

# All in the Family: A Retrospective Study Comparing Sibling Bullying and Peer Bullying

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**Abstract** Extensive bullying research has primarily focused on activities between peers in school settings, but some evidence suggests bullying may occur in other situations. If so, other contexts could potentially benefit from the wealth of peer bullying research. A sample of 392 young adults answered questions about their experiences with sibling and peer bullying behaviors. Participants also provided responses concerning a sibling or peer vignette that focused on reporting bullying behaviors. Results indicated that participants view bullying behaviors between peers and siblings as somewhat similar, but sibling bullying behaviors compared to peer bullying behaviors are reported to be perpetrated and experienced more often. When considering a hypothetical situation such sibling bullying behaviors, however, are less likely to be reported outside the family than peer bullying behaviors. Additionally, females are more likely than males to report outside the family. Participants who had more prior involvement in bullying are less likely to say they would report the described sibling bullying behaviors. Considering sibling bullying may not be thought of as bullying and may not be reported outside the family, implications for policy and future research are discussed.

**Keywords** Sibling · Bullying · Family violence · Retrospective · Adolescents

Many people with siblings can relate to stories of sibling rivalry and frequent arguments. However, at some point, “normal” sibling skirmishes may become something more worrisome and even dangerous. When this does happen, why is there not more attention to such a problem? Similar behavior between peers has been a well-researched topic of

interest since Olweus (1978) began calling attention to bullying more than 30 years ago. Since then, research has defined what behaviors are considered bullying (Olweus 1996a), both in schools and other settings. Bullying is generally defined as an individual being “exposed, repeatedly and over time, to negative actions on the part of one or more students...intentionally inflicts injury or discomfort...by physical contact, by words, or in other ways” (Olweus 1996b, p. 265). The word “bullying” has been used to describe many different types of interactions, including verbal, physical, and relational.

Risk factors for involvement in peer bullying have also been established including the family environment (Baldry and Farrington 2005; Bowes et al. 2009; Farrington and Baldry 2010). Further, research has established a number of negative and long-term effects of bullying on mental and physical health, education, and self-esteem (Klomek et al. 2007; Nation et al. 2008; Brown and Taylor 2008). Bullying behaviors have been identified in the workplace (Rayner and Hoel 1997; Vartia 2001), between older adults (Mapes 2011), and in online settings (referred to as cyberbullying, Smith et al. 2008). Virtually no research has addressed the question of whether or not sibling aggression or abuse can be classified as bullying. Such classification requires a power imbalance that may not be readily apparent, but Naylor et al. (2011) argue that almost all forms of domestic violence including violence between siblings, involve systematic abuses of power and, thus, are bullying.

## Research on Negative Sibling Behaviors

A potential limitation of the sibling aggression and violence research is that the definitions and terms have not been consistently applied (Krienert and Walsh 2011). This literature review will include research that uses many different words to describe sibling aggression or violence. Because researchers

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have not agreed upon a word to use for sibling behaviors, many studies that have measured sibling abuse may be capturing behaviors that could, instead, be labeled bullying. For example, Ensor et al. (2010) included “bullying” behavior when coding for antisocial behavior among siblings. Other researchers do not label repeated instances of aggressive sibling behaviors as “bullying” at all (e.g., Goodwin and Roscoe 1990). Instead, most researchers use the term “sibling violence,” but some refer to the behaviors as antisocial (Ensor et al 2010) or sibling abuse (Goodwin and Roscoe 1990). The question remains, then, whether or not these negative sibling behaviors are sibling bullying.

One important aspect of bullying is a power differential; in sibling relationships such power differences might be tied to naturally occurring characteristics such as age or gender (Felson 1983). Researchers already know that aggression and violence among siblings is a problem, but some have identified sibling violence as a “forgotten abuse” (Kiselica and Morrill-Richards 2007) because it has received relatively little research attention. Wiehe (2000) hypothesized that one reason for this is sibling violence is not coming to the attention of authorities. Sibling bullying, like sibling violence, may also be infrequently discussed because it is not reported outside the family. Yet, Kiselica and Morrill-Richards (2007) identify sibling abuse as the most common form of interpersonal abuse in the United States.

