater impact on their academic choices than those who experience low levels or no discrimination. These students also report less satisfaction with their career choices and narrower options (Schneider & Dimito, 2010). Similarly, GLB students report significantly less support and guidance regarding academic and career decisions than their heterosexual counterparts (Nauta et al., 2001).

Using the American College Health Association-National College Health Assessment (ACHA-NCHA) dataset from fall 2009 (American College Health Association [ACHA], 2010b), the authors are the first to examine the mental health status of a national sample of U.S. college students and the effects of physical and psychological stressors on their academic performance. Based on previous sexual minority research, we hypothesize that sexual minority college students, particularly bisexuals, will exhibit greater mental health

issues and psychological stressors than heterosexual students, which will negatively impact academic performance.

## METHOD

### Procedure and Participants

For this study, institutional review board (IRB) approval to analyze ACHA-NCHA data was secured with the most recently available data set (ACHA, 2010b). This data set contains information collected from 34,208 undergraduate and graduate students enrolled part time and full time at 57 two- and four-year universities (ACHA, 2010a). Only colleges and universities that randomly select students or that survey students from randomly selected classrooms are included in the ACHA-NCHA database. The mean response proportion for this data set was 36% and the median response proportion was 23%, with much higher rates for paper administration (mean response proportion 90%) versus Web survey administration (mean response rate 21%). This low response rate and not being a true random sample of U.S. college students does affect generalizability. But, at the same time, previous studies have demonstrated that the ACHA-NCHA provides similar results to nationally representative surveys (ACHA, 2004).

For the purposes of this study, inclusion and exclusion criterion were applied to garner a focused response to the research questions. Students who did not identify a sexual orientation (heterosexual, bisexual, gay or lesbian, or unsure) were not included in the analyses. A wide range of ages was provided by the participants (18–97 years). The authors wanted to be able to generalize as best as possible to the “typical” experience of those in a university setting while still respecting adult students on campuses. Looking at national data (National Center for Education Statistics, 2010), most students enrolled in a university (96.2%) are under 50 years of age. As a result, individuals who were 50 years and older were eliminated from the analyses. Likewise, respondents from outside the United States were not included. There was a small proportion of students who identified as transgender (0.1%,  $n = 42$ ); given that individuals who identify as transgender have different—often more negative—experiences on college campuses, compared to non-transgender students who identify as gay, lesbian, or bisexual (Beemyn, 2005; Bilodeau, 2009), these individuals were not included in the analyses.

After applying these inclusion/exclusion criteria, the total resulting sample was 27,454 students. These students were from 55 different universities from all regions of the United States. Most student respondents were enrolled in a four-year college or university (94.5%). Almost two thirds (62.2%) attended public institutions, with 12.1% identified as religiously affiliated institutions. Regarding sexual orientation, most of the participants identified

as heterosexual (93.8%,  $n = 25,746$ ). Less than 7% of the total sample identified as gay or lesbian (1.9%,  $n = 508$ ), bisexual (2.9%,  $n = 785$ ), or unsure (1.5%,  $n = 415$ ). Other demographic data are included in Table 1.

## MEASURES

Mental health issues were examined by items from four main categories: feelings and behaviors related to poor mental health, mental health diagnoses, use of mental health services, and perceived impact of mental health on academics. In addition, demographic items included age, gender, sexual orientation, year in school, relationship status, residence, and other student status (e.g., full- or part-time student, international).

### Feelings and Behaviors Related to Poor Mental Health

The participants were asked about feelings and behaviors often associated with a poor mental health state. This item asked the respondents to identify the frequency of 11 different feelings or behaviors: “felt things were hopeless,” “felt overwhelmed by all you had to do,” “felt exhausted (not from physical activity),” “felt very lonely,” “felt very sad,” “felt so depressed that it was difficult to function,” “felt overwhelming anxiety,” “felt overwhelming anger,” “intentionally cut, burned, bruised, or otherwise injured yourself,” “seriously considered suicide,” and “attempted suicide.” The participants could choose one of five responses: “no, never,” “no, not in the last 12 months,” “yes, in the last two weeks,” “yes, in the last 30 days,” or “yes, in the last 12 months.” For this study, the responses were collapsed into three categories: “no, never,” “no, not in the last 12 months,” and “yes, in the last 2 weeks, 30 days, or 12 months.”

