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The Utility of the Olweus Bully/Victim Questionnaire in Identifying Stably Peer-Victimized Children

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Abstract

I evaluated the utility of using the Olweus Bully/Victim Questionnaire (OBVQ) in identifying stably peer-victimized children. Participants were 676 fourth grade students from 37 classrooms in ten public schools. Stable peer victims were identified as children who met elevated levels of peer victimization at both fall and late spring assessments from at least one source (i.e., self, peer, teacher). Four potential screeners using the OBVQ were evaluated. Logistic regression analyses were performed to identify how well a recommended cutoff point from the global item of the OBVQ (i.e., being bullied *2 or 3 times a month*) identified stable victims. Additional analyses were undertaken to evaluate the utility of using other thresholds from the OBVQ (i.e., being bullied *about once a week, several times a week*). Four items related to specific types of victimization (i.e., relational, verbal, physical, exclusionary) from the OBVQ were averaged as a continuous variable to evaluate another potential method of identifying stable victims. Gender and ethnicity (i.e., Hispanic, Caucasian non-Hispanic) were explored in analyses for the optimal screener. The results indicated that the OBVQ underperformed in identifying stably victimized children. Possible reasons as to why the screeners were less than optimal were explored, as well as potential implications for the field.

Keywords: stable peer victimization, Olweus Bully/Victim Questionnaire, screening, school bullying

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Understanding the serious risk that school bullying poses to elementary-school children, researchers have developed and evaluated anti-bullying programs designed to decrease the overall incidence of bullying behavior within a school (Olweus, 1991; Smith, Pepler, & Rigby, 2004). School-wide universal anti-bullying programs have shown varying levels of effectiveness in reducing rates of victimization (Smith, Schneider, Smith, & Ananiadou, 2004; Vreeman & Carroll, 2007), but seldom investigated are the effects these interventions have on individual children, especially those who are chronically or stably victimized (Pepler, 2006). Children who persist as victims are at higher risk for maladjustment (Hawker & Boulton, 2000; Hodges & Perry, 1999), prompting the call for selective prevention programs that target only those children showing elevated risk (e.g., Elledge, Cavell, Ogle, & Newgent, 2010; Fox & Boulton, 1997; Robinson & Maines, 1997). Selective prevention requires a way to identify—efficiently and accurately—children whose level of victimization warrants intervention. Card and Hodges (2008) noted there "is virtually no research on applied assessment aimed at identifying individual victims" (p. 455). It is not known whether available measures of bullying can reliably identify stably peer-victimized children at risk for later difficulties. The most widely used measure of school bullying, the revised Olweus Bully/Victim Questionnaire (OBVQ; Olweus, 1996), has been offered as a tool for estimating the prevalence of bullying and victimization (Solberg & Olweus, 2003). In this study, I examined the utility of the OBVQ as a screener for identifying stable peer victims.

Victims of School Bullying

Defining peer victimization. *Bullying* has generally been defined as repeated negative interactions that comprise intent to harm, produce harmful effects, and evince an imbalance of power (Solberg & Olweus, 2003). A more recent uniform definition proposed by the Centers for Disease Control and Prevention indicated that bullying is "any unwanted aggressive behavior(s) by another youth or group of youths who are not siblings or current dating partners that involves an observed or perceived power imbalance and is repeated multiple times or is highly likely to be repeated" (p. 7; Gladden, Vivolo-Kantor, Hamburger, & Lumpkin, 2014). This subset of aggressive behavior is characterized by its recurrent nature toward specific students who are perceived to be weaker than those who bully and have difficulty defending themselves (Smith & Brain, 2000). *Bullying* is generally described from an aggressor's perspective, whereas the term *peer victimization* is used to capture the experiences of children who are targets of bullying (Card & Hodges, 2008). *Peer victimization* has been defined as repeated exposure to peer interactions that (a) convey harmful intent, (b) produce harmful effects, and (c) are often sanctioned by peers (Elledge, Cavell, Ogle, Newgent, Malcolm, & Faith, 2010; Salmivalli, 2010). Peers may sanction victimization explicitly by laughing, and implicitly by failing to intervene (O'Connell, Pepler, & Craig, 1999). Negative interactions experienced by victims include but are not limited to: (a) physical, (b) relational, and (c) verbal types of victimization (Card & Hodges, 2008; Hawker & Boulton, 2000; Kochenderfer & Ladd, 1996a). Physical acts of victimization (e.g., kicking, hitting, shoving) and verbal victimization (e.g., name-calling, teasing) can be considered acts of overt aggression (Crick & Grotpeter, 1996; Philips & Cornell, 2012; Rivers & Smith, 1994). Relational acts of aggression are behaviors that are meant to damage relationships (Crick et al., 1999) and can be either overt (e.g., directly threatening to

damage the victim's social status) or covert (e.g., spreading rumors, purposely withdrawing attention) in nature (Crick, Ostrov, & Kawabata, 2007).

Prevalence. Peer victimization is a commonly experienced phenomenon for children throughout their school years. Within the last ten years, three national studies of bullying and victimization reported that 11-28% children and adolescents reported being victims of bullying (Eaton et al., 2012; Iannotti, 2012; Robers, Kemp, & Truman, 2013). A recent meta-analysis of studies evaluating the prevalence of bullying experiences reported that an estimated 24.4% of boys and 21.7% of girls are involved as victims (Cook, Williams, Guerra, & Kim, 2010). The prevalence of peer victimization appears to be higher than the base rates of other childhood problems, such as attention-deficit/hyperactivity disorder (8.6%), mood disorders (3.7%), and conduct disorder (2.1%; Merikangas, He, Brody, Fisher, Bourdon, & Koretz, 2010). Peer victimization also appears to be more prevalent than other school-related problems, such as school dropout (8%; Cataldi & KewalRamani, 2009) or chronic student absenteeism (5.3%; Sheldon & Epstein, 2004).

When reviewing studies of bullying, it is apparent that victimization rates appear to vary widely. Studies in the field have reported prevalence estimates of involvement with peer victimization that have ranged from 2% to 76.8% of their respective samples (Baldry & Farrington, 1999; Boulton & Underwood, 1992; Craig & Harel, 2004; Craig, Pepler, Murphy, & McCuaig-Edge, 2010; Devoe, Kaffenberger, & Chandler, 2005; Finkelhor, Turner, Ormrod, & Hamby, 2009; Hoover, Oliver, & Hazler, 1992; Juvonen, Graham, & Schuster, 2003; Lohre, Lydersen, Paulsen, Maehle, & Vatten, 2011; Pellegrini, Bartini, & Brooks, 1999; Rigby, 2000; Rigby & Barnes, 2002; Schwartz, Dodge, Pettit, & Bates, 1997; Smith & Shu, 2000; Stockdale, Hangaduambo, Duys, Larson, & Sarvela, 2002; Swearer, Espelage, Vaillancourt, & Hymel,

2010). However, studies suggest that a smaller percentage of children, from 1.6% to 15%, are frequently and/or stably bullied or victimized (Charach, Pepler, & Ziegler, 1995; Craig & Pepler, 2003; Goldbaum, Craig, Pepler, & Connolly, 2003; Nansel et al., 2001; Solberg & Olweus, 2003; Sweeting, Young, West, & Der, 2006). Yang and Salmivalli (2013) reported that the prevalence rate of bully/victims (i.e., children who evince both bully and victim characteristics) ranged from .4% to 29% in the studies reviewed.