Despite the unknown national prevalence of sibling abuse or violence, Goodwin and Roscoe (1990) found 60 % of high school students reported they were either a victim or a perpetrator of sibling abuse. Similarly, Hoffman and Edwards (2004) found 69 % of participants had committed a physically violent act against their closest age sibling. Officially reported child abuse statistics are around 4 % (NCANDS 2010), though it seems that sibling violence is not included in these statistics. Researchers have reported high rates of sibling abuse (Goodwin and Roscoe 1990), sibling aggression (Caspi 2012), and sibling violence (Button and Gealt 2010) without labeling the behaviors as bullying. No known research has explored to whom sibling bullying is reported, if reported outside the home at all, which contributes to the definitional inconsistency and lack of general knowledge about sibling bullying as compared to peer bullying.

A few studies have measured bullying-type behaviors between siblings. Using the Peer Relations Questionnaire, Duncan (1999) found moderate rates of both peer and sibling bullying among 7th and 8th grade students in the U.S. About one-quarter of participants reported being peer bullies, peer victims, and sibling victims, but nearly half reported being sibling bullies. Additionally, participants who reported more peer bullying behaviors also reported more sibling bullying behaviors. In a similar study, Wolke and Samara (2004) found lower rates of both peer and sibling bullying compared to Duncan (1999), but this lower prevalence is likely attributable

to methodology that required participants to identify the behaviors as bullying (Wolke and Samara 2004). It is possible that participants in Wolke and Samara (2004) did not identify negative sibling behaviors as bullying, and thus were less likely to report being involved in sibling bullying.

The potential identification of negative sibling behaviors is important because these behaviors may lead to detrimental outcomes for children. Self-report of involvement with sibling bullying behaviors is associated with negative outcomes such as increased risk for behavioral problems, hyperactivity, and conduct problems (Duncan 1999; Wolke and Samara 2004). Being both victimized by siblings at home and involved in bullying at school increased the overall risk of clinically significant behavioral problems (Wolke and Samara 2004) and higher scores on the Berndt and Kaiser (1996) Multiscore Depression Inventory for Children (Duncan 1999).

As Whipple (1995) noted, psychological maltreatment by siblings may be a harmful and highly prevalent form of abuse, but it is not widely researched, as most research on negative sibling behaviors focuses primarily on physical abuse. Bullying research, in contrast, often includes verbal or relational aggression. If sibling aggression can be considered bullying, researchers can benefit from using well-established definitions and measurements to study all forms of aggression, not just physical. Additionally, peer bullying research can help aid sibling violence researchers in terms of definitions, interventions, and prevention. The current research examines some of the definitional inconsistencies in order to determine if sibling abuse research can benefit from peer bullying research. Further, with the lack of statistics or official reports of sibling abuse in general, the current research explores whether or not sibling bullying is evaluated and reported similarly as peer bullying.

### Reporting Bullying

Reporting bullying behavior to an authority figure when it occurs or is witnessed is an important step in the intervention process. Bystanders who witness bullying are in a position to report the bullying behaviors, but according to research, the majority of peer bystanders rarely reports (O’Connell et al. 1999). When direct intervention by peers does occur, it is effective at stopping the behavior (Hawkins et al. 2001). According to Seigel (2009), students who witness both physical and relational bullying report useful intervention techniques. However, if instances of bullying are not reported to authority figures, the larger and more systemic problem of bullying will not be addressed.

Most students who were bullied several times a week told someone about the bullying, such as a teacher or a parent (Fekkes et al. 2004). Importantly, students who were bullied several times a month or more often reported that teachers were more responsive to reports of peer bullying than parents.

Thus, whether or not the bullying is addressed may partly depend on to whom the bullying is reported. At least with peer bullying, reporting to parents may not be as effective as reporting to teachers.

There also may be gender differences in who reports bullying, with females more likely to report than male adolescents (Hunter et al. 2004; Unnever and Cornell 2004). Additionally, male observers of bullying are less likely than female observers to intervene or support the victim (Cowie 2000) and girls are more likely than boys to say that bullying is a problem (Agatston et al. 2007).

