UC Santa Barbara

UC Santa Barbara Previously Published Works

Title

Associations between past bullying experiences and psychosocial and academic functioning among college students.

Permalink

<https://escholarship.org/uc/item/8h67d4jk>

Journal

Journal of American college health : J of ACH, 62(8)

ISSN

0744-8481

Authors

Holt, Melissa K
Greif Green, Jennifer
Reid, Gerald
et al.

Publication Date

2014

DOI

10.1080/07448481.2014.947990

Peer reviewed

[Click for updates](#)

Journal of American College Health

Publication details, including instructions for authors and subscription information:

<http://www.tandfonline.com/loi/vach20>

Associations Between Past Bullying Experiences and Psychosocial and Academic Functioning Among College Students

Melissa K. Holt PhD^a, Jennifer Greif Green PhD^b, Gerald Reid MA^a, Amanda DiMeo^c, Dorothy L. Espelage PhD^d, Erika D. Felix PhD^e, Michael J. Furlong PhD^e, V. Paul Poteat PhD^f & Jill D. Sharkey PhD^e

^a Department of Counseling Psychology and Human Development, School of Education, Boston University, Boston, Massachusetts

^b Department of Special Education, School of Education, Boston University, Boston, Massachusetts

^c Department of Health Science, Sargent College, Boston University, Boston, Massachusetts

^d Department of Child Development, College of Education, University of Illinois, Urbana-Champaign, Urbana, Illinois

^e Department of Counseling, Clinical, and School Psychology, The Gervitz School, University of California, Santa Barbara, Santa Barbara, California

^f Department of Counseling, Developmental, and Educational Psychology, Lynch School of Education, Boston College, Boston, Massachusetts

Accepted author version posted online: 13 Aug 2014. Published online: 05 Nov 2014.

To cite this article: Melissa K. Holt PhD, Jennifer Greif Green PhD, Gerald Reid MA, Amanda DiMeo, Dorothy L. Espelage PhD, Erika D. Felix PhD, Michael J. Furlong PhD, V. Paul Poteat PhD & Jill D. Sharkey PhD (2014) Associations Between Past Bullying Experiences and Psychosocial and Academic Functioning Among College Students, *Journal of American College Health*, 62:8, 552-560, DOI: [10.1080/07448481.2014.947990](https://doi.org/10.1080/07448481.2014.947990)

To link to this article: <http://dx.doi.org/10.1080/07448481.2014.947990>

PLEASE SCROLL DOWN FOR ARTICLE

Taylor & Francis makes every effort to ensure the accuracy of all the information (the "Content") contained in the publications on our platform. However, Taylor & Francis, our agents, and our licensors make no representations or warranties whatsoever as to the accuracy, completeness, or suitability for any purpose of the Content. Any opinions and views expressed in this publication are the opinions and views of the authors, and are not the views of or endorsed by Taylor & Francis. The accuracy of the Content should not be relied upon and should be independently verified with primary sources of information. Taylor and Francis shall not be liable for any losses, actions, claims, proceedings, demands, costs, expenses, damages, and other liabilities whatsoever or howsoever caused arising directly or indirectly in connection with, in relation to or arising out of the use of the Content.

This article may be used for research, teaching, and private study purposes. Any substantial or systematic reproduction, redistribution, reselling, loan, sub-licensing, systematic supply, or distribution in any form to anyone is expressly forbidden. Terms & Conditions of access and use can be found at <http://www.tandfonline.com/page/terms-and-conditions>

Major Article

Associations Between Past Bullying Experiences and Psychosocial and Academic Functioning Among College Students

Melissa K. Holt, PhD; Jennifer Greif Green, PhD; Gerald Reid, MA; Amanda DiMeo; Dorothy L. Espelage, PhD; Erika D. Felix, PhD; Michael J. Furlong, PhD; V. Paul Poteat, PhD; Jill D. Sharkey, PhD

Abstract. Objectives: This study examined whether childhood bullying victimization was associated with psychosocial and academic functioning at college. **Participants:** The sample consisted of 413 first-year students from a large northeastern university. **Methods:** Students completed an online survey in February 2012 that included items assessing past bullying involvement, current psychosocial and academic functioning, and victimization experiences since arriving at college. **Results:** Regression analyses indicated that reports of past bullying and other peer victimization were associated with lower mental health functioning and perceptions of physical and mental health, but were not associated with perceptions of social life at college, overall college experience, or academic performance. **Conclusions:** Childhood bullying victimization is associated with poorer mental and physical health among first-year college students. Colleges should consider assessing histories of bullying victimization, along with other past victimization exposures, in their service provision to students.

Keywords: bullying, college, counseling, mental health

Involvement in childhood bullying is associated with a range of deleterious outcomes in adulthood.¹⁻⁴ However, to date, studies have not systematically addressed the effects of bullying involvement on youth as they transition from high school to college. Understanding how students involved in bullying experience the college transition could inform efforts at the secondary school level to address this issue proactively, as well as provide valuable information to colleges about the types of supports these students might need as they adapt to this new, more independent environment.