The students were also asked if they had encountered situations that had been traumatic or very difficult to handle in the last 12 months; these included a variety of college life components (e.g., academics, career-related issues) and personal issues (e.g., family problems, intimate relationships). The participants indicated yes or no as a response. Another item specifically asked about the students’ perceived stress level. The item requested participants to consider the last 12 months and rate their overall stress level as “no stress,” “less than average stress,” “more than average stress,” or “tremendous stress.”

### Diagnosed Mental Health Issues

The students were asked if they had been diagnosed or treated by a professional within the last 12 months for some mental health conditions,

**TABLE 1** Demographic Characteristics

Characteristic	Participants ( <i>N</i> = 27,454)	
	Frequency ( <i>n</i> )	% Valid
Age in years ( <i>X</i> = 21.62, <i>SD</i> = 5.04)		
18–24	23,203	84.5
25–31	2782	10.1
32–38	819	3.0
39–45	443	1.6
46–49	207	0.8
Gender		
Female	17,601	64.1
Sexual orientation		
Heterosexual	25,746	93.8
Gay or lesbian	508	1.9
Bisexual	785	2.9
Unsure	415	1.5
Full-time? ( <i>N</i> = 27,228)		
Yes	25,542	93.8
Ethnicity		
White	19,772	72.0
Black	2356	8.6
Hispanic	1880	6.8
Asian/Pacific Islander	2932	10.7
American Indian, Alaskan Native, Native Hawaiian	571	2.1
Biracial, Multiracial and Other	1538	5.6
International Student? ( <i>N</i> = 27,161)		
Yes	2844	10.5
Relationship Status		
Not in a relationship	13,377	49.1
In relationship, not living together	9511	34.9
In relationship, living together	4369	16.0
Current residence ( <i>N</i> = 27,280)		
Campus residence hall	10,213	37.4
Fraternity/Sorority house	515	1.9
Other campus housing	1121	4.1
Parent/Guardian's home	4267	15.6
Other off-campus housing	9709	35.6
Other	1455	5.3
Classification ( <i>N</i> = 27,145)		
1 <sup>st</sup> year undergraduate	8397	30.9
2 <sup>nd</sup> year undergraduate	4924	18.1
3 <sup>rd</sup> year undergraduate	5032	18.5
4 <sup>th</sup> year undergraduate	3997	14.7
5 <sup>th</sup> year undergraduate	1586	5.8
Graduate/Professional	2995	11.0
Other	214	0.8
Attends 2- or 4-year college?		
2-year college	639	2.3
4-year college	25,934	94.5
Other type of institution (e.g. professional or training school)	881	3.2

specifically anxiety, depression, or panic attacks. Individuals could respond “no,” “yes, diagnosed but not treated,” “yes, treated with medication,” “yes, treated with psychotherapy,” “yes, treated with medication and psychotherapy,” or “yes, other treatment.” For this study, we collapsed the responses into three categories: “no,” “yes, diagnosed but not treated,” and “yes, diagnosed and treated.” There was also a yes-or-no question that asked if the respondents had ever been diagnosed with depression.

### Use of Mental Health Services

Usage of mental health services was also included in the ACHA-NCHA. Four items asked if the participant had ever received psychological or mental health services from a variety of providers (i.e., counselor/therapist/psychologist, psychiatrist, other medical care provider, or minister, priest, rabbi, or other clergy). These items had a response option of yes or no. The students were also asked if they had ever received psychological or mental health services from their current college or university’s counseling or health services and if they would seek mental health services in the future if they had a problem that was “really bothering” them. Both questions offered yes/no response options.

### Perceived Effects of Mental Health on Academic Performance

The ACHA-NCHA survey has a section that asks the respondents to consider how a variety of health issues have affected their academic performance in the last 12 months. The participants can respond “this did not happen to me/not applicable,” “I have experienced this issue but my academics have not been affected,” “received a lower grade on an exam or important project,” “received a lower grade in the course,” “received an incomplete or dropped the course,” or “significant disruption in thesis, dissertation, research or practicum work.” For this study, we examined how anxiety, concern for a troubled friend or family member, depression, relationship difficulties, roommate difficulties, discrimination, physical assault, sexual assault, and stress were impacted. While some of these items specifically address mental health concerns, like depression and anxiety, others, like physical and sexual assault, are experiences that have an impact on mental health.