Wiehe (2000) hypothesized that statistics on sibling aggression are unknown because authorities are not told about abuse among siblings. Wiehe (1997) found that parental normalization of the abuse increases the severity and frequency of sibling aggression. If parents are the ones to whom individuals report sibling bullying, this may lead to a misunderstanding of how widespread this problem may be and, potentially, a continuation of the cycle of violence. To our knowledge, no known research examines reporting of sibling bullying despite the research attention to reporting of peer bullying.

## Current Research

The goal of the current research is to address the question of whether or not sibling bullying behaviors, if they occur, would be reported when observed by a bystander. We did so in several ways. First, we retrospectively measured prevalence of both peer and sibling bullying behaviors using the University of Illinois Bully Scale and the University of Illinois Victimization Scale (Espelage and Holt 2001). It is hypothesized that, consistent with prior research (Duncan 1999; Wolke and Samara 2004), participants will report a high rate of both peer and sibling bullying. Additionally, we administered an adapted version of Ireland and Ireland's (2003) perceptions of bullying questionnaire to determine whether or not participants view aggression among siblings as bullying.

It is hypothesized that, because of a lack of education and discussion about sibling bullying, participants will not view sibling aggression as bullying. Last, we also measured whether or not participants would report peer and sibling bullying, and if so, to whom. Because of the way sibling bullying is perceived, it is hypothesized participants will state they would report sibling bullying to parents, and not to others outside the home. Without an idea of how common and potentially dangerous sibling bullying may be, it is more difficult to design intervention, education and prevention programs to address the problem at a societal level. The lack of reporting outside the family may explain why sibling

bullying is a little known, and little studied, phenomena (Wiehe 2000).

## Method

### Participants

Participants were undergraduate students from a large Midwestern university. In the first wave of data collection, participants ( $n=1081$ ; mean age=19.07,  $SD=2.08$ ; 49.7 % female; White: 68.5 %, Asian American: 22.8 %, Hispanic: 3.1 %, Black: 2.1 %, Native American: 1.2 %, Other: 2.3 %), completed an initial screening and indicated whether or not they would like to be contacted regarding future studies. Those who so indicated and also had at least one sibling were contacted through email ( $n=859$ ; mean age=19.09,  $SD=1.98$ ; 62.4 % female; White: 54.4 %, Asian American: 36.7 %, Hispanic: 2.6 %, Black 2.1 %, Native American: 2.1 %, Other: 1.9 %) to participate in a Sibling and Family Relationships Survey. Of those contacted, 392 completed the survey (mean age=19.14;  $SD=1.95$ ; 62.2 % female; White: 53.3 %, Asian American: 33.7 %, Hispanic: 3.3 %, Black: 2 %, Native American: 1.5 %, Other: 1.5 %, No Report: 4.3 %). The invitation to participate had a 45.6 % response rate. Participants had, on average, 2.3 siblings. Participants in the Sibling and Family Relationship Survey did not significantly differ from the overall invited sample of participants from the first initial screening (those who had at least one sibling and indicated they wanted to participate in future studies) on several key measures including age, number of siblings, and scores on the Sibling Bullying Scale, Sibling Victimization Scale, UIBS, and UIVS ( $p>0.1$  for all mean comparisons).

### Materials

#### *Initial Screening Measures*

*Peer Bullying: University of Illinois Bully Scale and Victimization Scale* To assess bullying experiences, participants completed the University of Illinois Bully Scale (UIBS; Espelage and Holt 2001). The UIBS consists of nine items measuring whether or not the participant perpetrated bullying behaviors (e.g., "I excluded others;" "I got in a physical fight;" original checklist  $\alpha=0.90$ ; current study  $\alpha=0.86$ ). The University of Illinois Victimization Scale (UIVS) includes four items assessing whether or not the participant was a victim of bullying behaviors (e.g., "I got hit and pushed;" "Other students picked on me;" original checklist  $\alpha>0.88$ ; current study  $\alpha=0.89$ ). Following the standard instructions employed by the scales' authors, participants were asked to

think about a normal 1 month period in their childhood and to indicate how often the behavior occurred, from 0 (never) to 7 (7 or more times a month). Responses were summed to create a score for each scale. The maximum score on the UIBS scale is 63, and the maximum score on the UIVS scale is 28.