Drawing from the broader literature on college adjustment, research indicates that for some students, the adjustment to college is challenging and can be associated with heightened rates of emotional distress, substance use, and declining academic performance.^{5,6} Some students drop out of college. In an effort to understand predictors of dropout, Tinto proposed a model that highlighted the key roles of both academic and social integration.⁷ Research building on Tinto's model of college adjustment has supported the notion that both social functioning and personal connections at college and academic performance were equally important to understanding adjustment and attrition.⁸⁻¹⁰ For example, the more frequent adjustment challenges experienced by particular groups of students (eg, members of racial/ethnic minority groups; gay, lesbian, and bisexual students)^{11,12} are thought to be partially explained by a reduced sense of social belonging, lower levels of perceived

Dr Holt and Mr Reid are with the Department of Counseling Psychology and Human Development, School of Education, at Boston University, in Boston, Massachusetts. Dr Greif Green is with the Department of Special Education, School of Education, at Boston University, in Boston, Massachusetts. Ms DiMeo is with the Department of Health Science, Sargent College, at Boston University, in Boston, Massachusetts. Dr Espelage is with the Department of Child Development, College of Education, at the University of Illinois at Urbana-Champaign, in Urbana, Illinois. Dr Felix, Dr Furlong, and Dr Sharkey are with the Department of Counseling, Clinical, and School Psychology, The Gervitz School, at the University of California at Santa Barbara in Santa Barbara, California. Dr Poteat is with the Department of Counseling, Developmental, and Educational Psychology, Lynch School of Education, at Boston College, in Boston, Massachusetts. Authors listed in alphabetical order from Ms DiMeo onward.

Copyright © 2014 Taylor & Francis Group, LLC

social support, and increased likelihood of harassment and/or victimization on college campuses.^{11–13}

For students with histories of bullying, adjusting to the college context might be particularly difficult. College entry places high demands on forming new social connections, and previously bullied youth who have had difficulty in peer relationships might be less adept at negotiating their new environment than students who were not bullied.¹⁴ In turn, students who have difficulty forming strong social support networks are at increased risk for deleterious outcomes, including depression and dropout.¹⁵ If previously bullied individuals are more likely to experience continued victimization at college, they would also be at increased risk of experiencing maladjustment.¹⁶ Similarly, given the increased rate of violence exposure in other domains among individuals who have been bullied,¹⁷ bullied individuals might enter college with compromised mental health due to multiple victimization histories, which would make adjusting to the new environment even more challenging. Yet, given the limited research on bullying beyond the high school level and within higher education settings, the extent to which a history of being bullied contributes to specific types of challenges in college remains unclear.

Although past research lends support to the hypothesis that previously bullied students might be at risk for poor college adjustment, it is also possible that the converse is true. Students with histories of bullying, particularly those for whom bullying involvement was specific to the social climate of their hometown or K–12 schools, might find that college entry provides a new opportunity to form healthy, mutually supportive bonds with peers. As evidence, some studies of K–12 students have found that students previously involved in bullying who are placed in new schools are often able to adjust well and are no longer involved in bullying in their new context.¹⁸ Thus, incoming college students who report past bullying might not be at greater risk for poor adjustment than their peers, but rather might be able to adjust well because they are supported by newly formed social connections in a new environment.

This study extends existing research on bullying to examine psychosocial and academic functioning in the first year of college among individuals who experienced bullying victimization prior to entering college, during their K–12 school years. Specifically, this investigation seeks to clarify whether first-year college students with bullying victimization histories report more mental and physical health concerns and academic challenges than their nonbullied peers, and whether or not they are more likely to report bullying victimization while at college. Finally, analyses address the extent to which past bullying victimization is associated with indicators of adjustment and well-being even after accounting for other past victimization exposures that are relevant for adolescent populations (eg, dating violence and sexual victimization). Examining the associations between past bully victimization, after controlling for other victimizations, isolate the unique association of bullying with college functioning. Further, these analyses prevent

the potential overestimation of the association of bullying victimization on concurrent adjustment.¹⁹

METHODS

Procedure

Student service offices from 4 colleges located within a large northeastern US university agreed to e-mail all first-year students within their colleges and to invite them to participate in a one-time Web-based college adjustment survey. The month of February was selected for survey administration, in order to capture experiences over the first year of college and to complete administration prior to semester final examinations. Two thousand three hundred and sixty-seven students received notification about the survey, 514 students accessed the survey link, and 476 students started the survey. This resulted in an initial response rate of 20.3%, which is either comparable or higher than other online studies.^{20,21} From the sample of 476 who completed at least a portion of the survey, 64 students were removed from the sample because their survey completion time was extremely short and suggested random responding (ie, completion times under 2 minutes), or they did not complete the bullying section of the instrument. Two additional students were removed from the sample based on open-ended responses that suggested they had not taken the survey seriously. There were not statistically significant age differences between included and excluded students, and limited available data from excluded students precluded additional analyses to compare these 2 groups. Among those students who started the survey, the completion rate was 86%. On average, students took 22.5 minutes to complete the survey. All study procedures were approved by the university's Institutional Review Board.