## ANALYSIS

Basic descriptive analyses were calculated using SPSS Statistics 18.0 for Windows (<http://www.spss.com>). To examine the research questions,



42 separate cross-tabulations were conducted with Cramer's V, a measure of association based on chi-square. Cramer's V is robust regardless of table size and can be used with nondichotomous data (Garson, 2008). In order to control for Type I error, the Bonferroni adjustment was performed (.05/42). This set the statistical significance level at  $p < .001$ .

## RESULTS

### Feelings and Behaviors Related to Poor Mental Health

The participants were asked about feelings and behaviors often associated with a poor mental health state. Of these 11 items, 10 had significant values of Cramer's V. Only "felt overwhelmed by all you had to do" was not significant. For 8 of the 10 significant items, the bisexual individuals reported the highest rates of negative feelings and behaviors in the previous 12 months, while more gay and lesbian individuals indicated "feeling anxious" (63.3%) and "attempting suicide" (4.4%). Interestingly, the bisexual respondents reported higher rates of suicide attempt outside of the last 12 months (21.7%), as compared to the gay or lesbian individuals (13.6%). Regarding the 10 significant items, more than the other groups, the heterosexual students indicated never experiencing any of the negative feelings and behaviors, except for "feeling exhausted," for which unsure students reported a slightly higher level than the heterosexual students (15.5% vs. 14.2%). All percentage responses can be found in Table 2.

The participants were also asked if situations arose that had been traumatic or very difficult to handle in the last 12 months. There were significant differences between groups for all items except one—"death of a family member or friend." On 7 of the remaining 10 items, more bisexual students reported experiencing difficulties than the other groups. A greater number of individuals who identified as unsure reported experiencing difficulties handling "other social relationships," "personal appearance," and "a personal health issue." For all 10 significant items, fewer heterosexual respondents indicated that these were traumatic or difficult situations to handle. See Table 3 for percentage responses and values of Cramer's V.

Another item specifically inquired about the participants' perceived stress level. The question asked the students to consider the last 12 months and rate their overall stress level as "no stress," "less than average stress," "more than average stress," or "tremendous stress." This item was also found to be statistically significant ( $\chi^2(12) = 102.94$ , Cramer's V = 0.061,  $p < .001$ ). More of the unsure individuals reported no stress in the previous 12 months (4.1%) and less than average stress (9.9%), compared to the other groups. A greater number of the bisexual individuals indicated more than average stress (46.5%) and a tremendous stress (15.4%) than the other groups,

**TABLE 2** Feelings and Behaviors Related to Mental Health

		% Response among _____ students					$\chi^2$	Cramer's V
		Heterosexual	Gay/lesbian	Bisexual	Unsure			
Felt hopeless ( <i>N</i> = 27,221)	No, never	36.0	20.0	18.4	24.4	216.06	.063*	
	Yes, but not in last 12 months	19.7	22.8	19.5	14.3			
	Yes in the last 12 months	44.3	57.1	62.1	61.4			
Felt overwhelmed ( <i>N</i> = 27,316)	No, never	10.6	6.4	6.7	12.0	23.50	.021**	
	Yes, but not in last 12 months	4.9	6.0	5.3	4.8			
	Yes in the last 12 months	84.4	87.7	88.1	83.1			
Felt exhausted ( <i>N</i> = 27,303)	No, never	14.2	8.9	7.2	15.5	45.42	.029*	
	Yes, but not in last 12 months	6.8	6.2	6.5	5.3			
	Yes in the last 12 months	79.0	84.9	86.3	79.2			
Felt lonely ( <i>N</i> = 27,322)	No, never	25.6	13.1	10.9	20.0	204.75	.061*	
	Yes, but not in last 12 months	19.9	17.1	15.9	10.8			
	Yes in the last 12 months	54.5	69.7	73.3	69.2			
Felt sad ( <i>N</i> = 27,254)	No, never	23.0	13.3	9.9	17.1	152.05	.053*	
	Yes, but not in last 12 months	18.4	15.9	16.1	10.6			
	Yes in the last 12 months	58.6	70.7	74.0	72.2			
Felt depressed ( <i>N</i> = 27,286)	No, never	50.2	29.6	23.2	32.6	405.20	.086*	
	Yes, but not in last 12 months	22.1	25.8	27.3	20.4			
	Yes in the last 12 months	27.7	44.6	49.5	47.0			
Felt anxiety ( <i>N</i> = 27,287)	No, never	38.3	21.6	20.3	28.3	200.0	.061*	
	Yes, but not in last 12 months	15.8	15.1	16.6	13.8			
	Yes in the last 12 months	45.9	63.3	63.1	57.9			