Prevalence rates of victimization appear to vary due to various methodological factors. Cook, Williams, Guerra, and Kim (2010) suggested that studies vary in three key components: (a) time frame, (b) informants, and (c) operationalization of bullying. Cook and colleagues noted that when measuring levels of peer victimization, studies differ in the duration (e.g., within the last week, over the last 3 months) and/or frequency (e.g., *several times a week, several times a month*) in which the victimization experiences are captured. Peer victimization studies also have utilized various informants (e.g., self, teachers, peers) and procedures (e.g., questionnaire, nominations, observations) that may yield varying rates of victimization. Moreover, Cook and colleagues noted that the constructs of bullying and victimization are sometimes difficult to sparse out from other forms of childhood aggression. Researchers have also operationalized the construct differently when describing or identifying victims of school bullying in their respective samples.

In addition to variation from methodological components, it appears as if victimization rates may vary by certain key demographic factors. Studies indicate that rates differ by age, with overall victimization generally reported more frequently in the earlier grades (i.e., elementary school) than in middle and high school (Ladd & Kochenderfer-Ladd, 2002; Solberg & Olweus, 2003). Additionally, studies have posited that prevalence rates may be specific to gender and

victimization type, with physical victimization more commonly found in boys (Olweus, 1993; Scheithauer, Hayer, Petermann, & Juggert, 2006). However, verbal and relational victimization do not appear to yield consistent gender distinctions, with some scholars suggesting that they are more frequently found in girls (Crick & Grotpeter, 1996) and others reporting no significant gender differences (Prinstein, Boergers, & Vernberg, 2001).

Another factor that may influence rates of victimization is the region or location in which bullying is assessed. For example, a recent study suggested that rates might vary even when using the same measures and criteria to assess victimization, with 24% of a sample of English children identified as victims when compared to 8% of a sample of German children (Wolke, Woods, Stanford, & Schulz, 2001). Moreover, some research has argued that ethnicity may be an important factor in determining prevalence rates of victimization. Studies on Hispanic children often yield mixed results, with some noting higher prevalence of victimization in Hispanic samples than in Caucasian samples (Storch, Nock, Masia-Warner, & Barlas, 2003) and others indicating that Hispanic children report less victimization than Caucasian and/or African American children (Hanish & Guerra, 2000b; Peskin, Tortolero, & Markham, 2006). However, recent research suggested that prevalence rates of victimization might be less influenced by ethnicity, and more by the ethnic composition of the distribution of children in a sample (Graham, 2006). Regardless of criteria used, peer victimization experiences appear to be a common experience for most children at least at one point or another during their school trajectory.

Correlates. To better understand victimization experiences, researchers have identified correlates of peer victimization, specifically antecedents and consequences (for a comprehensive review, see Card, Isaacs, & Hodges, 2007). Card and colleagues (2007) reported that physical

strength, socially skilled behavior, and friendship quality were found to be small to moderately associated factors preceding peer victimization, while disliking school and absenteeism were found to be small to moderately associated consequences of being a victim. Additionally, internalizing problems, peer acceptance and peer rejection, and self-concept were found to be moderate to strong correlates as both antecedents to and consequences of peer victimization.

The setting in which bullying and victimization occurs also appears to be a significant predictor of the phenomenon. Research suggests that these intentional and harmful behaviors are more likely to take place in settings in which adult supervision is less direct or structured (e.g., cafeteria, locker room) than in more structured settings with adults (e.g., classroom; Olweus, 1993; Parault, Davis, & Pellegrini, 2007). Moreover, a location's perceived danger for increasing opportunities for bullying and victimization appears to change with age and grade level. In a recent study, elementary school children reported that most bullying occurs in the playground and at recess, while secondary school children indicated that the least safe locations for bulling were the lunchroom/cafeteria or hallways and during recess (Vaillancourt et al., 2010). Peer ecology processes are also significantly associated with victimization experiences. Smith, Schneider, Smith, and Ananiadou (2004) suggested that school bullying occurs within the context of the peer group. Peers in the vicinity of the victimization often adopt certain roles, such as that of active or passive bystanders, and may engage in actions that support bullying (Salmivalli, 1999). From a social learning perspective, research suggests that peers tend to reinforce bullies by (a) giving direct or indirect approval or (b) providing attention and encouragement (Craig, Pepler, & Atlas, 2000).

Researchers have identified behavioral and emotional factors that place children at risk for victimization. Children exhibiting behavioral cues of submissiveness, social withdrawal, or

aggressive responding to peer interactions are predicted to experience higher victimization levels than peers who have better social relations or skills (Gazelle & Ladd, 2002; Hodges, Malone, & Perry, 1997; Hodges & Perry, 1999). Additionally, students involved in peer victimization tend to have (a) fewer friends or friendships that do not provide protection against bullies, (b) lower self-perceived social acceptance, (c) higher peer-perceived physical weakness, and (d) higher rates of peer rejection compared to children who have more protective friendships and are liked by peers (Egan & Perry, 1998; Hodges et al., 1997; Hodges & Perry, 1999; Pellegrini, Bartini, & Brooks, 1999).

Bullied children are at higher risk for experiencing negative outcomes than their non-victimized peers, with some effects enduring through adolescence and adulthood. Much research identifies higher rates of physical and psychological maladjustment in peer victimized children (Arseneault, Bowes, & Shakoor, 2010; Bond, Carlin, Thomas, Rubin, & Patton, 2001; Due et al., 2005; Gini, 2008; Gini & Pozzoli, 2009). Specifically, peer victims often evince increased levels of anxiety, loneliness, and school maladjustment, as well as decreased levels of self-esteem compared to non-victimized peers (Hawker & Boulton, 2000; Kochenderfer & Ladd, 1996a; Olweus, 1997). Moreover, victims of school bullying are more likely to experience higher risk for depression and suicide than non-victims (Alsaker, 1993; Meraviglia, Becker, Rosenbluth, Sanchez, & Robertson, 2003; Sourander, Helstelae, Helenius, & Piha, 2000). Physical health and somatic symptoms (e.g., migraines, stomach aches), and serious health problems are also associated with higher frequency of victimization (Gini & Pozzoli, 2013; Rigby, 2003; Rosen et al., 2009; Williams, Chambers, Logan, & Robinson, 1996). Mothers' reports of victimized children's experiences have also suggested that victimization positively predicts higher levels of

externalizing, attention, and dependency difficulties (Schwartz, McFadyen-Ketchum, Dodge, Pettit, & Bates, 1998).