Participants

The final sample consisted of 413 first-year college students. Among those respondents who reported their sex, 75.3% were female. Most students (83.5%) identified as heterosexual. The remaining students identified their sexual orientation as homosexual (3.1%), asexual (0.8%), bisexual (4.2%), and questioning (2.1%); 7% of students did not respond to the question about sexual orientation. With respect to age, most students were 18 (63.2%) years old, but others indicated they were 19 (32.9%), 20 (3.4%), and 21 (0.5%) years. Students who reported they were under the age of 18 years were not given access to the survey because the Institutional Review Board would have required parental consent for students under the age of 18. The majority of respondents reported their race/ethnicity to be white, non-Hispanic (72.8%), with the remaining participants classifying themselves as Asian (22.1%), black or African American (2.3%), Native American (0.8%), Native Hawaiian (0.5%), Pacific Islander (0.8%), and "other" (0.7%). Within the total final sample, 9.0% considered themselves to be Hispanic/Latino.

Measures

The online survey included questions assessing a number of domains, with those relevant to current study questions described below. Students completed demographic questions at the end of the survey.

California Bully Victimization Scale (CBVS)

The CBVS²² assessed childhood bullying by asking about the 3 core definitional components of bullying: peer victimization that is (a) intentional, (b) repeated, and (c) involves an imbalance of power between the target and the aggressor.²³ The CBVS measured the presence of 8 forms of victimization prior to college: teasing, rumor spreading, social exclusion, hitting, threatening, sexual jokes/gestures, stealing, and aggression via the Internet. Respondents were asked to rate the frequency of each form of victimization endorsed on a 5-point scale (*a few times a year, about once a month, 2 or 3 times a month, about once a week, several times a week*). Using the item skipping logic of the online survey, if respondents reported repeated victimization (2 or 3 times a month or more) they were also asked to indicate whether the “main person” who was the aggressor during their childhood, compared with the respondent, was perceived to have a power advantage by virtue of being (a) more popular, (b) more intelligent, (c) physically stronger, (d) more attractive, (e) more athletic, (f) having more money, or (g) being older. Respondents were categorized as victims of bullying if they endorsed repeated victimization (on 1 or more forms of victimization) and indicated that the aggressor was more powerful; that is, they recalled experiencing repeated victimization by an aggressor against whom they could not adequately defend themselves. CBVS reliability and validity have been documented in previous studies with children and adolescents.^{22,24} For instance, in a study of fifth- to 12th-grade students both test–retest reliability and concurrent validity of the CVBS were supported.²² In the current sample the alpha coefficient was .80.

Other Victimization Experiences Prior to College

Items from the Juvenile Victimization Questionnaire (JVQ)²⁵ were used to assess physical dating violence and attempted/completed rape, and a parallel item was written to assess emotional dating violence. Each victimization type was assessed with a single question, and each of the 3 items asked respondents to indicate whether the experience had occurred prior to starting at college. The response options were *yes* (1) or *no* (0). These 3 variables were combined to create a dichotomous victimization variable (0 = no past dating violence or sexual victimization; 1 = past dating violence and/or sexual victimization) that was used in analyses. The JVQ’s reliability and validity has been supported in national studies.²⁵ For instance, using data from a national sample of 2,030 youth, researchers found support for construct and test–retest reliability and found that

respondents were not resistant to answering questions despite their sensitive nature.²⁵

Bullying Victimization at College

Bullying since beginning college was assessed using the following definitional item that is part of the Bully Survey–Student Version,²⁶ which has typically been administered to adolescents: “Bullying happens when someone hurts or scares another person on purpose and the person being bullied has a hard time defending himself or herself. Usually, bullying happens over and over. Did anyone bully you?” with students reporting whether or not this had happened since they began college in the fall. Response options were *yes* (1) and *no* (0).

Mental Health at College

The 9-item Patient Health Questionnaire (PHQ-9)²⁷ assessed current symptoms of depression, and the 7-item Generalized Anxiety Disorder Scale (GAD-7)²⁸ evaluated current symptoms of anxiety. Both are brief self-report measures derived from the more comprehensive Primary Care Evaluation of Mental Disorders²⁹ and have demonstrated adequate reliability and validity.^{27,28} Both measures ask respondents how often they have experienced particular symptoms within the last 2 weeks (eg, “feeling down, depressed, or hopeless”) and response options are: 1 (*not at all*), 2 (*several days*), 3 (*more than half the days*), and 4 (*nearly every day*). The alpha coefficients for the depression and anxiety scales in this sample were .88 and .91, respectively. For the PHQ-9, respondents were classified as 1 (potential clinical depression) or 0 (no clinical depression). The potential clinical depression category included respondents who reported many symptoms of depression, potentially at clinically significant levels (<http://www.integration.samhsa.gov/images/res/PHQ%20-%20Questions.pdf>). For the GAD-7, those individuals with scores of 10 or higher were classified as potentially experiencing clinical anxiety (1 = above the cutoff, 0 = below the cutoff) based on the recommendation of Spitzer and colleagues.²⁸

Global Ratings of College Functioning

Students rated their first-year experience at college in 4 areas, using items developed for this study and with 1 item for each of the domains: overall college experience (“How would you rate your overall college experience?”), physical health (“How would you rate your overall physical health?”), mental health (“How would you rate your overall mental health?”), and social life (“How would you rate your current social life?”) Respondents rated each domain on a 5-point scale ranging from *excellent* (1) to *poor* (5). Higher numbers indicated more problematic perceived functioning in the domain.