Felt anger ( <i>N</i> = 27,218)	No, never	42.8	23.9	23.3	33.4	235.71	.066*
	Yes, but not in last 12 months	20.9	28.0	21.5	17.1		
	Yes in the last 12 months	36.3	48.1	55.1	49.5		
Self-injury ( <i>N</i> = 27,320)	No, never	85.3	73.6	55.3	68.3	687.29	.112*
	Yes, but not in last 12 months	10.4	15.1	27.7	16.7		
	Yes in the last 12 months	4.4	16.3	17.1	14.7		
Considered suicide ( <i>N</i> = 27,337)	No, never	83.4	63.0	52.2	66.4	787.30	.120*
	Yes, but not in last 12 months	11.4	23.7	26.6	17.4		
	Yes in the last 12 months	5.2	13.3	21.1	16.4		
Attempted suicide ( <i>N</i> = 27,259)	No, never	93.4	82.0	74.7	86.4	506.34	.096*
	Yes, but not in last 12 months	5.6	13.6	21.7	10.9		
	Yes in the last 12 months	1.0	4.4	3.6	2.7		

\**p* < .001; \*\**p* = .001.

**TABLE 3** Issues Identified as Traumatic or Difficult to Handle within the Last 12 Months

	% Response among _____ students				$\chi^2$	Cramer's V
	Heterosexual	Gay/lesbian	Bisexual	Unsure		
Academics ( <i>N</i> = 27,310)	42.3	46.9	54.2	51.6	60.96	.047*
Career-related issues ( <i>N</i> = 27,279)	21.8	31.9	32.0	29.1	83.19	.055*
Death of a family member or friend ( <i>N</i> = 27,290)	15.4	20.0	18.5	15.2	13.04	.022
Family problems ( <i>N</i> = 27,297)	26.4	39.0	42.5	34.8	148.57	.074*
Intimate relationships ( <i>N</i> = 27,289)	29.5	44.0	45.8	35.3	145.55	.073*
Other social relationships ( <i>N</i> = 27,294)	22.7	36.8	38.6	39.6	217.75	.089*
Finances ( <i>N</i> = 27,275)	35.5	45.9	50.1	43.1	100.57	.061*
Health problem of a family member or partner ( <i>N</i> = 27,284)	17.6	22.4	27.8	22.7	65.34	.049*
Personal appearance ( <i>N</i> =27,279)	19.7	28.3	31.8	33.3	132.44	.070*
Personal health issue ( <i>N</i> = 27,264)	15.8	18.6	27.2	29.0	123.39	.067*
Sleep difficulties ( <i>N</i> = 27,269)	23.3	29.4	38.0	34.3	125.55	.068*

\**p* < .001.

**TABLE 4** Level of Stress\* ( $N = 27,304$ )

	% Response among ___ students			
	Heterosexual	Gay/lesbian	Bisexual	Unsure
No stress	2.4	2.6	1.4	4.1
Less than average stress	9.3	8.5	6.3	9.9
More than average stress	39.5	46.4	46.5	41.4
Tremendous stress	9.2	12.8	15.4	11.9

\* $\chi^2(12) = 102.94$ , Cramer's  $V = 0.61$ ,  $p < .001$ .

although gay or lesbian and unsure students had similarly high levels of more than average stress (Table 4).