From a longitudinal study that followed victims of bullying in middle childhood and adolescence all the way through adulthood, Olweus (1993) found that adults victimized as children reported high rates of depression and low self-esteem even with no more victimization as adults. Studies suggest that peer victims are at an increased risk for experiencing loneliness, eating disorders, body dissatisfaction, depression, social anxiety, and generalized anxiety in adolescence and/or adulthood than non-victimized or infrequently victimized peers (Grilo, Wilfley, Brownell, & Rodin, 1994; Hawker & Boulton, 2000; Ledley et al., 2006; Rigby & Slee, 1999; Roth, Coles, & Heimberg, 2002). A recently published five-decade study on the effects of bullying in childhood found that frequently victimized children continued to be at risk for numerous concerns (e.g., poor health, economic disadvantages) even four decades after the bullying experiences had occurred (Takizawa, Maughan, & Arsenault, 2014).

Preventative Interventions for School Bullying

Universal interventions. Most bully prevention programs are designed to be available for all students within a school, maintaining the public health goal of reducing overall levels of school bullying. Because universal prevention programs are offered to all students, the potential stigma of identifying individual bullies or victims is avoided. Universal bully prevention programs have also been used to promote positive school climate (Smith, Pepler, & Rigby, 2004). Smith and colleagues (2004) suggested that whole-school anti-bullying programs characterize bullying as a system-wide problem that affects the entire school context rather than an individual or dyadic concern.

The Olweus Bullying Prevention Program was the first major empirically evaluated school-wide intervention (OBPP; Olweus, 1978; Olweus, 1993). The program focuses on reducing rates of bullying and providing a systematic framework to prevent new instances of victimization (Olweus, Limber, & Mihalic, 1999). It also offers classroom and individual level interventions on an as-needed basis. The OBPP alters school norms and policies in ways that reduce opportunities and reinforcement for bullying behavior. The results of an open trial of OBPP for elementary school children showed marked decreases in school-wide self-reported rates of victimization (Olweus, 1991). Numerous replications and modifications of the OBPP have been developed in the United States and other countries, but have produced inconsistent results in the degree to which they reduce overall levels of bullying and victimization (Bauer, Lozano, & Rivera, 2007; Farrington & Ttofi, 2007; Limber, Nation, Tracy, Melton, & Flerx, 2004; O'Moore & Minton, 2005; Ortega & Lera, 2000; Smith, Ananiadou, & Cowie, 2003; Swearer et al., 2010). Other school-wide interventions have also been empirically evaluated, such as the Steps to Respect Program and the KiVa Anti-bullying Program (see Committee for Children, 2001; Karna et al., 2011).

Ttofi and Farrington (2011) conducted a recent meta-analysis of bullying prevention programs, reporting significant reduction in prevalence rates of bullying for identified outcome studies. However, the authors found that implementing school-wide anti-bullying policies and providing individualized attention to bullies and victims were unrelated to reductions in victimization. Not much is known about the process through which school-wide programs impact victimization experiences (Smith, Schneider, Smith, & Ananiadou, 2004). Additionally, most universal programs anonymously evaluate the effectiveness of their interventions, so their effect on bullied children remain untested (Chan, Myron, & Crawshaw, 2005).

Selective interventions. Selective prevention programs target bullied individuals that are at an increased risk for developing concurrent or later problems such as school dropout, delinquency, or psychopathology (Barret & Turner, 2001). Selective prevention programs for children who are bullied include skills-based training, non-punitive approaches, and mentoring.

Social skills training programs teach victimized children adaptive responses to school bullying (Fox & Boulton, 2003). Hanish and Guerra (2000a) suggested that bullied children respond to bullying ineffectively because they might lack social skills essential to navigating their interpersonal environments. Two such programs, Fox and Boulton's Social Skills Training (SST) Programme and the Social Skills Group Intervention (S.S. Grin), have been empirically evaluated (see DeRosier & Marcus, 2005; Fox & Boulton, 2003). In Fox and Boulton's (2003) small pilot study of SST, children in the SST condition (n = 15) evinced higher global self-worth than children in the wait-list group (n = 13). Results from a randomized controlled trial (RCT) of S.S. Grin in a sample of third graders who were bullied, socially anxious, or peer rejected indicated that children in the experimental condition (n = 187) experienced significant improvements in school adjustment, social efficacy, self-esteem, and social anxiety when compared to control children (n = 194). Although both programs have resulted in significant gains for participating children, neither has demonstrated significant reductions in levels of peer victimization.

Non-punitive approaches to bully prevention focus on removing the blame from bullies and victims and allowing students to develop appropriate solutions to victimization experiences. The Shared Concern Method attempts to guide victims and peers (e.g., bullies, active bystanders) in reaching conclusions on how to solve the consequences of bullying through interviews of all children involved (Pikas, 1989; Rigby, 2005). To date, outcomes associated with this approach

have been limited and somewhat mixed, with some studies reporting high success rates and reductions in bullying (Pikas, 1989; Rigby & Griffiths, 2011) while another indicating that the method was less effective than a universal school-based intervention (Wurf, 2012). The No-Blame or Support Group Approach focuses primarily on victims (Maines & Robinson, 1998) and promotes empathy and concern for others. It also allows for teachers to give victims a voice to share concerns with peers, passing the onus of responsibility of finding a solution to bullying to the peer group. Teachers in one study reported that the program was successful in reducing bullying and victimization (Young & Holdorf, 2003).

A more recently developed intervention for bullied children is school-based mentoring, which has shown promise in improving children's peer relationships (Elledge, Cavell, Ogle, & Newgent, 2010). In an open trial, Elledge and colleagues (2010) found that one semester of lunchtime school-based mentoring for a sample of fourth and fifth graders was associated with significant decreases in peer-reported levels of victimization. Peers rated that mentored children (n = 12) were less victimized than matched control children (n = 12) who were not mentored and attended a different school. Cavell and Henrie (2010) speculated that lunchtime mentors might alter the peer ecology of children at risk, perhaps by changing peers' attitudes or by enhancing the quality of lunchtime interactions between bullied children and their peers.

