Article

Question Order Affects the Measurement of Bullying Victimization Among Middle School Students

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Francis L. Huang[1] and Dewey G. Cornell[2]

Abstract

Bullying among youth is recognized as a serious student problem, especially in middle school. The most common approach to measuring bullying is through student self-report surveys that ask questions about different types of bullying victimization. Although prior studies have shown that question-order effects may influence participant responses, no study has examined these effects with middle school students. A randomized experiment (n = 5,951 middle school students) testing the question-order effect found that changing the sequence of questions can result in 45% higher prevalence rates. These findings raise questions about the accuracy of several widely used bullying surveys.

Keywords

bullying, measurement, question-order, surveys

Bullying in schools is widely recognized as a serious problem for students, especially in middle school (Hong & Espelage, 2012; Vivolo-Kantor, Martell, Holland, & Westby, 2014). Victims of bullying generally show higher levels of depression, insecurity, unhappiness, and poorer psychosocial functioning compared with their peers (Hawker & Boulton, 2000; Nansel et al., 2001; Smokowski & Kopasz, 2005). Victims may experience both short- and long-term adjustment difficulties and

[1]University of Missouri, Columbia, MO, USA
[2]University of Virginia, Charlottesville, VA, USA

Corresponding Author:
Francis L. Huang, Educational, School, and Counseling Psychology, College of Education, University of Missouri, 16 Hill Hall, Columbia, MO 65211, USA.
Email: huangf@missouri.edu

academic problems as well (Swearer, Espelage, Vaillancourt, & Hymel, 2010). Based on the 2013 School Crime Supplement to the National Crime Victimization Survey, 22% of students ages 12 through 18 (or 5.4 million students) in the United States have been victims of some form of bullying at school (Lessne & Cidade, 2015).

However, the measurement of bullying remains challenging and victimization prevalence rates are dependent on how victimization is measured (Hamburger, Basile, & Vivolo, 2011). The accurate measurement of bullying victimization is critical in estimating its prevalence and evaluating the effectiveness of intervention efforts. The most widely used method to measure bullying is through the use of anonymous student surveys because they are efficient and cost-effective (Furlong, Sharkey, Felix, Tanigawa, & Green, 2010; Gladden, Vivolo-Kantor, Hamburger, & Lumpkin, 2014; Solberg & Olweus, 2003). However, there is considerable controversy about the validity of student self-reports, which are often accepted at face value without corroboration from other sources (Cornell & Cole, 2011; Swearer et al., 2010).

In general, self-reports are the main source of data in psychology and the social sciences (Schwarz, 1999). Researchers using self-reported surveys to measure bullying victimization should keep in mind that a question-order (QO) effect, wherein prior questions asked affect succeeding responses, may be present (Lasorsa, 2003). The QO effect was first noticed by survey research methodologists in the late 1940s (Dillman, 2000), though only a few experiments have investigated this phenomenon (Schuman & Presser, 1996).

Specifically, the QO effect on victimization/bullying has been seen with adults (Gibson, Shapiro, Murphy, & Stanko, 1978) and high school students (Huang & Cornell, 2015), though the QO effect has not been examined with younger, middle school students. A recent study on bullying using a national sample of high school students emphasized the importance of replicating studies with middle school students (Hatzenbuehler, Schwab-Reese, Ranapurwala, Hertz, & Ramirez, 2015). Bullying in middle school is of special concern because more students are bullied in middle school than elementary or high school (Bradshaw, Sawyer, & O'Brennan, 2007; Juvonen, Le, Kaganoff, Augustine, & Constant, 2004; Nansel et al., 2001; Smith, Madsen, & Moody, 1999). Based on the Centers for Disease Control and Prevention's (CDC) Youth Risk Behavioral System (YRBS),[1] middle school bullying victimization rates may be twice as high compared with that of high school students. The transition to middle school from primary schools marks a sensitive time in a child's life and changes in school characteristics (e.g., larger, impersonal classes) may also contribute to the increase in bullying victimization (Pellegrini, 2002; Wigfield, Lutz, & Laurel Wagner, 2005). Psychologists have recently highlighted the importance of replicating experiments and ''replications in psychology reflect a growing trend in science'' (Bohannon, 2014, p. 789). To our knowledge, no other study has conducted an experiment on QO effects on bullying victimization among middle school students.