### Diagnosed Mental Health Issues

Participants' responses regarding diagnosis and treatment of anxiety, depression, and panic attacks within the last 12 months showed that bisexual individuals reported higher rates of being diagnosed and treated, while individuals with an unsure sexual orientation had higher rates of being diagnosed but not treated for all three issues. Regarding ever being diagnosed with depression, more bisexuals responded yes (35.3%), compared to the other groups (31.7% gay or lesbian, 24.2% unsure, and 16.2% heterosexual; Table 5).

### Use of Mental Health Services

Several items asked about usage of mental health services, specifically what type of provider had been used, if the respondent had accessed services on their current campus, and if he/she/ze would consider seeking help from a mental health provider in the future. Significant differences were found on all items, except for the use of a minister, priest, rabbi, or other clergy as a mental health provider. More bisexual respondents had used the other types of providers than the respondents from the other groups, as well as had used the counseling center on their current campus. For future usage of mental health services, gay or lesbian individuals were slightly more likely to consider seeking help (76.0%), compared to others (bisexuals 75.3%, heterosexuals 65.5%, and unsure individuals 65.4%). See Table 6 for details.

### Perceived Effects of Mental Health on Academic Performance

The respondents were asked about the impact of mental health issues and life experiences on their academics. All crosstabs were significant based on

**TABLE 5** Diagnosis and Treatment for Mental Health

		% Response among _____ students					$\chi^2$	Cramer's V
		Heterosexual	Gay/lesbian	Bisexual	Unsure			
Within the last 12 months	Anxiety ( <i>N</i> = 27,224)	91.0	82.9	80.2	84.4	163.31	.055*	
	No, never Diagnosed, but not treated	2.0	2.8	4.5	4.9			
Depression ( <i>N</i> = 27,227)	Diagnosed and treated	7.0	14.3	15.3	10.7			
	No, never Diagnosed, but not treated	91.4	82.0	77.8	81.8	265.55	.070*	
Panic attacks ( <i>N</i> = 27,286)	Diagnosed and treated	1.4	2.2	4.0	4.6			
	No, never Diagnosed, but not treated	7.1	15.8	18.2	13.6			
Ever diagnosed with depression ( <i>N</i> = 26,523)	Diagnosed and treated	95.7	92.9	89.5	90.5	120.04	.047*	
	No, never Diagnosed, but not treated	1.4	0.6	2.8	4.1			
		2.9	0.5	7.7	5.3			
		16.2	31.7	35.3	24.2	281.35	.103*	

\**p* < .001.

**TABLE 6** Use of Mental Health Services

	% Response among _____ students				$\chi^2$	Cramer's V
	Heterosexual	Gay/lesbian	Bisexual	Unsure		
Counselor/therapist/psychologist (N = 27,221)	29.2	53.9	56.9	42.9	432.08	.126*
Psychiatrist (N = 27,160)	10.5	24.4	27.0	17.8	312.52	.107*
Other medical provider (e.g. physician, nurse practitioner) (N = 27,157)	12.3	21.9	26.3	19.2	182.68	.082*
Minister/priest/rabbi/other clergy (N = 27,034)	7.6	9.0	9.3	9.5	6.05	.015
Your current college/university's counseling or health services (N = 26,653)	9.9	19.8	22.7	18.3	195.80	.086*
In the future, would you consider seeking help from a mental health provider (N = 27,164)	65.5	76.0	75.3	65.4	54.28	.045*

\* $p < .001$ .

the Cramer's V ( $p > .001$ ). For all items, more heterosexuals reported not experiencing the issue compared to the other groups. Some of the largest differences were related to anxiety, depression, and discrimination. Over 60% of heterosexuals had not experienced anxiety, compared to 46.1% of gay men and lesbians, 43.0% of bisexuals, and 47.8% of those unsure about their sexual orientation, though more non-heterosexuals indicated experiencing anxiety without an impact on academics. Depression also had large differences; 78.3% of heterosexuals had not experienced depression, compared to 61.3% of gay men and lesbians, 53.5% of bisexuals, and 60.4% of those unsure. While more non-heterosexuals reported experiencing depression with no impact on academics, there were higher levels for "lower grade on a project," "lower grade in a class," "incomplete or dropping a course," and "significant disruption of the thesis, dissertation, research, or practicum." The Cramer's V for the item related to discrimination had the highest value in this section (.130), and reported rates of discrimination were striking, with 96.1% of heterosexuals not experiencing discrimination, but only 65% of gay or lesbian individuals not experiencing discrimination (Table 7).