Parameters Associated with Increased Risk for Peer Victimization

Victims of school bullying might benefit from selective prevention programs, but not all children who are bullied are at risk for significant maladjustment. Because some children experience only mild or transitory bullying, it is imperative for researchers to identify those children whose victimization experiences justify a more focused intervention (Pepler, 2006).

Critical here is research on various parameters (e.g., intensity, frequency, stability) that signal increased risk for peer victimization and its consequences.

Bully/victim status. Bully/victims are described as children who are both victims and perpetrators of school bullying (Haynie et al., 2001). Bully/victims are at a greater risk for experiencing frequent victimization experiences than children who are solely victims (Yang & Salmivalli, 2013). Bully/victims evince greater internalizing symptoms, disruption in peer relationships, poor perception of school environment, social problems, withdrawal, attention difficulties, and aggression than bullies and victims (Inoko, Aoki, Kodaira, & Osawa, 2011; O'Brennan, Bradshaw, & Sawyer, 2009). Recent research on the composition of peer groups suggested that individuals in this subgroup tend to spend the majority of their time with peers that are bullies, victims, or bully/victims (Farmer et al., 2010). Thus, it appears that children who are bully/victims are likely to warrant further evaluation and possible intervention. Noteworthy, however, is that the base rate for this subgroup is typically quite low, which could limit or constrain the goals of selective prevention.

Frequency and stability. Although a single, traumatic incident of bullying could be damaging to children (Graham & Juvonen, 1998), most research suggests that peer victimization exerts its negative effects when it is frequent or chronic in nature (Gazelle & Ladd, 2002). Children who experience persistently elevated levels of bullying are more likely to have poor outcomes than infrequently or transitorily bullied children (Card, Isaacs, & Hodges, 2007; Hanish & Guerra, 2004; Juvonen, Nishina, & Graham, 2000; Kochenderfer-Ladd & Wardrop, 2001; Smith, Pepler, & Rigby, 2004).

Frequently bullied victims report having fewer friends and more emotional problems in school compared to infrequently bullied peers (Camodeca, Goossens, Meerum Terwogt, &

Schuengel, 2002). Frequently bullied children also report lower school enjoyment, higher school avoidance and absenteeism, and higher rates of enrollment in special education classes than infrequently bullied children (Card & Hodges, 2008). Research indicates that psychiatric disorders are found in significantly higher rates for frequently bullied children than they are for children uninvolved or infrequently involved in peer victimization (Kumpulaninen, Rasanen, & Puura, 2001). Solberg and Olweus (2003) indicate that younger children report being victims of bullying more frequently than older children. This may suggest that frequency might be an important parameter to study at earlier stages of a child's development within the school environment.

Though frequent victimization seems to focus on the repeated nature of children's negative peer interactions, stable and chronic victimization describe the longitudinal duration of those experiences. Children who are stably or chronically bullied appear to be at elevated risk for negative outcomes. Rueger, Malecki, and Demaray (2011) use the chronic-stress model (see Dohrenwend & Dohrenwend, 1981) to suggest that an extended duration of peer victimization would predict higher levels of maladjustment and a greater potential for developing psychopathology than transitory experiences of victimization. Scholars have found a positive association between long-term victimization and negative outcomes (e.g., anxiety, somatization, withdrawal, poor school attendance, social adjustment), indicating that stable victims report the most severe adjustment difficulties when compared to less victimized and non-victimized peers (Goldbaum, Craig, Pepler, & Connolly, 2007; Scholte, Engels, Overbeek, de Kemp, & Haselager, 2007). Additionally, chronic victims tend to carry weapons more frequently into schools than non-chronic victims (Nansel, Haynie, & Simons-Morton, 2003). Gazelle and Ladd (2002) noted that severe or long-lasting dysfunction is observed at higher rates in long-term

victims of bullying, with the myriad of negative outcomes associated with chronic victimization tending to persist even when bullying behaviors are reduced or ceased. Additionally, bully/victims that are chronically victimized yield the worst outcomes from among all long-term victimized groups, often displaying the highest rates of conduct problems and lowest school engagement (Juvonen, Graham, & Schuster, 2003). Stable involvement in victimization also places bully/victims at greater risk for substance abuse, eating disorders, depression, and anxiety than non-stably victimized bully/victims (Due et al., 2005; Kaltiala-Heino, Rimpela, Rantanen, & Rimpela, 2000), as well as diagnoses of Attention-Deficit/Hyperactivity Disorder (ADHD) and oppositional defiance and conduct disorders (Kumpulainen, Rasanen, & Puura, 2001).

Separating Frequency and Stability of Peer Victimization

Unfortunately, the parameters of frequency and stability of victimization have not been well operationalized and are used at times interchangeably by scholars to denote a more serious level of involvement in peer victimization experiences (for exceptions, see Kochender-Ladd & Ladd, 2001; Rueger, Malecki, & Demaray, 2011). Scholars seldom distinguish between frequency and stability of school victimization, and it is not clear whether children can be frequently victimized but not stably victimized (or vice-versa). There might well be differences between children who are peer-victimized only once or twice a year over the span of several grades versus children who are victimized many times within just a few days or weeks.

Scholars have yet to arrive at consensus about what constitutes problematic frequency of peer victimization. Kochenderfer-Ladd and Ladd (2001) noted that little is known about how frequently victimized children must be before serious difficulties arise. Kochenderfer-Ladd and Ladd noted that “subjectively interpreted gradations” (p. 27; in Juvonen & Graham, 2001) of the frequency of peer victimization are often used to differentiate children who are infrequently

victimized and not at risk from those who are frequent victims and at risk for subsequent problems. Solberg and Olweus (2003) suggested a frequency threshold *2 or 3 times a month* as a useful lower cutoff for estimating the prevalence of bullying experiences. These authors found significant group-level differences between "victims" (i.e., children who met the *2 or 3 times a month* or more criteria of being bullied) and "non-victims" (i.e., children who were not bullied or bullied less frequently) in predicting levels of social disintegration, self-evaluations, depressive tendencies, aggression, and antisocial behavior. Other scholars have identified different thresholds at which the frequency of victimization is likely to confer significant risk for negative consequences. Ybarra, Boyd, Korchmaros, and Oppenheim (2012) suggested that problematic victimization is that which occurs monthly or more frequently. Card and Hodges (2008) noted that when a criterion of being victimized weekly or more often is used, researchers find that 6% to 15% of children are identified as victims (Rigby, 2000; Smith & Shu, 2000; Whitney and Smith, 1993).