Background on Question-Order Effects

Small changes in how survey questions are asked, such as the order of questions, can have a large effect on respondent answers (Lasorsa, 2003; Schwarz, 1999). The assumption that survey respondents consider questions in isolation from neighboring questions is not tenable (Bowman & Schuldt, 2014; Dillman, 2000). An example of the QO effect was shown in an experiment by Strack, Martin, and Schwartz (1988). One hundred eighty college students answered a short questionnaire on student issues that contained two extra questions which asked how happy they were with life in general followed by a specific question on dating (''how happy are you with your dating?''). In the control condition, the correlation between the general happiness and the dating question was small ($r = .16$), but when the dating question was asked first, the correlation was larger and statistically significant ($r = .55$). Results from the experimental condition would suggest that student happiness with life was directly related to happiness with dating whereas a different conclusion would be reached using the results from the control condition. Similar experiments on QO effects have been conducted for topics related to marriage and happiness (Schuman & Presser, 1996), feelings about future economic conditions (Mason, Carlson, & Tourangeau, 1994), interest in politics and religion (McFarland, 1981), as well as academic and student engagement (Bowman & Schuldt, 2014).

Although the QO effect has been explored with attitudes and beliefs, much less has been done with regard to victimization experiences. A study by the U.S. Census Bureau using the National Crime Victimization survey asked respondents who were 16 years and older questions related to personal (e.g., robbery, assault) and property (e.g., theft, burglary) related crime victimization (Gibson et al., 1978). A random half of the sample was asked attitudinal questions about crime prior to answering the victimization items. The remaining half of the sample was asked about victimization experiences first and then attitudes about crime. Victimization rates were higher for the group that answered attitudinal questions prior to victimization questions by a range of 12% to 20%.

One theory that could explain the increase in victimization reports was that the prior attitudinal questions activated or primed the respondents' memories and increased their willingness to report unpleasant experiences (Schuman & Presser, 1996). Priming refers to the effect that a prior stimulus (e.g., certain questions) may have on future responses/actions and has been studied is psychology over several decades (Bargh, 2006; Sherman, Mackie, & Driscoll, 1990; Srull & Wyer, 1979). Priming may aid in recalling certain events which could influence future responses but may also result in inconsistent or contradictory responses (Tourangeau & Rasinski, 1988) such as when a student indicates not being bullied in general but later in the same survey indicating that he or she was a victim of verbal bullying (Vaillancourt et al., 2010).

More recently, Huang and Cornell (2015) investigated QO effects related to bullying victimization with a randomized experiment using a sample of high school students. Questions related to overall, general bullying victimization (''I have been

bullied'') were asked first followed by specific kinds of bullying victimization (i.e., physical, verbal, social, and cyber bullying). Students in the experimental condition were asked the specific victimization questions first followed by the general bullying victimization question. Treatment group respondents reported higher rates on all specific types of bullying victimization as well as the general victimization question compared with control group respondents.

The most widely used bullying surveys use both a general or global question asking students whether they have been bullied and specific questions asking about different types of bullying, such as physical and verbal bullying. The Olweus Bully/Victim Questionnaire (Olweus, 1996) presents students with a definition of bullying and then asks a general question, ''How often have you been bullied at school in the past couple of months'' followed by more specific questions about eight types of bullying. Following the convention established by Olweus, other surveys have adopted a similar approach of a general question about bullying followed by more specific questions (Baly, Cornell, & Lovegrove, 2014; Sawyer, Bradshaw, & O'Brennan, 2008; Swearer, Turner, Givens, & Pollack, 2008), including studies used to assess the national prevalence of bullying in the United States (Wang, Iannotti, Luk, & Nansel, 2010; Wang, Iannotti, & Nansel, 2009). Notably, the Health Behaviour in School-Aged Children (HBSC) survey that is used in the United States and by the World Health Organization (WHO) in international studies of bullying has adopted the general question from the Olweus Bully/Victim Questionnaire (Vaillancourt et al., 2010). Vaillancourt et al. (2010) found that the general question identified only 56% of the students classified as victims using the specific questions, leading them to conclude that reports from the WHO, UNICEF, and the United Nations may underestimate the prevalence of bullying. However, the researchers pointed out that their study ''did not attend to the possibility that the order of questioning (general to specific) could have influenced students' responses'' and that ''the possibility of an order effect requires empirical exploration through a counterbalancing procedure'' (Vaillancourt et al., 2010, p. 246).