## DISCUSSION

Our hypothesis that sexual minority college students, particularly bisexuals, would exhibit greater mental health challenges and stressors, thus, impacting their academic performance at higher rates than heterosexual college students, was supported. Not surprisingly, this study indicates that non-heterosexual respondents report significantly higher rates of recent feelings and behaviors related to poorer mental health than their heterosexual counterparts, as these results are consistent with current research in this area (Balsam et al., 2005; Cochran & Mays, 2000, 2005; Cochran et al., 2003; Conron et al., 2010; Diamant et al., 2000; Diamant & Wold, 2003; Gilman et al., 2001; Halpert, 2002; Kulkin et al., 2000; Meyer, 2003; Valanis et al., 2000). Moreover, the bisexual respondents most often report the highest rates of such experiences, which is also not surprising. According to Fredriksen-Goldsen et al. (2010), bisexual individuals report higher levels of mental distress than gay, lesbian, and heterosexual individuals. Such distress includes anxiety and depression (Balsam & Rothblum, 2002; Jorm et al., 2002), which may lead to suicidal ideation (Conron et al., 2010; Jorm et al., 2002) and engagement in self-injurious behaviors (Balsam et al., 2005). Previous research regarding the poor health outcomes of bisexual individuals is consistent with the findings of this study.

While it was not unexpected that the gay and lesbian respondents would report significantly higher rates of feeling anxious and attempting suicide in the last 12 months than heterosexual individuals, the fact that they indicated higher rates than the bisexual respondents is surprising.



**TABLE 7** Mental Health Issues Affect on Academic Performance

		% Response among _____ students					$\chi^2$	Cramer's V
		Heterosexual	Gay/lesbian	Bisexual	Unsure			
Anxiety ( <i>N</i> = 27,132)	Not happened to me	60.9	46.1	43.0	47.8	215.98	.052*	
	Experienced, no effect	21.9	29.4	29.8	25.6			
	Lower grade on exam/project	12.4	15.1	17.7	18.3			
	Lower grade in course	2.7	3.8	5.0	3.4			
	Incomplete or dropped course	1.3	4.0	3.1	2.0			
Disrupt thesis, dissertation, research, practicum	0.9	1.6	1.4	2.9				
Physical assault ( <i>N</i> = 27,063)	Not happened to me	97.1	94.6	93.0	93.6	83.8	.052*	
	Experienced, no effect	2.3	4.2	4.9	4.9			
	Lower grade on exam/project	0.3	0.4	1.0	1.0			
	Lower grade in course	0.2	0.6	0.8	0.2			
	Incomplete or dropped course	0.1	0	0.1	0			
Disrupt thesis, dissertation, research, practicum	0.1	0.2	0.1	0.2				
Sexual assault ( <i>N</i> = 27,069)	Not happened to me	97.4	95.2	90.8	94.9	167.87	.045*	
	Experienced, no effect	2.0	3.0	5.5	3.6			
	Lower grade on exam/project	0.3	1.2	1.9	0.5			
	Lower grade in course	0.2	0.2	0.8	0.7			
	Incomplete or dropped course	0.1	0.2	0.5	0			
Disrupt thesis, dissertation, research, practicum	0.1	0.2	0.4	0.2				

(Continued)