Measures that assess the stability of peer victimization often specify a certain period of time during which the respondent should focus their appraisal. This period of time could be the previous month, six months, or year (Rueger, Malecki, & Demaray, 2011). For example, Nansel et al. (2001) suggested that 32% of elementary students in their sample were victims of chronic bullying, but chronicity was defined as the frequency of being bullied two or more times within the previous month. Rueger, Malecki, and Demaray (2011) have argued that the stability of victimization should be based on assessments conducted at multiple time points. They computed correlations between victimization scores at two time points (i.e., from fall to spring within a school year) and found moderately sized coefficients for boys ($r = .50$) and girls ($r = .53$), suggesting that the construct is fairly stable but also subject to change during a school year.

Rueger and colleagues also examined the number of children identified as victims at both time points and found that about half of those identified as victims remained in the victim status at the point of the spring assessment.

The stability of peer victimization experiences appears to vary across grades and may depend on the methods used to assess victimization. Kochenderfer-Ladd and Wardrop (2001) found that prior to second grade, peer reports of victimization were inconsistent and less reliable than self-reports. However, after second grade, both self- and peer-reports were more reliable and stable. From kindergarten to third grade, only 4% of children in their sample consistently met victim criteria, with stability coefficients ranging from .27 to .41 (Kochenderfer-Ladd & Wardrop, 2001). This estimate is similar to the 7.4% found in a study of children in grades 3 to 5 who were followed for 1 year (Browning, Cohen, & Warman, 2003). Stable victimization was defined as standardized peer nomination scores above .75 *SD* at two separate time points.

The field is in need of clearer definitions of terms such as *frequency* and *stability*. The actual stability or chronicity of peer victimization—which denotes a temporal component spanning months, grade levels, or even years—has rarely been defined or used to identify victims of bullying (Boulton & Underwood, 1992; Perry, Kuesel, & Perry, 1988). The terms *stable* and *chronic* are also used interchangeably, although typically the latter has referred to children whose victimization experience is quite extensive. For the purpose of this study, I used the term *frequent peer victimization* to mean an elevated rate of victimization occurring within a brief specified period of time (e.g., previous week, last month). I defined *stable peer victimization* as an elevated rate of victimization that persists across the majority of an academic year (e.g., from one semester to another). *Chronic peer victimization* was defined as an elevated rate of victimization that persists across two or more time points spanning two or more academic years.

Assessing Peer Victimization

Scholars have developed and used a range of different methods to assess children's level of peer victimization. Self-report measures are the most widely utilized single-informant tools in the field, as they can be easily administered to large groups of children simultaneously and are often inexpensive when compared to other methods (Espelage & Swearer, 2003; Gini & Pozzoli, 2009). Because bullied children directly experience harmful interactions, their self-reports are considered an essential aspect of assessing victimization experiences (Ladd & Kochenderfer-Ladd, 2002; Solberg & Olweus, 2003).

The revised Olweus Bully-Victim Questionnaire (OBVQ) is the most frequently used self-report measure of bullying and victimization experiences (Solberg & Olweus, 2003). Administration of the OBVQ begins with providing students a definition of bullying that captures Olweus' conceptualization of the phenomenon: intent to harm, repetitive nature of the interactions, and an imbalance of power between perpetrator and victim (Olweus, 1996). Solberg and Olweus (2003) indicated that an imbalance of power is characterized by a victim's inability to or difficulty in defending him or herself against the repeated attacks. The 39-item OBVQ tasks children with reporting the frequency of their involvement in various bullying and peer victimization experiences "over the past couple of months." Also included in the OBVQ is one item that asks about the duration of the experiences (e.g., *less than a week, a month, several years*). The OBVQ includes a global item of bullying and victimization, as well as items about specific types (e.g., relational, physical, verbal, exclusionary, cyber, sexual). Solberg and Olweus (2003) suggested that the global item, "*How often have you been bullied at school in the past couple of months?*" can be used when estimating the prevalence of peer victimization. These investigators also asserted that a reported involvement of *2 or 3 times a month* (from five

possible options) was a suitable lower-bound cutoff for differentiating children who are frequently bullied from those who are infrequently bullied or not bullied. Validated on a large representative sample (5,171 students), the OBVQ has demonstrated adequate internal reliability with estimates (Cronbach's alpha) typically greater than .80 (Olweus, 1999; Olweus, Limber, & Mihalic, 1999). Olweus argued that the OBVQ shows strong evidence of construct validity when evaluating the relations between the dimensions of "being victimized" and associated variables (e.g., depression, self-esteem, peer rejection; Bendixen & Olweus, 1999; Solberg & Olweus, 2003).

Though the OBVQ is the most commonly administered self-report measure of bullying and victimization, scholars have also developed alternative scales. For example, Kochenderfer-Ladd (2004) developed the School Experiences Questionnaire (SEQ) by adapting Ladd and Kochenderfer-Ladd's (2002) self-report of peer victimization. This survey includes 9 items that assess verbal (direct and indirect), physical, and general peer victimization, and includes filler items concerning prosocial behaviors. All items are rated on a 3-point Likert scale (1 = *never*, 2 = *sometimes*, 3 = *a lot*), with victimization items averaged to calculate a mean score across the items. Additionally, Reynolds (2003) developed the Reynolds Bully Victimization Scale (BVS), a 46-item survey designed to assess victimization and bullying. Responses are scored by subscale (i.e., victim, bully) and T-scores are normed by age and gender. Surveyed children rate the frequency of experiences within one month on a four-point scale (i.e., *never, once or twice, three or four times, five or more times*). The BVS was validated on a sample consisting of 2000 children that ranged from elementary school (3rd grade) to high school (12th grade). The BVS has shown high internal consistency (typically in the α = .80s) and has demonstrated significant positive correlations with the Beck Youth Inventories of Emotional and Social Impairment.

A number of studies have also used teacher or peer reports of victimization to provide a more complete picture of children's victimization experiences. Many of these measures have been developed as parallels to child-reports of victimization (Elledge, Cavell, Ogle, & Newgent, 2010; Iyer, Kochenderfer-Ladd, Eisenberg, & Thompson, 2010). Peer reports are generally obtained via class-wide peer nominations. Accompanying these measures are generally a list of classmates' names or pictures of classmates for younger children. Peer-ratings are often scored by tallying nominations and standardizing the nominations by class (Salmivalli & Nieminen, 2002). Because peers routinely observe or actively engage in social interactions with classmates, some scholars view their perspective as a closer and more accurate appraisal of children's victimization experiences relative to that of adults. Scholars note that peer reports increase in utility in middle childhood and adolescence, and have shown adequate psychometric properties for these age groups (Crick & Bigbee, 1998; Schwartz, Dodge, Pettit, & Bates, 1997). Scores attained from peer reports of victimization have been found to correlate positively with maladjustment (e.g., depression, anxiety, loneliness; Boivin & Hymel, 1997; Graham & Juvonen, 1998). The Revised Class Play (RCP; Masten, Morrison, & Pellegrini, 1985) is one such used and adapted sociometric measure to assess peer victimization (Elledge, Cavell, Ogle, & Newgent, 2010; Estell et al., 2009).