Academic Performance in College

Students were asked whether they had received a course grade of below a B– since starting college (ie, during fall semester). The response options were *yes* (1) and *no* (0).

RESULTS

Past Bullying Prevalence

Based on the CVBS, almost one-third (29%) of respondents reported some type of prior bullying victimization when they were in grades K–12 (see Table 1). The most frequent forms of victimization were teasing (21.0%), being ignored (16.0%), and rumor spreading (10.7%). Retrospective bullying reports suggested that being a victim of bullying was lowest in elementary school and peaked in middle school before declining during high school.

Bivariate Associations: College Functioning and Other Victimization Exposures

As indicated in Table 2, previously bullied first-year students endorsed significantly more current symptoms of depression, $t(374) = -4.81, p < .001, d = .50$, and anxiety, $t(376) = -5.72, p < .001, d = .59$, than their nonbullied peers. Similarly, the percentage of previously bullied participants who were above the clinical cutoff for depression, $\chi^2(1, N = 376) = 11.34, p < .05, \phi = .17$, and anxiety, $\chi^2(1, N = 378) = 19.24, p < .05, \phi = .23$, was significantly higher than the percentage of participants who reported no bullying victimization history. In contrast, there were no differences between students with and without bullying histories in global ratings of their college experience, $t(411) = -0.94, p > .05$, or ratings of social life, $t(390) = -0.70, p > .05$, nor did percentages differ between groups on receiving a grade lower than a B– in their first semester, $\chi^2(1, N = 394) = 3.82, p > .05$. However, consistent with the comparison of current anxiety and depression scores, previously bullied students rated themselves as being in less good physical, $t(391) = -3.48, p < .01, d = .35$, and mental, $t(389) = -3.92, p < .01, d = .35$, health than their

counterparts. Finally, previously bullied first-year students did not report different rates of being bullied at college, $\chi^2(1, N = 394) = 0.75, p > .05$, than participants who did not report being previously bullied.

With respect to bivariate associations between past bullying involvement and other victimization exposures prior to entering college, the percentage of respondents who reported at least 1 past dating violence or sexual victimization exposure was higher for previously bullied students (22.2%) than nonbullied students (8.8%), $\chi^2(1, N = 394) = 13.33, p < .01$.

Multivariate Regression Analyses: Predicting Functioning at College by Past Bullying Victimization and Past Other Victimization Exposures

Multivariate hierarchical regression analyses were conducted to examine the extent to which past bullying and other childhood victimization exposures (dating violence and/or sexual victimization) were associated with personal functioning during the first year of college. All dependent variables, whether significant or not in bivariate analyses, were included given that multivariate analyses included other indicators of childhood victimization beyond bullying. Three logistic regression analyses were run, each with one of the following dependent variables: PHQ-9 (depression), GAD-7 (anxiety), and whether the participant had earned a B– or less in 1 or more class the first semester of college. Four linear regression analyses also were run, each with one of the following dependent variables: perceptions of physical health, perceptions of mental health, perceptions of social life, and perceptions of overall college adjustment. All regression analyses controlled for sex and age; thus, these variables were entered in Step 1, followed by the inclusion of the dichotomous bullying victimization variable in Step 2. The variable reflecting other childhood victimization (dating violence and/or sexual victimization) was entered in Step 3, to determine whether any significant associations between bullying victimization history and

TABLE 1. Retrospective Bullying Victimization Reports by Bullying Type

Bullying type	% Ever happened	% Happened in		
		Elementary school	Middle school	High school
Teasing	20.6	12.3	16.7	9.4
Rumors	10.7	3.6	7.7	7.3
Ignored	16.0	7.7	11.9	9.0
Hit	3.4	1.7	1.7	1.7
Threatened	2.9	0.7	1.2	1.5
Sexual comments	7.0	1.0	3.4	5.3
Stealing	1.9	0.0	1.0	1.5
Internet	3.9	0.5	2.2	2.9
Any of the above	28.8	15.3	24.2	19.6

TABLE 2. College Adjustment Indicators by Past Bullying Experiences

Indicator	No prior bullying (<i>n</i> = 275)			Prior bullying (<i>n</i> = 119)			<i>t</i> value	χ^2
	<i>M</i>	<i>SD</i>	%	<i>M</i>	<i>SD</i>	%		
Global rating of college experience ^a	2.2	1.0		2.3	1.0		0.94	
Global rating of physical health ^a	2.3	0.9		2.7	1.0		3.45**	
Global rating of mental health ^a	2.4	1.0		2.8	1.1		-3.92**	
Global rating of social life ^a	2.6	1.0		2.7	1.2		-0.70	
Above PHQ-9 clinical cutoff			9.6			23.7		13.85**
Above GAD-7 clinical cutoff			10.2			28.1		19.24**
Received below a B- in a class			32.0			32.8		0.02
Bullying at college			0.7			1.7		0.75

Note. PHQ-9 = Patient Health Questionnaire; GAD-7 = Generalized Anxiety Disorder Scale.