**TABLE 7** (Continued)

	% Response among _____ students					$\chi^2$	Cramer's V
	Heterosexual	Gay/lesbian	Bisexual	Unsure			
Depression ( <i>N</i> = 27,039)	Not happened to me	61.3	53.5	60.4	448.42	.074*	
	Experienced, no effect	11.9	19.4	18.8			
	Lower grade on exam/project	5.4	10.2	12.3			
	Lower grade in course	2.7	3.6	7.1			
	Incomplete or dropped course	0.9	3.4	3.0			
Disrupt thesis, dissertation, research, practicum	0.8	2.0	1.7	3.2			
Discrimination ( <i>N</i> = 27,061)	Not happened to me	96.1	65.0	82.7	1363.42	.130*	
	Experienced, no effect	3.1	29.8	15.1			
	Lower grade on exam/project	0.4	2.8	1.3			
	Lower grade in course	0.3	0.8	0.3			
	Incomplete or dropped course	0.1	1.2	0.1			
Disrupt thesis, dissertation, research, practicum	0.1	0.4	0.5	0.2			
Relationship difficulties ( <i>N</i> = 27,094)	Not happened to me	68.0	61.2	54.8	99.24	.035*	
	Experienced, no effect	23.0	27.2	29.6			
	Lower grade on exam/project	6.2	7.4	10.3			
	Lower grade in course	1.9	2.4	3.6			
	Incomplete or dropped course	0.4	0.4	0.6			
Disrupt thesis, dissertation, research, practicum	0.5	1.4	1.0	1.9			

Roommate difficulties ( <i>N</i> = 27,149)	Not happened to me	74.8	70.5	70.7	72.7	41.84	.023*	
	Experienced, no effect	20.3	22.6	21.3	19.9			
	Lower grade on exam/project	3.6	4.8	5.5	4.4			
	Lower grade in course	0.8	1.2	1.3	1.5			
	Incomplete or dropped course	0.1	0.4	0.6	0.7			
	Disrupt thesis, dissertation, research, practicum	0.4	0.6	0.5	0.7			
	Stress ( <i>N</i> = 27,111)	30.4	26.8	21.2	27.1	120.62		.038*
	Experienced, no effect	43.8	38.4	42.3	39.0			
Lower grade on exam/project	18.7	23.7	24.0	20.7				
Lower grade in course	4.9	6.2	7.5	7.3				
Incomplete or dropped course	1.1	3.0	2.5	2.9				
Disrupt thesis, dissertation, research, practicum	1.3	1.8	2.6	2.9				
Concern for family member or friend ( <i>N</i> = 27,129)	65.0	57.4	53.3	59.6	84.66	.032*		
Experienced, no effect	25.2	29.3	32.2	28.2				
Lower grade on exam/project	6.8	8.5	8.5	8.3				
Lower grade in course	1.9	2.6	3.3	1.7				
Incomplete or dropped course	0.6	1.4	1.4	0.7				
Disrupt thesis, dissertation, research, practicum	0.5	0.6	1.3	1.5				

\**p* < .001.

Interestingly, the bisexual respondents report a higher rate of suicide attempts outside of the last 12 months, which indicates that this is still a serious concern for all non-heterosexual individuals and that suicidal behaviors may be of greater concern among bisexual adolescents. Remadfed, French, Story, Resnick, and Blum's (1998) findings from the Minnesota Adolescent Health Survey (MNAHS) support this notion by reporting that gay adolescent boys and adolescent bisexuals attempt suicide at higher rates than heterosexual and lesbian adolescents.

Within this study, the non-heterosexual respondents indicate higher rates of "more than average stress" and "tremendous stress," with the bisexual respondents reporting the highest rates. This is most likely due to the fact that non-heterosexual young adults and college students encounter unique stressors and challenges (Herek & Capitanio, 1999; Herek & Sims, 2007; Mays & Cochran, 2001; Rankin et al., 2010), as well as experience higher rates of psychological stressors than heterosexual individuals (Herek & Garnets, 2007). While the specifics regarding traumatic and difficult to handle events (e.g., family problems, intimate relationships, difficulty sleeping, etc.) cannot be determined from this study due to the dichotomous nature of the questioning, previous research studies suggest that various forms of stigma (Burn et al., 2005; Herek & Capitanio, 1999; Herek & Garnets, 2007) and the college campus climate (Rankin et al., 2010) have a dramatic influence on one's mental health status and may prevent sexual minority individuals from fully engaging in the college experience. Lack of engagement and a perception of less support can negatively affect academics and career-related issues (Nauta et al., 2001; Rankin, 2003, 2005; Schneider & Dimito, 2010). Such experiences appear to be more dramatic for bisexual respondents, which is consistent with the work of Jorm et al. (2002).