Though evidence suggests that measures of victimization are adequate in capturing children's experiences with peer victimization, there are known limitations to these tools. Children may be biased in their interpretations of peer interactions, may be unwilling to report negative experiences, or may have difficulty accurately remembering the events (Graham & Juvonen, 1998; Lemerise & Arsenio, 2000; Schwartz, 1999). As with self-reports, peer nominations and teacher reports also have limitations. One concern with the use of peer-report

tools is the possibility that reputational and relational biases will undermine their validity (Hymel, Wagner, & Butler, 1990). Also, Ladd and Kochenderfer-Ladd (2002) found that self-report measures used in younger children (e.g., kindergarteners, 1st graders) provided better estimations of children's adjustment than peer reports. Less reliable reporting in earlier grades may be a result of underdeveloped cognitive skills to process information related to peer interactions (Coie & Dodge, 1988).

Scholars in the field have differed in their use of respondents (e.g., self, teacher, peer, parent) as a source of information for reports of victimization (Card & Hodges, 2008). Ladd and Kochenderfer-Ladd (2002) noted that the use of informants should depend on their access to witnessing peer victimization experiences, the informants' competence in accurately reporting information about the interactions, and validity and reliability of tools utilized to measure peer victimization. Card and Hodges (2008) noted that respondent sources provide unique perspectives of victimization, but generally have low to moderate consensus in reported levels. As such, researchers have proposed the use of multi-informant approaches or a combination of reports from multiple informants (Crick & Bigbee, 1998; Cullerton-Sen & Crick, 2005; Ladd & Kochenderfer-Ladd, 2002; Pellegrini & Bartini, 2000). Other types of methodologies have also been utilized, such as directly observing peer interactions or evaluating peer victimization as a function of change in associated factors (e.g., self-esteem, anxiety, friendships, school performance; Buhs & Ladd, 2001; Hawkins, Pepler, & Craig, 2001; Juvonen, Nishina, & Graham, 2000). Crothers and Levinson (2004) suggested that the use of multiple informants and multiple assessment methods might aid in the reduction of the influence of a single informant or methodology on the validity of the information gathered.

Strategies for Identifying Victims of School Bullying

Measures utilized to assess levels of peer victimization have also been used to identify victims of school bullying. These may provide levels or frequencies of peer victimization experiences that might allow for the differentiation between victims and non-victims. Three major strategies have been used to identify victims of school bullying: (a) the use of pre-determined cut-off points thought to indicate risk for adjustment difficulties, (b) the use of sample-specific statistics that identify victims based on a specified deviation from the sample mean, and (c) the use of victimization scores over time to establish children's status as a stable victim of school bullying (Goldbaum, Craig, Pepler, & Connolly, 2003; Graham & Juvonen, 1998).

As noted previously, Solberg and Olweus (2003) have suggested the use of a pre-established cut-off on the OBVQ to identify victims of school bullying. Specifically, they posited that meeting the threshold of being bullied *2 or 3 times a month* or more qualified as an appropriate cut-off to distinguish victims from non-victims. Additionally, Solberg and Olweus found a positive linear trend between victim status and levels of social disintegration, depression, and negative self-evaluation. Hunt, Peters, and Rapee (2012) used the OBVQ cut-off for the global and specific victimization items (e.g., verbal, exclusionary, relational, physical) to identify victims and to examine the utility of the Personal Experience Checklist, a multidimensional measure to assess the frequency and severity of victimization experiences from a behavioral marker perspective. In the Hunt and colleagues' sample, 20.8% of children met the criterion of *2 or 3 times a month* on the global item, whereas 15.7% met this cutoff for verbal victimization, 15.3% for exclusionary victimization, 11.1% for relational victimization, and 9.3% for physical victimization. Karna et al. (2013) also used Solberg & Olweus' proposed cut-off point to identify

victims for the indicated components of the KiVa Antibullying Program. In their sample of 1st to 3rd grade children, 17.2% of children met the global threshold of *2 or 3 times a month*.

Vaillancourt and colleagues (2010) specifically sought to evaluate the accuracy of the OBVQ's global item in identifying bullied children. The authors dichotomized those never been bullied (i.e., noninvolved) from those reporting some level of involvement with being bullied ranging from occasionally to frequently involved. Vaillancourt and colleagues then used multi-way frequency analysis (MFA) to compare observed and expected frequencies for associations between grouping variables. They also evaluated the specificity (i.e., percentage of true negatives versus false positives) and sensitivity (e.g., percentage of true positives versus false negatives). The authors used receiver operating characteristic (ROC) curve analysis to identify an adequate cutoff value for involvement as a bullied victim. Overall, they found that the global item of the OBVQ had appropriate specificity (e.g., good at identifying non-victims) but poor sensitivity (e.g., less accurate in identifying true victims). However, it is important to note that the authors utilized the cutoff of "*never*" as the noninvolved group and all other frequency categories as the involved group, as used previously by studies from WHO, UNICEF, and the UN. Using this cutoff yielded a rate of 44.5% of their elementary school sample reporting being bullied, with girls significantly more victimized than boys. From an application standpoint (i.e., intervention), this method for identifying victims appears over inclusive. If the purpose is to identify victims for selective intervention, these self-reported tools may need to be adapted to capture the percentage of children at significantly higher risk for maladjustment (e.g., closer to 5-10% of children).

Sample-specific deviation statistics (e.g., frequencies, proportions, percentages) on measures of victimization offer another way to identify victims of school bullying (Salmivalli &

Nieminen, 2002). Ladd and Kochenderfer-Ladd (2002) posited that this approach, especially when information is combined from multiple informants, provides the best estimate of peer victimization in children. Ladd and Kochenderfer-Ladd (2002) used the School Experiences Questionnaire and peer and teacher reports of victimization to identify victims based on scores that were one standard deviation above the mean. In their 4th grade sample, 18% of children met this threshold on self-report, 13% on peer report, and 12% on teacher reports. Use of multiple informants allows for a more robust evaluation of the peer victimization phenomenon, but scaling differences could impact the equivalency and utility of combining these scores. More importantly, sample specific cut-offs to identify victims do not allow for the application of the strategy to assess the risk of individual children. For example, if a school counselor wanted to identify the level of risk of a particular child, the counselor would need to survey the child's classmates, gather teacher reports, or request peer nominations from every child in that grade to identify if the child meets a specific deviation from the mean scores. The method then appears impractical for the purposes of selective intervention when grade-wide assessments are not conducted.