*Sibling Bullying: Sibling Bully Scale and Sibling Victimization Scale* The UIBS and UIVS (Espelage and Holt 2001) were adapted to measure bullying and victimization behaviors among siblings. Because the original scales were intended to measure bullying behaviors at schools, each item was modified to specifically ask about sibling behaviors. For example, each item was changed from “Other students” to “My siblings.” The Sibling Bullying Scale (9 items) had good reliability ( $\alpha=0.87$ ), as did the Sibling Victimization Scale ( $\alpha=0.89$ ). Participants were told that, for the purposes of this study, a sibling includes any member of a family who serves in a brother or sister role including full, half, step, adopted, or foster siblings, as long as the participant considered that person to be a sibling. Participants always answered questions about sibling bullying before answering the questions about peer bullying.

#### *Sibling and Family Relationships Survey Measures*

*Perceptions of Sibling Bullying Measure* To assess participants’ perceptions of sibling violence as bullying, a questionnaire measuring how incarcerated offenders define bullying (Ireland and Ireland 2003) was modified to address siblings rather than prisoners. Though the original questionnaire was meant to identify bullying in a prison population, the questions were worded generally enough to be easily adaptable to other situations. Participants in our study answered nine yes/no questions (e.g., “Is bullying a good word for aggression among siblings?”) and three open-ended questions (Question 1: “Why or why not is sibling bullying a good word for aggression among siblings?”, Question 2: “What do people mean when they use the term ‘sibling bullying’?” and Question 3: “What other words can you think of to describe bullying?”). The questions were modified by using “siblings” instead of “prisoners” and “in a family” instead of “in prison.” Participants were asked to think about interactions that occur in a family with siblings between 5 and 18 years of age living together. “Siblings” was defined as biological, adopted, half, step or otherwise related individuals living in the same house and growing up together.

Participants’ responses to the open-ended questions were coded by three raters blind to the hypotheses of the experiment. The researchers derived a list of distinct categories for each question after examining the participants’ responses. The three raters then coded each participant’s response using those categories. Any disagreements in ratings were resolved through discussion among the raters. Interrater reliability

analysis using the Kappa statistic was performed to determine consistency among raters. The interrater reliability for Question 1, is Kappa=0.67,  $p<0.01$ , for Question 2, Kappa=0.50,  $p<0.01$ , and for Question 3, Kappa=0.75,  $p<0.01$ . Because the interrater reliability for Question 2 (“What do people mean when they use the term ‘sibling bullying’?”) is less than 0.60, which is considered to be in the moderate reliability range (Landis and Koch 1977), results for responses to this question are not reported.

*Peer vs. Sibling Vignettes* In order to understand how participants would respond differently to peer versus sibling bullying we randomly assigned participants to receive one of four vignettes depicting a bullying scenario. The 93-word vignette was based on the Olweus (1996b) definition of bullying. The vignette described two boys (Relationship Manipulation: siblings at home vs. peers at school) and the larger boy was described as calling the smaller boy names, stealing his homework, pushing and shoving him, and taking his lunch money. Based on prior research (Felson and Field 2009) that has found reporting of violence may be affected by the gender of those involved, we kept the gender of the individuals in the vignette constant. The participants were asked whether or not they considered the behaviors bullying (yes or no); how serious they considered the behavior (7-point Likert scale from 1 = not serious, playful to 7 = very serious, malicious); whether or not they would report and why/why not; and to whom they would report (seven options provided including a friend, religious leader, police, counselor, teacher, parent and other). For the purposes of this article, the bullying type conditions (overt versus relational) were collapsed because the variables of interest were not influenced by this manipulation and to allow us to better focus on the peer versus sibling component.

#### *Procedures*

*Initial Screening* As part of a requirement for an undergraduate psychology course, participants completed an approximately 1-h long online survey in one session. The initial screening included general demographic questions and asked participants to indicate whether or not they would like to be contacted for future participation opportunities. In addition, the initial screening included four validity measures that asked participants to answer with a certain response (e.g., “If you are paying attention, please select answer A”). The initial screening consisted of multiple surveys on approximately 15 different topics designed to screen participants for future studies.