The Current Study

The objective of the current study was to explore the prevalence of the QO effect with regard to bullying victimization using a large and diverse sample of middle school students. We recognize that there are also potential effects associated with the specificity of questions, whether the term *bullying* is used, and how bullying is defined (Kert, Codding, Tryon, & Shiyko, 2010). We chose to focus on QO effects because previous studies have raised serious questions about its impact on prevalence rates (Huang & Cornell, 2015; Vaillancourt et al., 2010). Although one prior study found an impact of QO effects and bullying victimization with high school students, a cited limitation of the study was the need to study younger students because bullying victimization tends to decrease as students get older (Huang & Cornell, 2015; Juvonen et al., 2004). Participants in the current study were randomly assigned to be in a control or treatment condition that randomized question order in an online

survey. We hypothesized that students who were asked about specific types of bullying victimization first would show higher bullying prevalence rates compared with students who were asked the general (''I have been bullied'') question first.

Method

Participants

Anonymous, online surveys were collected from 56,508 students from 415 (out of 420) public middle schools in the spring of 2015 as part of Virginia's statewide School Safety Audit program. All students were eligible to participate except those with disabilities or with limited English proficiency. School principals were given two options for sampling students to participate: selecting 25 students per grade level based on a provided random number list generated for each individual schools or to invite all 7th and 8th grade students to complete the survey with a target participation rate of 80%. Based on a principal follow-up survey, 44% of schools used the whole group sampling option. The high overall school participation (93%) and student response rates (81%) were made possible through the support of the Virginia Department of Education and the Virginia Department of Criminal Justice Services who endorsed the study.

Initial completed surveys were screened using two procedures as a basic check. First, two validity screening items were asked in the middle and near the end of the survey: ''I am telling the truth on this survey'' and ''How many questions on this survey did you answer truthfully.'' Students who answered that they were not telling the truth or indicated that they did not answer most of the survey questions truthfully were excluded from the original sample (n = 3,705 or 6.1% of respondents). The use of validity screening questions has been shown to improve the quality of survey responses with adolescents (Cornell, Klein, Konold, & Huang, 2012). A second procedure excluded a small number of students (n = 482 or 0.8%) who responded in less than 7 minutes, which was judged too quick based on results of a prior study (Konold et al., 2014) as well as the response time of survey testers who completed the survey prior to its use. Inattentive or careless responders are common with the use of Internet surveys and have been shown to reduce reliability estimates (Johnson, 2005). Respondents on the low end of the distribution based on response time can be categorized as outliers or careless responders (Meade & Bartholomew, 2012).

The current study used a subsample of respondents from the larger study. From the population of middle schools in the state, a random sample of 50 schools was selected to be part of the experiment. Data were collected from 49 of the 50 schools, with one school declining. The participants (n = 5,951) were 51.1% female, distributed across two grades (Grade 7 = 52.1%, Grade 8 = 47.9%), and were 52% White, 15% Black, 14% Hispanic, 5% Asian, and 14% classified as other/two or more races. Parent education attainment, a proxy for socioeconomic status, ranged from did not graduate from high school (1) to postgraduate studies (5; M = 3.43, SD =1.31).