^aRange = 1 (*Excellent*) to 5 (*Poor*).

p* < .05; *p* < .01.

college functioning indicators that emerged in Step 2 remained once these other victimizations were considered.

As Table 3 shows, after controlling for sex and age both bullying victimization and other victimization exposures were significantly associated with self-reported ratings of depression and anxiety in the clinical range. Specifically, college students who reported previous bullying victimization were more likely to be above the clinical cutoff on the measure for current depression (odds ratio [OR] = 2.9, 95% confidence interval [CI] [1.6, 5.2], small effect size³⁰) and anxiety symptoms (OR = 3.2, 95% CI [1.8, 5.7], moderate effect size³⁰) than their nonbullied peers. The association of bullying victimization with depression and anxiety persisted in models accounting for other forms of childhood victimization (ORs = 2.8–2.9, *ps* < .01). With respect to academic functioning, the percentage of students

obtaining below a B- in 1 or more course did not differ between previously bullied and nonbullied college students.

For perceptions of mental health, college students who reported past bullying victimization were more likely to perceive their current mental and physical health as being poor (β for mental and physical health = 0.2, *ps* < .01; see Table 4). Associations between past bullying victimization and current perceptions of poor mental and physical health persisted in models controlling for other forms of childhood victimization; other forms of childhood victimization were not, themselves, significantly associated with perceptions of current mental health.

Finally, bullying victimization and other forms of childhood victimization were not significantly associated with ratings of the overall quality of college social life or global perceptions of the college experience (see Table 5).

TABLE 3. Logistic Regressions: Past Bullying and Other Victimization Exposures Predicting Clinical Depression and Anxiety and College Grades (Earning a B- in 1 or More Class)

Variable	GAD-7 (anxiety) clinical cutoff		PHQ-9 (depression) clinical cutoff		Earned a B- or lower in 1+ classes	
	OR	95% CI	OR	95% CI	OR	95% CI
Block 1						
Age	0.85	0.51, 1.41	0.84	0.56, 1.58	0.84	0.57, 1.22
Sex (male = 0)	1.01	0.52, 1.95	1.07	0.53, 2.15	1.26	0.76, 2.11
Block 2						
Age	0.91	0.54, 1.54	1.01	0.59, 1.73	0.84	0.57, 1.23
Sex (male = 0)	1.04	0.53, 2.04	1.13	0.56, 2.30	1.27	0.76, 2.11
Bullying victimization	3.19**	1.79, 5.69	2.87**	1.57, 5.24	1.08	0.68, 1.73
Block 3						
Age	0.93	0.55, 1.59	1.02	0.60, 1.74	0.85	0.58, 1.25
Sex (male = 0)	1.00	0.50, 1.98	1.12	0.55, 2.29	1.25	0.74, 2.06
Bullying victimization	2.88**	1.56, 5.21	2.80**	1.51, 5.16	1.00	0.62, 1.62
Dating and sexual violence	2.20*	1.06, 4.57	1.22	0.53, 2.77	1.78	0.95, 3.31

Note. GAD-7 = Generalized Anxiety Disorder Scale; PHQ-9 = Patient Health Questionnaire; OR = odds ratio; CI = confidence interval.

p* < .05; *p* < .01.

TABLE 4. Hierarchical Regression: Past Bullying and Other Victimization Exposures and Perceptions of Physical and Mental Health

Variable	Perceptions of physical health			Perceptions of mental health		
	<i>B</i>	<i>SE B</i>	β	<i>B</i>	<i>SE B</i>	β
Step 1						
Age	0.03	0.08	0.02	-0.06	0.09	-0.03
Sex (male = 0)	0.10	0.11	0.05	0.20	0.12	0.08
Step 2						
Age	0.05	0.08	0.03	-0.03	0.09	-0.02
Sex (male = 0)	0.12	0.11	0.05	0.22	0.12	0.09
Bullying victimization	0.37	0.10	0.18**	0.45	0.12	0.20**
Step 3						
Age	0.05	0.08	0.03	-0.03	0.09	-0.02
Sex (male = 0)	0.12	0.11	0.06	0.21	0.12	0.09
Bullying victimization	0.38	0.11	0.19**	0.43	0.12	0.19**
Dating and sexual violence	-0.11	0.14	-0.04	0.21	0.16	0.07

Note. For physical health: Step 1, $F(2, 381) = 0.43, p > .05, R^2 = .003$; Step 2, $F(3, 380) = 4.50, p < .01, \Delta R^2 = .03$; Step 3, $F(4, 379) = 3.51, p < .01, \Delta R^2 = .001$. For mental health: Step 1, $F(2) = 1.66, p > .05, R^2 = .009$; Step 2, $F(3) = 6.29, p < .01, \Delta R^2 = .04$; Step 3, $F(4) = 5.16, p < .01, \Delta R^2 = .004$.