Regarding mental health diagnoses, individuals who identified as GLB or unsure had higher rates of being diagnosed for anxiety, depression, and panic attacks in the last 12 months compared to heterosexuals. Unsure individuals had higher rates of diagnoses without treatment, and bisexual individuals had higher rates of diagnosis with treatment for all three health issues. In addition, bisexuals had the highest rate of ever being diagnosed with depression. The higher rates of mental health issues among bisexuals are consistent with the previous literature (Balsam & Rothblum, 2002; Fredriksen-Goldsen et al., 2010; Jorm et al., 2002). The rates of mental health issues among those identifying as unsure are difficult to compare because of limited literature on these individuals; Zhao et al.'s (2010) findings do not show higher self-reported depressed mood, suicide ideation, or suicide attempts for those who are unsure when compared to individuals who identify as GLB, though they were higher than those who identify as heterosexual without same-sex attraction.

Regarding usage of mental health services, individuals identifying as GLB or unsure had higher rates for going to all types of providers and for

use of the current college or university's counseling or health services, compared to individuals identifying as heterosexual. Interestingly, bisexuals had the highest rates for seeing all types of providers, except for religious advisors, and for use of current college counseling or health services. This is in contrast to Page's (2004) finding that bisexuals are less likely to use such services. However, Page's community participants differ from those in a university setting, as access to mental health services is often free or at a reduced cost on a college campus. This may increase the likelihood that those who need services are more likely to seek them out. Given the high rate of need and usage, these findings reinforce the message that college health-service providers be sensitive to the specific needs of bisexuals (Oswalt, 2009).

Our findings are consistent with previous research studies and also add new information to the literature. Whereas prior studies have examined the relationship between sexual orientation and mental health, psychological stress, perceptions of academic climate, and academic major/career choice, this study compares the mental health status and the impact of psychological stressors on academic performance in a national sample of heterosexual, bisexual, gay, lesbian, and unsure college students. More heterosexual respondents reported not experiencing anxiety, physical assault, sexual assault, depression, discrimination, relationship difficulties, roommate difficulties, stress, and concern for a family member or friend than their sexual minority counterparts. For all variables, when an effect on academic performance was experienced, more sexual minority respondents reported lower grades on an exam/project, lower grades in the course, a grade of incomplete or course drop, and a disruption of thesis, dissertation, research, or practicum than heterosexual respondents.

Differences were also found among the GLB and unsure respondent groups. For discrimination, more gay or lesbian respondents reported a negative impact on academic performance. With regard to relationship difficulties, more bisexual participants indicated lower grades on exams and projects and overall course grades than gay or lesbian or unsure participants. Similarly, more bisexual respondents reported a negative effect on academic performance because of physical and sexual assault. Regarding roommate difficulties, more unsure respondents indicated a negative impact on their grades or performance than gay or lesbian and bisexual respondents.

There are several limitations of this study. First, the results cannot be generalized to all U.S. college students. While a national sample, participants in this ACHA-NCHA respondent group are primarily white students from 4-year universities and colleges. In addition, the ACHA-NCHA does not collect information about socioeconomic status, so it cannot be determined if the sample represents different socioeconomic groups. An additional limitation is that all data are self-reported responses; similarly, the ACHA-NCHA is not designed as a comprehensive mental health instrument, nor is it an instrument designed to diagnose mental health issues. These limitations could

influence the results because of misperceptions of the students. Likewise, the identity “unsure” is not defined and left up to the participant’s interpretation. For some, this could be dissatisfaction with the specificity of the other identity options (GLB or heterosexual) or it could indicate true uncertainty. For example, a study that examined “mostly straight” women found that slightly over half were committed to identifying as “mostly straight”; however, the other portion were uncertain in their identity (Thompson & Morgan, 2008).

In spite of these limitations, the strengths of the study are noteworthy and fill a gap in the literature. Based on a national sample of college students, the findings offer insight into the connections between sexual orientation, mental health, and affects on specific academic outcomes. Likewise, the inclusion and separate analyses of individuals who identify as unsure provides more information about those possibly struggling with their sexual identity. Future studies examining these issues should include a more ethnically diverse sample and more transgender respondents to explore how these characteristics intersect with sexual orientation, mental health issues, and academics.

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