Measures

The anonymous online survey was administered under teacher or staff supervision using a standardized set of instructions. The survey consisted of approximately 100 items related to school climate, demographic information, and scales related to school bullying and victimization. Prior to answering questions about bullying experiences, students were presented with a definition of bullying derived from the widely used Olweus (1996) survey. The definition was shortened to increase the likelihood that students would read it and contained the key elements of bullying related to intention, power imbalance, and repetition:

> Use this definition of bullying to answer the questions below. Bullying is the repeated use of one's strength or popularity to injure, threaten, or embarrass another person on purpose. Bullying can be physical, verbal, or social. It is not bullying when two students who are about the same in strength or popularity have a fight or argument (Huang & Cornell, p. 3).

Students then answered three *general* bullying questions: ''I have been bullied at school in the past *month*''; ''I have been bullied at school this *year* [since school started last fall]''); and ''I have bullied others at school this year.'' Students were also asked four questions related to *specific* types of victimization experiences: ''Physical bullying involves repeatedly hitting, kicking, or shoving someone weaker on purpose. I have been physically bullied or threatened with physical bullying at school this year,'' ''Verbal bullying involves repeatedly teasing, putting down, or insulting someone on purpose. I have been verbally bullied at school this year,'' ''Social bullying involves getting others repeatedly to ignore or leave someone out on purpose. I have been socially bullied at school this year,'' and ''Cyber bullying involves using technology (cell phone, email, Internet, etc.) to tease or put down someone. I have been cyberbullied at school this year.'' All questions were numbered sequentially and appeared on the same screen. A 4-point response scale was used: *Never, Once or twice, About once per week, More than once per month*. These are the same questions used by Huang and Cornell (2015).

Experimental Procedure

A randomized, double-blind design was used for the current experiment. From the overall list of middle schools in the state, schools were randomly selected using the PROC SURVEYSELECT function in SAS. Within each school, student-level randomization was done using a web-based random number generator linked to the survey and dynamically assigned a participant to the treatment or control group when the student began answering the survey. Approximately half of the respondents in each school were in the treatment group (n = 2,923, 49%) and half were in the control group (n = 3,028, 51%). Students in the treatment group were presented the four specific bullying questions first, followed by the three general questions about bullying.

Students in the control group answered the three general bullying questions first followed by the four specific questions.

Analytic Strategy

As an initial step, students in the treatment and control conditions were compared based on observed self-reported sociodemographic variables to check on covariate balance as part of the randomization procedure. Rao–Scott χ^2 tests (Rao & Scott, 1981) were used to account for the clustered nature of the data. Differences in survey responses were then checked also using Rao–Scott χ^2 tests. In cases of statistically significant χ^2 tests, | standardized residuals | $>$ 2 were inspected (Hinkle, Wiersma, & Jurs, 2003). In all analyses, normalized student weights were used to account for the uneven selection probabilities resulting from the sampling procedures used by the schools.

Results

Students in the treatment and control groups did not differ on demographic characteristics based on gender ($\chi^2_{RS} = 1.89$, $p = .17$), race/ethnicity ($\chi^2_{RS} = 11.54$, $p = .07$), and highest level of parental education ($\chi^2_{RS} = 2.06$, $p = .72$), suggesting that the randomization to the conditions was effective. There were no statistically significant differences between the treatment and control groups for all of the general bullying questions (see Table 1). In other words, prevalence rates on the general bullying questions did not differ regardless of the order in which the questions were presented.

However, students in the treatment group, who answered specific questions first, reported greater bullying victimization on three of the four victimization specific questions (see Table 1), with the exception of cyberbullying which was not statistically significant; $\chi^2_{RS}(3) = 2.04$, $p = .57$. In general, when students were asked the specific types of bullying victimization questions first, respondents indicated higher levels of victimization. Investigation of the standardized residuals indicated the source of the statistically significant χ^2 differences. For physical bullying, students who answered the physical bullying victimization question first reported higher levels of being bullied once or twice compared with students who responded to the general bullying questions first (14.3% vs. 8.7%). For social bullying, students in the treatment condition reported greater levels of being bullied about once per week compared with students in the control condition (4.9% vs. 1.9%). Finally, students in the control condition indicated never being verbally bullied at higher rates compared with students in the treatment group (87.2% vs. 81.5%).