* $p < .05$; ** $p < .01$.

COMMENT

Consistent with prior studies,^{2,4,31} findings indicate that college students with histories of bullying were more likely to report depressive and anxiety symptoms in the clinical range and lower global ratings of their mental and physical well-being than their nonbullied peers. Although many bullied students did not meet the cutoff for clinically defined depression or anxiety, the increased likelihood of symptomatology among these students suggests a greater vulnerability to diminished psychological well-being at college. Our

finding that the association of childhood bullying with current mental health outcomes and perceptions of poor physical and mental health persists, even in models controlling for other childhood victimization experiences, suggests that bullying might have a unique association with mental and physical health outcomes among first-year college students. Few prior studies have examined the relative impact of bullying as compared with other forms of childhood victimization on mental health (for an exception; see Holt et al¹⁷), and given the high rates of co-occurrence between bullying

TABLE 5. Hierarchical Regression: Past Bullying and Other Victimization Exposures and Perceptions of Social Life and Overall College Experience

Variable	Perceptions of social life			Perceptions of overall college experience		
	<i>B</i>	<i>SE B</i>	β	<i>B</i>	<i>SE B</i>	β
Step 1						
Age	0.05	0.09	0.03	0.05	0.09	0.03
Sex (male = 0)	-0.06	0.12	-0.03	-0.02	0.12	-0.01
Step 2						
Age	0.06	0.09	0.03	0.05	0.09	0.03
Sex (male = 0)	-0.06	0.12	-0.03	-0.01	0.12	-0.01
Bullying victimization	0.09	0.12	0.04	0.09	0.11	0.04
Step 3						
Age	0.05	0.09	0.03	0.05	0.09	0.03
Sex (male = 0)	-0.05	0.12	-0.02	-0.01	0.12	-0.01
Bullying victimization	0.11	0.12	0.05	0.09	0.11	0.04
Dating and sexual violence	-0.12	0.16	-0.04	-0.01	0.22	-0.002

Note. For social life: Step 1, $F(2, 380) = 0.31, p > .05, R^2 = .002$; Step 2, $F(3, 379) = 0.41, p > .05, \Delta R^2 = .002$; Step 3, $F(4, 378) = 0.46, p > .05, \Delta R^2 = .001$. For overall college experience: Step 1, $F(2, 381) = 0.12, p > .05, R^2 = .001$; Step 2, $F(3, 380) = 0.37, p > .05, \Delta R^2 = .002$; Step 3, $F(4, 379) = 0.53, p > .05, \Delta R^2 = .003$.

and other victimization,¹⁹ our results provide support for the importance of specifically attending to the impact of bullying on college students.

Interestingly, bullying was not associated with perceptions of overall positive quality of the college experience or social life. This finding, in combination with those for mental health, suggests that entry into a new college environment and social arena might provide an opportunity for students with histories of bully victimization to experience resilience through the formation of new supportive relationships. In contrast to studies of childhood bullying that find that child victims of bullying report lack of engagement in school³² and weaker peer relationships in general,³³ our results suggest that previously bullied youth might be hopeful about their college experience. Part of this might be explained by college students having more control over both with whom they interact and the settings in which they study and socialize on college campuses, in contrast to K–12 settings in which students are required to be in the same building all day. An alternative explanation is that those individuals who are most severely bullied perhaps do not continue on to college. Future studies that follow students over time will be important to determine whether students with previous bullying victimization have more positive relationships and social experiences in college than they did in their K–12 settings.

Limitations

There are several limitations to this study. First, analyses of college functioning only uncovered average trends across groups (bullied vs not bullied) for each measure individually; latent class analysis is needed to uncover multiple possible diverse trajectories. In addition, the cross-sectional nature of data collection might have impacted the accuracy of reports of childhood bullying. Students with positive early college experiences could have underreported childhood bullying, whereas for those with more pervasive current mental health problems, memories of childhood victimization may have been more prominent. Longitudinal data collection would increase the accuracy of these reports. Related to this, all data are based on student self-report, and we do not have any information from college records (eg, grade point average, hospitalizations) or sociometric data from peers (eg, peer ratings of respondent social status) to triangulate with the survey responses.

Second, although our response rate was similar to responses often obtained from online surveys,^{20,21} it is possible that there were systematic biases in the types of students most likely to respond to our survey. We titled our survey a “college adjustment” study and did not use the term “bullying” in recruitment materials in order to reduce this bias. However, it is still possible that students with more positive college adjustment experiences were more likely to respond.

Third, all data were collected in 1 large, northeastern US university. This university is a private institution where a majority of first-year students live on campus and have traveled away from their hometowns. Results might not generalize to students at other universities and in other geographic locations. In particular, findings might differ for college students living at home or attending college with a large number of their K–12 classmates. Finally, this study included only first-year students because we were interested in the early college experience. Follow-up with students over time could provide important information about the longer-term impact of childhood bullying on college experiences.