The bullying measures (University of Illinois Bully Scale, University of Illinois Victimization Scale, Sibling Bully Scale, and Sibling Victimization Scale) described above were only included in the initial screening and not in the later data collection. We employed this bifurcated process so the

participants answered the bullying measures at a separate time from the peer versus sibling vignettes and the perceptions of sibling bullying measure. Participants were likely unaware their reports of involvement in sibling and peer bullying were related to their later responses because the Sibling and Family Relationships Survey occurred at least 4 weeks following completion of the initial screening, which included a number of unrelated questionnaires.

*Sibling and Family Relationships Survey* Participants from the initial screening who had at least one sibling and who indicated they would like to be contacted for future participation opportunities were e-mailed approximately 4 weeks after the completion of the initial screening questionnaire. Participants were told they were eligible to participate in a Sibling and Family Relationships Survey and were given the link to the questionnaire. Participants completed all measures on-line using a computer of their choosing in one, approximately 30-min, session. Participants first completed the bullying vignettes and corresponding questions, followed by the perceptions of sibling bullying questionnaire and additional measures not part of the current research. Participants last provided an identifying number we used to link their results to the initial screening measure.

## Results

### Prevalence of Sibling Bullying

Participants who completed both the initial screening measure and the Sibling and Family Relationships Survey ( $n=392$ ) are included in the following results. Participants with a missing value on one of the bully scales ( $n=45$ ) are not included in the following analyses. These participants did not significantly differ from included participants on demographic measures such as age and race ( $p's < 0.05$ ). Comparing sibling and peer bullying, participants reported having perpetrated more sibling bullying behaviors than peer bullying behaviors in a 1-month period in their childhood (UIBS:  $M=9.53$ ,  $SD=9.10$ ; Sibling Bully Scale:  $M=13.70$ ,  $SD=11.84$ ;  $F(1,251)=24.73$ ,  $p < 0.001$ ,  $r=0.30$ ). Additionally, participants also reported more sibling bullying victimization behaviors than peer bullying victimization behaviors (UIVS:  $M=6.27$ ,  $SD=6.80$ ; Sibling Victimization Scale:  $M=8.42$ ,  $SD=8.04$ ;  $F(1,256)=6.40$ ,  $p < 0.05$ ,  $r=0.16$ ). Scores on the Sibling Bully Scale were positively correlated with number of total siblings ( $r=0.16$ ,  $p < 0.01$ ), but the number of total siblings was only marginally correlated with scores of the Sibling Victimization Scale ( $r=0.09$ ,  $p < 0.10$ ). Individuals without any siblings were not included in any analyses.

### Are Negative Sibling Behaviors Bullying?

When asked about their views of the term sibling bullying, 40.31 % ( $n=158$ ) of the 392 participants reported they thought the word bullying is a good term to use for aggression among siblings. When asked why the term was or was not a good one, participants provided 483 distinct statements. The most common response ( $n=93$ , 19.25 %) indicated that bullying is not a good term to use for siblings because sibling fighting is normal. In contrast, 14.91 % of responses ( $n=72$ ) said that bullying is a good term to use because the relationship between the bully and the victim does not matter.

As described above, three research assistants blind to the hypotheses coded the open-ended responses. When asked, "What do people mean when they use the term sibling bullying?" participants provided 602 distinct statements. The most commonly coded response was "verbal aggression" ( $n=226$ , 37.54 % of total statements). Participants were also asked to list other terms that could be used instead of "sibling bullying." On average, participants listed 1.9 synonyms ( $SD=1.4$ ). A total of 13 distinct terms were recorded with the most common term listed as "teasing" ( $n=193$ , 25.91 % of total terms listed), followed closely with "causing harm/being hurtful" ( $n=180$ , 24.16 %) and "being mean/malicious" ( $n=161$ , 21.61 %).

### Reporting Sibling and Peer Bullying

Pearson's chi-square was used to determine differences in likelihood to report. Of those participants who evaluated a peer scenario, 98.97 % considered the behavior bullying, while 96.45 % of those who evaluated a sibling scenario considered the behavior bullying. This pattern was only marginally significant ( $\chi^2=2.72$ ,  $df=1$ ,  $p=0.10$ ,  $r=0.08$ ). A large majority of participants also said they would report the behaviors. Of those who evaluated a peer bullying scenario, 90.26 % said they would report, while 90.35 % of those who evaluated a sibling bullying scenario would do so. This pattern of reporting was not significantly different ( $\chi^2=0.001$ ,  $df=1$ ,  $p=0.97$ ,  $r < -0.01$ ).