Another strategy for identifying victims of school bullying is the use of developmental trajectories based on assessments conducted at multiple time points. Golbaum and colleagues (2003) used an adapted version of the OBVQ to assess children's victimization patterns across three semesters. Goldbaum et al. inquired about both the frequency of bullying events during the current week, as well as throughout the past year, for children in 5th, 6th, and 7th grade. Noting dissatisfaction with arbitrary cut-off points for cross-sectional measures used in the identification of victims, these investigators proposed that peer victims should only be identified after one full year of assessment. The research team found four different trajectories for peer victimization:

non-victims, late-onset victims, stable victims, and desisters. Both non-victims and late-onset victims experienced little victimization at the first time point but the latter group became increasingly victimized across the three semesters. Desisters and stable victims reported significantly high levels of victimization at the first assessment, with desisters decreasing in peer victimization levels to non-victimized levels by the third assessment point and stable victims remaining significantly elevated at all three time points. Using this method, Goldbaum and colleagues (2003) identified 0.97% (n = 12) of boys and 0.64% (n = 8) of girls as stably victimized from a sample of 1,241 children. This method provides information about the stability of victimization and rich data on correlated factors (e.g., self-competence, internalizing problems) across time. For the purposes of selective intervention, however, this method appears wholly impractical as a screener method. The method only identifies a very small percentage of the child population, possibly missing children that may benefit from selective intervention. Even more pertinent, the method takes a whole academic year to identify victims. This would place at-risk victims on a three-semester waiting period before they are able to receive selection attention. The process of identification requires the analysis of longitudinal data, which reduces its usefulness as a cost and time-effective tool for identifying victimized children.

In summary, though methods currently exist to identify victims of school bullying, limitations in these approaches suggest a need for an adapted approach. The use of cutoff points for frequency or level measures of victimization currently used tend to be over-inclusive. This method may not be the most useful for application purposes, as it is prone to false positives (e.g., including children that are not at-risk victims) when trying to identify who might benefit from selective interventions. Sample-specific statistic deviations are impractical for selective interventions because they require assessment of all the children in a class or grade to produce

mean and standard deviation statistics to then compare individual children to those deviations. Longitudinal analysis of victim status are also inadequate for screening for peer victimization, since they require an extensive period of time for assessment (e.g., 1 school year) and the identified rate of children is quite low, possibly missing children that may benefit from intervention.

Studies evaluating the reliability and validity of measures used to identify victims of school bullying are lacking and there is no consensus on how researchers or practitioners should identify peer victims (Cornell, Sheras, & Cole, 2006). Standard definitions of peer victims may be useful in allowing for the generalizability of results across measures, instruments, and methodologies (Griffin & Gross, 2004). Identification of victims might also be improved by emphasizing accuracy and efficiency, so as to reduce the probability of risk (e.g., increased victimization, undesired attention) to children (Smith & Sharp, 1994; Spivak & Prothrow-Stith, 2001). However, Card and Hodges (2008) noted that procedures that maximize accuracy (e.g., longitudinal identification of peer victims) might not be practical or appropriate for applied purposes. A brief measure screening for—and identifying victims of—peer victimization, specifically those that may remain stuck in a victim role, may then allow schools to utilize preventive interventions targeted at specific victims.

The Current Study

This study evaluated the degree to which the Olweus Bully/Victim Questionnaire can efficiently and accurately identify elementary school children who are stably victimized by peers. At issue was whether a measure used to assess prevalence of school bullying could also be used to identify individual children whose level of peer victimization is consistently elevated and might warrant selective intervention. Children's OBVQ scores from mid fall (T1) were used to

predict children's status as stable victims based on child-, teacher-, and peer-report assessments conducted in mid fall (T1) and late spring (T3). Late fall (T2) assessments were used for reliability analyses. Children were considered stably victimized if peer victimization scores from the same source (i.e., child, peer, teacher) were elevated at both T1 and T3. Logistic regression analyses tested the predictive accuracy of various thresholds from the single global OBVQ item recommended by Solberg and Olweus (2003). Additionally, four items of specific types of victimization (i.e., verbal, relational, exclusionary, physical) were averaged to create a continuous variable of victimization. This variable was also evaluated for its predictive capacity to identify stable victims using logistic regression analyses. The possible effect of gender and ethnicity (i.e., Hispanic, Caucasian non-Hispanic) on peer victimization rates was explored for the optimal screener from the OBVQ.

Methods

Participants

Participating in this study were 676 fourth grade students from 37 mainstream classrooms in 10 public schools in northwest Arkansas. All fourth grade students ($N = 954$) were eligible to participate. Of all students' caretakers, 71% gave written consent to participate in the study, with 91% of returned consents indicating approval for participation. Included in the present analyses were children who completed the OBVQ at T1 (October 2012) and who had peer victimization data from at least one source (i.e., self, teacher, peer) at both T1 and T3 (May 2013). One case was excluded from analyses because the student did not have peer victimization data at both T1 and T3 from at least one informant (i.e., child, teacher, peer). Fourth grade students were chosen to ensure adequate reading capacity and because fourth grade is widely considered an elementary school grade and not a middle school grade. The average age for children in the sample was 9.31

years (*SD* = .50), with a range from 8 to 11. Girls comprised 51.1% (*n* = 346) of the sample. Congruent with previous samples drawn from this school district (Elledge, Cavell, Ogle, & Newgent, 2010), the ethnic/racial background of the sample was predominantly Hispanic: 41.2%, Hispanic; 29.8%, Caucasian non-Hispanic; 9.9%, Pacific Islander; 7.2%, bi/multiracial; and 11.9%, other/unreported. Regarding languages spoken at home, 74.2% of children reported speaking English, 48.2% reported Spanish, and 10.3% reported Marshallese. For specific demographic items requested from children, refer to Appendix A.

Measures

Level of peer victimization. Children's level of peer victimization was assessed via child self-reports, teacher-ratings, and peer-ratings. See Table 1 for means and standard deviations for ratings of peer victimization by informant, child gender, and time point assessed. See Table 2 for interclass correlations between ratings of peer victimization by informant.

*Child self-report***.** Child-reported victimization was assessed using an adapted version of the *School Experiences Questionnaire* (SEQ; Kochenderfer-Ladd, 2004). The SEQ assessed physical (e.g., hitting, pushing), verbal (e.g., name-calling, teasing), and relational victimization (e.g., being excluded, spreading rumors) using three items for each type. Children rated items using a 5-point scale (0 = *Never*, 1 = *Almost Never*, 2 = *Sometimes*, 3 = *Almost Always*, 4 = *Always*), with higher scores representing greater levels of perceived victimization. The SEQ also contained three items assessing children's own involvement in bullying other students, as well as four filler items. Only the nine items assessing peer victimization were used in the current study. Children's self-rated peer victimization score was based on the mean item score across the nine items. To compute the peer victimization mean, children were required to complete at least 5 out of 9 victimization items in the adapted SEQ. Reliability estimates for this scale are typically

above .80; for this sample, αs were .86 at T1, .88 at T2 (December 2012), and .89 at T3. The test-retest reliability, indexed by a product-moment correlation, for mean scores of self-rated peer victimization between T1 and T2 was .65. Refer to Appendix B for the self-report measure of peer victimization, named *The Way Kids Are*.