Conclusion

These results highlight several complexities in understanding the long-term impact of childhood bullying. Victimization by peers is associated with psychosocial risks in that it can significantly impair early adult functioning, even among students in a new social and academic environment. The finding that on average previously bullied students rate their college and social experience similarly to their nonbullied peers offers hope that students may believe that college will provide new social opportunities. The experiences of previously bullied students in college have been largely unexplored; however, attending to this important life transition period could have implications for understanding the trajectories of these youth. Future research building on this study could also explore adjustment within a dual-factor framework, with consideration to both symptoms of psychological distress as well as indicators of psychological wellness.³⁴ Prior research on college students with histories of other forms of victimization (eg, child maltreatment) suggests the importance of screening and service outreach. The results of the current study provided support for the recommendation that colleges should similarly reach out to students with histories of bullying to support their psychosocial and academic functioning at college. For instance, one study of a general freshman sample showed that an adjustment to college intervention workshop effectively increased students’ sense of hope.³⁵ Perhaps universities could create group counseling experiences for those who had been bullied prior to college, and advertise this opportunity to first-year students. Universities could also include assessments of bullying in college counseling center intake evaluations to prepare bullied students for the transition to college, and consider interventions that have been shown among other groups of students to increase the sense of social belonging and connectedness with the college community.³⁶ Enhancing peer support also could be another useful intervention. Previous research suggests that college students may be more likely to prefer peer problem solving rather than

obtaining professional support.³⁷ Also, participating in a peer-led social support group has been shown to reduce loneliness among college freshmen.³⁸ Student-based campus groups might also be able to play a role in providing support and connections for first-year college students experiencing challenges due to past bullying experiences or other reasons. In general, social support has been found to be a protective factor among college students³⁹; thus, providing multiple avenues through which first-year students could gain such support would be beneficial for students' psychological well-being and, in turn, academic performance. Although yet untested, these types of interventions might provide critical support to vulnerable students, increasing their likelihood of college success and completion.

FUNDING

Funding from the Boston University School of Education was used to support this research.

CONFLICT OF INTEREST DISCLOSURE

The authors have no conflicts of interest to report. The authors confirm that the research presented in this article met the ethical guidelines, including adherence to the legal requirements, of the United States and received approval from the Institutional Review Board of Boston University.

NOTE

For comments and further information, address correspondence to Melissa K. Holt, Department of Counseling Psychology and Human Development, School of Education, Boston University, 2 Silber Way, Boston, MA 02215, USA (e-mail: holtm@bu.edu).