When asked to whom they would first report, participants who evaluated a sibling scenario were significantly more likely to report first to their parents (84.32 %); in contrast, those who evaluated a peer scenario were significantly more likely to report first to their teachers (49.72 %) ( $\chi^2=182.25$ ,  $df=4$ ,  $p < 0.001$ ,  $r=0.03$ ). Participants who evaluated a sibling scenario indicated they would also report to teachers (5.94 %), counselors (3.24 %), and friends (6.49 %). Those who evaluated a peer scenario indicated that they would also report to parents (14.36 %), counselors (17.68 %), and friends (18.23 %). Although listed as an option, no participants in either condition said they would report the behavior to the police.

A logistic regression was conducted to determine whether or not experiences with sibling bullying predicts to whom participants would report the behavior, either within the family or outside the family (outcome variable coded within the family = 0; outside the family = 1). Table 1 depicts the results of a model including gender of the participant, sibling or peer vignette condition, score on the Sibling Bully Scale, score on the Sibling Victimization Scale, score on the UIBS, score on the UIVS, and the interactions between vignette condition and scores on each of the four bullying scales. The test of the full model predicted to whom the participant would report the behavior in the vignette significantly better than the test of the null-model ( $\chi^2=118.23$ ,  $df=10$ ,  $p<0.001$ ). Gender of participant significantly predicted to whom the participant would report; female participants were 8.10 times more likely than male participants to say they would report the behavior to someone outside the family. The type of relationship also significantly predicted to whom the participant would report; participants who evaluated a sibling scenario were 31.18 times more likely than those who evaluated a peer scenario to say they would report the behaviors to someone in the family.

We also examined whether or not experiences with and perceptions of sibling bullying would affect likelihood to report the aggressive behaviors. Across the various vignette conditions, there was no significant difference between bullying experiences and likelihood to report. Looking at just the participants who were randomly assigned to a sibling scenario; however, a significant relationship did emerge. Those participants who were randomly assigned to read the sibling scenario and said they would *not* report the bullying behavior had higher scores on the UIBS, ( $M=17.00$ ,  $SD=10.06$ ), Sibling Bully Scale ( $M=20.78$ ,  $SD=15.22$ ), and Sibling Victimization Scale ( $M=12.79$ ,  $SD=9.96$ ), than those who said they would report (UIBS:  $M=8.26$ ,  $SD=8.32$ ,  $F(1,131)=9.89$ ,  $p<0.01$ ,  $r=0.43$ ; Sibling Bully Scale:  $M=13.29$ ,  $SD=12.37$ ,  $F(1,180)=5.67$ ,  $p<0.05$ ,  $r=0.26$ ; Sibling Victimization Scale:  $M=8.03$ ,  $SD=7.89$ ,  $F(1,193)=5.86$ ,  $p<0.05$ ,  $r=0.26$ ). Because each of these scales is a measure

of personal experiences with bullying/victimization and higher scores indicate more experience, these results suggest that the more experience with, or normalization of, bullying, especially sibling bullying, behaviors may lead to a lesser likelihood to report.

Additionally, whether or not participants believe that sibling aggression should be labeled as bullying may affect whether or not they would report the observed behaviors. Overall, participants who thought bullying is a good word to describe sibling aggression were more likely to report the bullying behavior in either the sibling or the peer condition ( $\chi^2=10.93$ ,  $df=4$ ,  $p<0.01$ ). This difference did not reach significance for participants who evaluated peer bullying scenarios ( $\chi^2=2.49$ ,  $df=4$ ,  $p=0.11$ ), but was statistically significant for those who evaluated the sibling bullying scenario ( $\chi^2=9.72$ ,  $df=4$ ,  $p<0.01$ ). This indicates that perceptions of sibling aggression as bullying may impact whether or not a participant is likely to report the behavior.