To be consistent with analyses conducted by the U.S. Department of Education in the manner bullying victimization is estimated (Lessne & Cidade, 2015, see p. G-3), we computed prevalence rates by type of incident and if respondents were victimized by one or more modalities (see Table 2). In the School Crime Supplement to the National Crime Victimization Survey, respondents were presented with a definition

Table 1. Comparison of Responses for the Treatment and Control Groups (n = 5,951).

Item	Response Option	Control		Treatment		$\chi^2_{RS}(3)$	p
		n	%	n	%		
Bullied in past month	Never	2,365	78.09	2,299	78.66	0.50	.92
	Once or twice	418	13.81	402	13.74		
	About once per week	105	3.47	106	3.61		
	More than once per week	140	4.62	116	3.96		
Bullied in past year	Never	1,984	65.51	1,907	65.25	1.58	.66
	Once or twice	725	23.96	688	23.54		
	About once per week	139	4.58	165	5.65		
	More than once per week	181	5.97	162	5.56		
Bullied others in past year	Never	2,556	84.40	2,506	85.75	1.62	.65
	Once or twice	402	13.28	341	11.66		
	About once per week	37	1.24	45	1.54		
	More than once per week	34	1.11	31	1.06		

(continued)

Table 1. (continued)

Item	Response Option	Control		Treatment			
		n	%	*n*	%	$\chi^2_{RS}(3)$	*p*
Physical bullying (in past year)	Never*	2,642	87.24	2,383	81.54	22.29	<.001
	Once or twice*	263	8.68	417	14.25		
	About once per week	61	2.00	39	1.34		
	More than once per week	63	2.07	84	2.87		
Verbal bullying (in past year)	Never*	1,889	62.38	1,679	57.45	8.29	.04
	Once or twice	761	25.14	805	27.54		
	About once per week	172	5.67	173	5.91		
	More than once per week	207	6.84	266	9.08		
Social bullying (in past year)	Never*	2,310	76.28	2,081	71.21	17.80	<.001
	Once or twice	522	17.23	572	19.56		
	About once per week*	56	1.86	144	4.91		
	More than once per week	141	4.65	126	4.31		
Cyber bullying (in past year)	Never	2,563	84.63	2,409	82.43	2.04	.57
	Once or twice	344	11.38	369	12.64		
	About once per week	57	1.88	63	2.14		
	More than once per week	64	2.11	81	2.79		
Totals		3,028	51%	2,923	49%	5,951	

Note. Results used weights based on the inverse of the student's probability of selection at the school and normalized weights were used in the analyses. Treatment group was shown the specific bullying victimization questions first followed by the general questions. Control group was shown with the general bullying questions first followed by the specific victimization questions. *Indicates | standardized residuals | > 2.

Table 2. Victimization Rates (in %) for Treatment and Control Groups (N = 5,951).

Victimization status (in the past year)	Control	Treatment	Difference/change	
			Raw % points	% Change
Physically bullied	12.76	18.46	5.71	44.73
Verbally bullied	37.64	42.53	4.89	12.99
Socially bullied	23.73	28.78	5.04	21.25
Cyber bullied	15.37	17.57	2.20	14.33
Bullied (general question)	34.51	34.75	0.24	0.70
Bullied (any specific)[a]	46.41	50.76	4.35	9.37
Bullied (physical + verbal)	39.84	45.42	5.58	14.01
Bullied (physical + verbal + social)	44.18	49.16	4.98	11.27

Note. Responses refer to if the student had ever experienced the type of bullying in the past year at least once.