REFERENCES

1. Allison S, Roeger L, Reinfeld-Kirkman N. Does school bullying affect adult health? Population survey of health-related quality of life and past victimization. *Aust N Z J Psychiatry*. 2009;43:1163–1170.
2. Klomek AB, Marrocco F, Kleinman M, Schonfeld IS, Gould MS. Bullying, depression, and suicidality in adolescents. *J Am Acad Child Adolesc Psychiatry*. 2007;46:40–49.
3. Hawker DSJ, Boulton MJ. Twenty years' research on peer victimization and psychosocial maladjustment: a meta-analytic review of cross-sectional studies. *J Child Psychol Psychiatry*. 2000;41:441–455.
4. Copeland WE, Wolke D, Angold A, Costello EJ. Adult psychiatric outcomes of bullying and being bullied by peers in childhood and adolescence. *JAMA Psychiatry*. 2013;70:419–426.
5. Pritchard ME, Wilson GS, Yamnitz B. What predicts adjustment among college students? A longitudinal panel study. *J Am Coll Health*. 2007;56:15–22.
6. Zivin K, Eisenberg D, Gollust SE, Golberstein E. Persistence of mental health problems and needs in a college student population. *J Affect Disord*. 2009;117:180–185.
7. Tinto V. Dropout from higher education: a theoretical synthesis of recent research. *Rev Educ Res*. 1975;45:89–125.
8. Gerdes H, Mallinckrodt B. Emotional, social, and academic adjustment of college students: a longitudinal study of retention. *J Couns Dev*. 1994;72:281–288.
9. Goguen LMS, Hiester MA, Nordstrom AH. Associations among peer relationships, academic achievement, and persistence in college. *J Coll Stud Retent Res Theory Pract*. 2010;12:319–337.
10. Swenson LM, Nordstrom A, Hiester M. The role of peer relationships in adjustment to college. *J Coll Stud Dev*. 2008;49:551–567.
11. Kenny ME, Stryker S. Social network characteristics and college adjustment among racially and ethnically diverse first-year students. *J Coll Stud Dev*. 1996;37:649–658.
12. Schmidt CK, Miles JR, Welsh AC. Perceived discrimination and social support: the influences on career development and college adjustment of LGBT college students. *J Career Dev*. 2011;38:293–309.
13. Schneider ME, Ward DJ. The role of ethnic identification and perceived social support in Latinos' adjustment to college. *Hispanic J Behav Sci*. 2003;25:539–554.
14. Wei M, Russell DW, Zakalik RA. Adult attachment, social self-efficacy, self-disclosure, loneliness, and subsequent depression for freshman college students: a longitudinal study. *J Couns Psychol*. 2005;52:602–614.
15. Tanigawa GA, Furlong MG, Felix ED, Sharkey JD. The protective role of perceived social support against the manifestation of depressive symptoms in peer victims. *J Sch Violence*. 2011;10:393–412.
16. Werner NE, Crick NR. Relational aggression and social-psychological adjustment in a college sample. *J Abnorm Psychol*. 1999;108:615–623.
17. Holt MK, Finkelhor D, Kantor GK. Hidden forms of victimization in elementary students involved in bullying. *Sch Psychol Rev*. 2007;36:345–360.
18. Espelage DL, Hong JS, Rao M. Social-ecological factors associated with bullying perpetration among early adolescents across the elementary-middle school transition. *Violence Victims*. In press.
19. Finkelhor D, Ormrod RK, Turner HA. Polyvictimization and trauma in a national longitudinal cohort. *Dev Psychopathol*. 2007;19:149–166.
20. Ybarra M, Espelage DL, Mitchell KJ. Differentiating youth who are bullied from other victims of peer-aggression: the importance of differential power and repetition. *J Adolesc Health*. 2014;55:293–300.
21. Sax LJ, Gilmartin SK, Bryant AN. Assessing response rates and nonresponse bias in Web and paper surveys. *Res Higher Educ*. 2003;4:409–432.
22. Felix ED, Sharkey JD, Green JG, Furlong MJ, Tanigawa D. Getting precise and pragmatic about the assessment of bullying: the development of the California Bullying Victimization Scale. *Aggress Behav*. 2011;37:234–247.
23. Olweus D. *Aggression in the Schools: Bullies and Whipping Boys*. Washington, DC: Hemisphere Publishing; 1978.
24. Atik A, Guneri OY. California Bullying Victimization Scale: validity and reliability evidence for the Turkish middle school children. *Proc Soc Behav Sci*. 2012;46:1237–1241.
25. Finkelhor D, Hamby SL, Ormrod R, Turner H. The Juvenile Victimization Questionnaire: reliability, validity, and national norms. *Child Abuse Neglect*. 2005;29:383–412.
26. Swearer SM, Cary PT. Perceptions and attitudes toward bullying in middle school youth: a developmental examination across the bully/victim continuum. *J Appl Sch Psychol*. 2003;19:63–79.
27. Kroenke K, Spitzer RL, Williams JBW. The PHQ-9: validity of a brief depression severity measure. *J Gen Intern Med*. 2001;16:606–613.

28. Spitzer RL, Kroenke K, Williams JB, Lowe B. A brief measure for assessing generalized anxiety disorder: the GAD-7. *Arch Intern Med*. 2007;166:1092–1097.
29. Spitzer RL, Kroenke K, Williams JB. Validation and utility of a self-report version of PRIME-MD. *JAMA*. 1999;282:1737–1744.
30. Ferguson CJ. An effect size primer: a guide for clinicians and researchers. *Prof Psychol Res Pract*. 2009;40:532–548.
31. Sourander A, Jensen P, Rönning JA, et al. What is the early adulthood outcome of boys who bully or are bullied in childhood? The Finnish “From a Boy to a Man” study. *Pediatrics*. 2007;120:397–404.
32. You S, Furlong MJ, Felix E, Sharkey JD, Tanigawa D, Green JG. Relations among school connectedness, hope, life satisfaction, and bully victimization. *Psychol Sch*. 2008;45:446–460.
33. Holt MK, Espelage DL. Perceived social support among bullies, victims, and bully-victims. *J Youth Adolesc*. 2007;36:984–994.
34. Eklund K, Dowdy D, Jones C, Furlong M. Applicability of the dual factor model of mental health for college students. *J Coll Stud Psychother*. 2011;25:75–92.
35. Davidson OB, Feldman DB, Margalit M. A focused intervention for 1st year college students: promoting hope, sense of coherence, and self-efficacy. *J Psychol*. 2012;163:333–352.
36. Walton GM, Cohen GL. A brief social-belonging intervention improves academic and health outcomes of minority students. *Science*. 2011;33:1447–1451.
37. Barton AL, Hirsch JK, Lovejoy MC. Peer response to messages of distress: does sex and content matter? *Crisis*. 2013;3:183–191.
38. Mattanah JF, Ayers JF, Brand BL, Brooks LJ, Quimby JL, McNary SW. A social support intervention to ease the college transition: exploring main effects and moderators. *J Coll Stud Dev*. 2010;51:93–108.
39. Eisenberg D, Gollust SE, Golberstein E, Hefner JL. Prevalence and correlates of depression, anxiety, and suicidality among university students. *Am J Orthopsychiatry*. 2007;77:534–542.

Received: 16 September 2013

Revised: 12 May 2014

Accepted: 10 July 2014