## Discussion

Sibling bullying may be a widespread and serious problem; however, if the problem remains within the family, it may never be discovered and adequately prevented. To examine these issues, the current study retrospectively measured prevalence of sibling bullying behaviors and perceptions and reporting of such behaviors. These results are one step closer to solving the issue of whether or not sibling aggression is bullying: sibling bullying in a college study sample was reported at a higher frequency than peer bullying; yet, the behaviors may not be thought of as bullying and are not reported as such.

Using the University of Illinois Bully Scale and University of Illinois Victimization Scale (Espelage and Holt 2001), participants reported significantly more sibling bullying behaviors in childhood than they did peer bullying behaviors.

**Table 1** Prior experiences with bullying and gender as predictors of likelihood of reporting vignette behaviors outside the family

Predictor variable	$\beta$	Wald Chi-Square Test	$p$	$\exp(\beta)$
Sibling vs. peer vignette (sibling=1)	-3.64	31.18	<0.01	0.03
Participant gender (female=1)	-1.10	8.10	<0.01	0.33
Sibling Bully Scale	-0.01	0.01	0.93	1.00
Sibling Victimization Scale	-0.02	0.15	0.70	0.98
UIBS	0.01	0.01	0.91	1.00
UIVS	0.04	0.04	0.30	1.04
Interaction: Sibling Bully Scale $\times$ vignette condition	-0.02	0.16	0.69	0.98
Interaction: Sibling Victim Scale $\times$ vignette condition	0.05	0.71	0.40	1.05
Interaction: UIBS $\times$ vignette condition	-0.03	0.32	0.57	0.98
Interaction: UIVS $\times$ vignette condition	-0.05	1.14	0.29	0.95

This is important because the UIBS and UIVS do not use the word bullying, and instead aim only to measure the prevalence of different behaviors that are considered to be bullying. Though this is a retrospective study, it does indicate the possibility that sibling bullying behaviors are more common than peer bullying behaviors. Additionally, this finding partially replicates Duncan's (1999) study, which found that participants report being sibling bullies or victims at higher rates than they report being peer bullies or victims.

Sibling bullying cannot be adequately addressed if it is viewed only as normal, family behaviors, therefore, we also examined whether or not our sample thought sibling bullying is a good label for sibling aggression. Undergraduate students have mixed reactions to this question. While some students do believe that sibling aggression is bullying, a majority of participants did not. There appears to be significant disagreement as to whether or not siblings can bully other siblings. Participants also were widely varied on their reasons for believing sibling aggression can be labeled bullying. This indicates that, while bullying intervention and education programs are now widespread in school settings, it is still unclear if the same definition can be applied to the family setting and if people involved in the behaviors would make the connection between the sibling behaviors and the bullying they are learning about in school. If bullying intervention programs that are currently in place could also be used to educate children about bullying in other settings, such as the home, it is possible that sibling bullying awareness could increase and occurrences decrease.

Contrary to what was expected, no significant differences were found in the way in which the participants perceived the peer versus sibling vignettes. Participants considered behaviors in both conditions to be bullying and said they would report the behavior in both conditions. These findings indicate that sibling and peer bullying are perceived as similar, if not the same, by an undergraduate population. Our finding that 90.31 % of the sample would report the behavior, regardless of the relationship, is higher than the 75 % of students who reported experienced bullying found in previous studies (Fekkes et al. 2004). This difference could be explained by the age difference (high school versus undergraduate students) and the time period of the study. As bullying has been featured in the news more heavily in recent years, a new trend of noticing and responding to bullying may be developing. Further, some of the risks of reporting discussed by Dunn (2009), including becoming a target themselves or aggravating the situation, that deter students from intervening may not have been a concern in the hypothetical situations presented, making the decision to report much easier to make compared to an actual reporting situation. Additionally, the participants may have been responding in a way they believed to be the most socially acceptable and had an idea about our research interests (i.e., demand characteristic).