[a]This is based on if the respondent was physical, verbally, socially, or cyber bullied.

of bullying and asked ''During this school year, has any student bullied you? That is, has another student . . .''[2] Respondents were then asked about seven different victimization categories (e.g., respondent was made of fun, called names, excluded from activities on purpose) and had response options of yes and no. Even though one frequency question was included in the survey which asked how often they were bullied in general (from once or twice this school year to almost every day), respondents were considered victims if they answered affirmative to any of the categories listed regardless of frequency. Of note as well is that cyberbullying was a separate category and prevalence rates for traditional forms of bullying and cyberbullying were reported separately. Based on the national School Crime Supplement data specifically for middle school students, the bullying prevalence rates in 2013 were 24.9% for traditional bullying and 6.5% for cyber bullying.

Similarly, in spring of 2013, the YRBS for middle school students (for interested states and school districts) also included a bullying question which asked if a student had ever been bullied on school property in the past 12 months (yes or no). Bullying prevalence for Virginia using the YRBS was estimated at 43.8% for middle school students and 21.9% for high school students, emphasizing the importance of focusing on a middle school sample who were approximately twice as likely to be bully victims.[3] No national estimates for middle school students were available based on the YRBS because not all states participated in the survey, although 19.6% of high school students reported being bullied at school and 14.8% were bullied electronically.

Based on our data (see Table 2), bullying prevalence rates in the control group ranged from 34.5% (for the general question) to 44.1% (which included students who had been victimized physically, verbally, and/or socially). Treatment group victimization rates based on physical, social, and verbal bullying were higher at 49.2%, an increase of 11.3%. Overall, the largest victimization difference was for physical

bullying with students in the treatment group (18.5%) reporting 44.7% higher rates than the control group (12.8%).

Discussion

The present study found that the order in which questions were presented to students affected their endorsement of bullying victimization. The Vaillancourt et al. (2010) study suggested that use of a general or global question about bullying could result in an underestimate of the prevalence of bullying in comparison to specific questions about types of bullying, but noted that they did not examine QO effects. Our study confirms that a general question about bullying produces lower prevalence rates than more specific questions about different types of bullying. Furthermore, we found that there was no QO effect on the general question, but there was a substantial effect on the specific questions. Although the difference in raw percentage points was small (e.g., see Table 2, 5.7 percentage point difference in physical bullying), the treatment group prevalence rates were higher by 21.3% (for social bullying) to 44.7% (for physical bullying) compared with the control group. Considering that a meta-analysis of school-based bullying prevention programs indicated that interventions reduced victimization by an average of 17% to 20% (Ttofi & Farrington, 2011), the percent changes in the specific types of victimization rates can be viewed as both large and practically meaningful. In other words, the effect of question order on bullying victimization rates could be larger than the effects of typical intervention programs.

The findings of the current study are similar to a prior study which examined the QO effect in a sample of high school students (Huang & Cornell, 2015). Bullying victimization rates were 29% to 76% higher for specific victimization questions when they were asked prior to general questions. This study concluded that surveys which ask general-to-specific bullying victimization questions will produce lower prevalence rates.

One difference from the Huang and Cornell (2015) high school study is that the current study of middle school students did not find a statistically significant or practically meaningful increase in cyberbullying prevalence rates. Cyberbullying can take on many forms such as digital images or messages sent through a cellular phone, e-mail messages, or posts on social media websites (Kowalski & Limber, 2007). In the high school sample (n = 9,585), reports of cyberbullying in the past year for students who experienced victimization at least once per week or more, comparing control versus treatment group prevalence rates, rose from 2.6% to 4.6% and was statistically significant (Huang & Cornell, 2015). In the current middle school sample, the corresponding rates for cyberbullying were 4.0% to 4.9% and the difference was smaller and not statistically significant using a sample of 5,951 students.

Although general, summary questions ratings are often higher after answering specific questions beforehand (Dillman, 2000), such was not the case in the current study. One possible explanation is that students are reluctant to describe themselves as victims of bullying, which has led some researchers to purposely avoid using the

term *bully* altogether (e.g., Kert et al., 2010). A more qualified description such as *verbal bullying* may invoke less resistance. Although it seems illogical to admit being *verbally bullied* but deny being *bullied*, studies have consistently found that students will endorse higher rates of specific kinds of bullying than general bullying (Huang & Cornell, 2015; Vaillancourt et al., 2010). In the present study, approximately 35% of control group students reported being bullied in the past year, but 43% of the control group students admitted being verbally bullied. In the Vaillancourt et al. (2010) study, 38% reported being bullied on the general question versus 51% who reported verbal bullying and 63% who reported at least one kind of bullying. Asking about specific types of victimization (without an initial general question such as ''have you been bullied?'') may be more effective at measuring both overall victimization as well as different bullying modalities.

These results also raise concern about the use of single-item measures that may be inadequate in measuring the multidimensional nature of bullying. Discrepancies in prevalence rates between single item measures (e.g., ''I have been bullied'') and multiple behavioral-based measures (e.g., students who experienced any of the various types of bullying) have been shown in prior studies (Sawyer et al., 2008). Based on our data, using a single-item measure resulted in a victimization rate of 35% for both the treatment and control groups. Compared with victimization rates using multiple items, prevalence ranged from 40% to 51% (see Table 2). Although the use of a single item is appealing in terms of its simplicity (such as the question found in the YRBS), our findings suggest that using multiple items may provide a more reliable response (Furlong et al., 2010). The use of specific items may allow respondents a greater ability to recall types of incidents (e.g., being made fun of verbally). Although many surveys provide students with a common definition of bullying, students may conceptualize bullying differently (Vaillancourt et al., 2008) and ignore the definition of bullying altogether (Huang & Cornell, 2015).

Limitations and Directions for Future Study

The QO effects found in this study are limited to a single survey administered in one state. Although this study confirms findings from a prior high school study (Huang & Cornell, 2015), it would be useful to investigate order effects in other bullying surveys and to examine broader samples. Another limitation, common to many bullying surveys in use, is that anonymous survey data cannot be linked to independent sources of information and it is not possible to determine whether the students were accurate in reporting that they were victims or not victims of bullying. A study using confidential rather than anonymous survey administration together with counselor interviews with students who claimed to have been victims of bullying found that many students reported peer victimization that did not meet the power imbalance criterion for bullying (Cornell & Mehta, 2011). Other methods can be used to determine the accuracy of student reports such as direct observations (Nese, Horner, Dickey, Stiller, & Tomlanovich, 2014) or student interviews after completing the survey to

learn what factors respondents considered in marking their answers and in particular why some students deny that they have been bullied, yet admit that they have been victims of a specific kind of bullying.

Another direction for future study is research on specific forms of bullying. For example, there is a substantial literature showing how cyber-bullying can be differentiated from other forms of bullying (Cross, Lester, & Barnes, 2015). Homophobic bullying is another important area of concern because students may be motivated by homophobia to engage in bullying and may target students because of their perceived sexual identity (Prati, 2012).

Implications

In conclusion, studies, evaluations, and interventions that use bullying prevalence rates should recognize that survey question order can have a substantial effect on victimization reporting when specific bullying victimization questions are used. Based on the results of our study, national bullying prevalence rates may be underestimated for two reasons. The first is that surveys that ask specific questions after a general question may be underestimating rates for specific types of bullying. Large national and international surveys[4] often ask a general bullying victimization question followed by specific questions. The second reason is that when multiple, specific indicators are used for measuring bullying victimization compared with a single general question, larger prevalence rates are consistently reported. As a result, surveys that rely solely on a single bullying victimization question, such as the question found in the YRBS, may also be underreporting prevalence estimates. Ultimately, studies need independent criteria for bullying that can be used as a gold standard to validate the approaches used to measuring student victimization.

Authors' Note

The opinions, findings, and conclusions or recommendations expressed in this publication are those of the authors and do not necessarily reflect those of the Department of Justice.

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Notes

1. See ftp://ftp.cdc.gov/pub/data/yrbs/2013/YRBS_2013_National_User_Guide.pdf
2. See http://nces.ed.gov/programs/crime/pdf/student/SCS13.pdf
3. See http://www.cdc.gov/healthyyouth/data/yrbs/data.htm
4. See http://www.icpsr.umich.edu/icpsrweb/ICPSR/studies/34792

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