Significant differences were found, as expected, as to whom the participants would first report the behaviors. Participants were most likely to report peer bullying to their teachers first, while the majority of participants said they would report sibling bullying to their parent first. Females were significantly more likely than males to say they would report behavior to someone in the family first. These findings could have implications for preventing and controlling bullying behaviors. As found by Fekkes et al. (2004), teachers and parents are not always very successful in intervening in peer bullying, but teachers seemed to intervene more than parents. This suggests the reports of the peer victimization are more likely to be addressed when reported to a teacher, which was less than half of the time in the present study. When bullying is reported to parents, it may be less likely to be addressed and therefore less likely to be resolved. Given the current findings, incidents of bullying may be unlikely to be reported outside the sphere of the victimization, being the home or school. Students, teachers, and parents need further education on the proper responses to these behaviors, between siblings and peers, so that when children or adolescents come to them, the adults know how to respond appropriately given the situation.

Somewhat surprisingly, those participants who were involved in sibling bullying as children were *less* likely to say they would report sibling bullying. These results indicate that continued experience with sibling bullying might lead to a normalization of the behaviors. This is supported by the finding that the most common reason participants said bullying is not a good word for sibling bullying is because sibling fighting is normal. Wiehe (2000) theorized that a normalization of abuse in the family can lead to an increased prevalence of these behaviors. Thus, these findings might indicate that a greater awareness of sibling bullying may be helpful in reducing the problem. Also, gender of the participant may play an important role in whether or not that person would report the behaviors as bullying (Hunter et al. 2004; Unnever and Cornell 2004). The current research suggests that gender may be an important factor when examining the relationship between prior experiences with sibling bullying and whether or not the behaviors would be reported.

Together, this research provides an important first step in indicating that sibling bullying is not currently being addressed in the same way as peer bullying. Though sibling bullying behaviors are commonly reported by an undergraduate population, the majority of the participants did not view the behaviors as bullying. The participants were more likely to indicate they would report the sibling bullying to a parent, and not to an outside figure. Wiehe (2000) hypothesized that one reason why research on sibling bullying is so limited is because sibling bullying is not being reported outside the home. If this is true, as our findings suggest, this may indicate that sibling bullying is not being addressed at all. Considering the

similar effects and prevalence of sibling and peer bullying, anti-bullying programs implemented in schools targeting students, teachers, and parents could address the seriousness and intervention methods of not only peer bullying, but also address sibling bullying. Increasing societal understanding of the affects of sibling bullying may assist in bringing the knowledge and amelioration of the behaviors outside the home.

#### Limitations and Future Directions

Because of the nature of the self-report survey, there are several limitations to the current study. The results are limited by the retrospective nature of the survey because the participants might not have remembered or reported their experiences accurately. However, because the main goal of the research was not to measure prevalence of sibling bullying, but to examine reporting behaviors and compare sibling to peer experiences, this does not preclude interpreting the results. Future research should use other methods of measuring sibling bullying behaviors that can better capture how prevalent and serious sibling bullying may be. In the current research, we achieved moderate interrater reliability scores for the open-ended definitional responses. This suggests a need for a more precise coding scheme that better captures participants' variety of responses.

Further, the current research used a convenience sample of undergraduate students taking undergraduate psychology courses. Such a sample certainly has weaknesses, but there are strengths because the participants are adults, but they are unlikely to be parents themselves. Therefore, there is a certain detached perspective that should provide more objectivity on both perceptions of sibling bullying and likelihood to report. Additionally, the study response rate was only 46 %; however, participants who did participate did not differ in demographic measures or sibling experiences from those who were invited to participate. Lastly, as mentioned above, the high rate of participants who said they would report the behavior could be a result of the participants answering the questions in the most socially acceptable way because they understood that we were interested in reporting of bullying behaviors.

Future research should examine how current experiences of sibling bullying are related to likelihood to report; additionally, it is important to examine actual reporting behaviors. The gender of the perceiver may be important in whether or not the perceiver reports the behaviors. It would also be helpful to further examine negative outcomes of sibling bullying, especially in relation to whether that bullying is reported. As many of the state legislatures in the United States have recently amended anti-bullying legislation to include a broader range of behaviors and outlets for relief (Brank et al. 2012), future research should explore the policies with regards to sibling bullying and how to better intervene or encourage intervention

when bullying occurs. Current peer bullying interventions and education programs could be expanded to include sibling bullying, which might increase awareness and, hopefully, reporting.

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