Teacher-rating. Teachers rated all participating students on three items that paralleled subscales of the child-report measure that described physical (e.g., hit, pushed, or kicked by another student), verbal (e.g., name-calling, teasing, threatening), and relational (e.g., left out of activities, not talked to by another student) victimization (Elledge, Cavell, Ogle, & Newgent, 2010). Items were rated on a 5-point scale (0 = *Never*, 1 = *Almost Never*, 2 = *Sometimes*, 3 = *Almost Always*, 4 = *Always*), with higher scores representing greater levels of peer victimization. Scores from a fourth item assessing students' involvement in bullying were not used in the present analyses. Teacher-rated peer victimization scores were averaged across the three victimization items and weighted by classroom. To compute the average score, teachers were required to answer at least 2 items of the victimization measure. Reliability estimates for this scale have ranged from .73 to .80 (Elledge, Cavell, Ogle, & Newgent, 2010); for this sample, αs were .86 at T1 and .87 at both T2 and T3. The test-retest reliability of teacher-rated victimization between T1 and T2 was .68, as indexed by a product-moment correlation; when standardized by classroom, the test-retest reliability was r = .59. Refer to Appendix C for the teacher measure of victimization.

Peer-rating. Peer-ratings of victimization were assessed using a modified version of the *Revised Class Play* (RCP), a commonly used peer-rating instrument with established predictive validity (Masten, Morrison, & Pellegrini, 1985). The RCP asks children to imagine directing a class play and to nominate three classmates who best fit various roles. For this study, peers were

asked to respond to three items that assessed physical, verbal, and relational victimization using wording that paralleled items from the SEQ (Elledge, Cavell, Ogle, & Newgent, 2010). For example, peers were asked to nominate classmates who "could play the part of someone who gets teased, called mean names, or gets told hurtful things." Children used a numerical roster of names to nominate three participating classmates for each item. Items were read aloud by a graduate student or a trained research assistant and children nominated classmates by circling the number corresponding to the classmates' names. Nominations for each type of victimization were divided by the number of nominating classmates and then weighted by class. To compute this score, participants were required to complete at least 2 items of peer-rated victimization. Scores for each type of victimization were averaged to create a single peer-report score (αs were .68 at T1, .79 at T2, and .83 for T3). The test-retest reliability between the weighted mean scores of peer-reported victimization at T1 and T2 was .69, as measured by Pearson's correlation coefficient. Peer data from classrooms comprised of less than eight participating students were excluded from primary analyses, so as to maximize the accuracy of peer nominations—in classrooms with a low number of participating children, children have reduced degrees of freedom to nominate peers as bullied and data may yield outlying results. Refer to Appendix D for the adapted *Class Play*.

Revised Olweus Bully/Victim Questionnaire (OBVQ; Olweus, 1996). The OBVQ is a 39-item measure that assesses child-reported frequency of various forms of victimization and bullying, as well as associated factors (e.g., social disintegration, negative self-evaluation, depressive tendencies, aggression, antisocial behavior). The OBVQ has adequate psychometric properties and is a widely used research instrument (Olweus, 2006). The Junior version of the OBVQ, which was designed for use with children in grades 3 through 5, was used in this study. The OBVQ was

administered by first providing a definition of bullying and then reading aloud each item and response alternative (Olweus, 2001). Olweus' (1996) definition of bullying was not used during administration because of its lengthiness and the study's time constraints. I used a definition of bullying adapted by Bradshaw, Sawyer, and O'Brennan (2007) from Olweus (1993) and Nansel et al. (2001). Specifically, children were told, "Bullying occurs when a person or group of people repeatedly say or do mean or hurtful things on purpose. Bullying includes things like teasing, hitting, threatening, name-calling, ignoring, and leaving someone out on purpose" (Bradshaw, Sawyer, & O'Brennan, 2007, p. 364). This definition covered more broadly the construct of bullying, and was chosen due to its brevity and simplicity. Additionally, the imbalance of power component from Olweus' definition was not included because the concept is not directly assessed by the measure (Greif Green, Felix, Sharkey, Furlong, & Kras, 2013). For this study, the global item ("*How often have you been bullied at school in the past 2 months?*") recommended by Solberg and Olweus (2003) for assessing prevalence was used as the primary screener. Possible answers were *I haven't been bullied in the past 2 months, only once or twice, 2 or 3 times a month, about once a week,* and *several times a week.* The test-retest reliability of the global item between T1 and T2 was .44, measured by a product-moment correlation.

Four items of specific types of victimization experiences (i.e., verbal, relational, exclusionary, physical) were also utilized in this study. Given the relatively high internal consistency of these items (Cronbach's $\alpha = .78$ at T1), these four items were averaged into one continuous variable ($M = .79$; $SD = .88$; range = 0 – 4). Children were required to complete at least two of the four items to compute the mean of these items. The test-retest reliability of the mean score of the four specific victimization items was .56 for T1 and T2. The OBVQ was administered at all time points. Primary analyses only utilized T1 data, and T2 data were used for a reliability

assessment. See Table 3 for the interclass correlations between similarly worded items in the OBVQ and the SEQ at T1. Prior to data collection, permission and consent for the use of the OBVQ in this study was obtained from Dan Olweus, Ph.D. However, due to copyright regulations, I am not allowed to include a copy of the OBVQ in this thesis.

Procedures

The Institutional Review Board (IRB) at the University of Arkansas approved methods and procedures for this study (see Appendix E for a copy of the study's IRB approval). Parental consent and child assent were obtained via forms sent home with students in their weekly folder. Only children with written parental consent and child assent participated. Teachers' consent was also obtained prior to their participation. To aid participant recruitment, classrooms that returned at least 60% of parental consent forms, regardless of parents' decision about participation, were given a $25 gift card that teachers could use for a class activity. Also, the school that had the highest percentage of returned parent consent forms—regardless of parents' decision about their child's participation—was awarded a visit from the local university's spirit squad (i.e., mascots, cheerleaders, dance squad). A consent form return rate of 77.7% (n = 741) was attained regardless of child's participation status, with 29 classrooms returning at least 60% of parental consent forms. Of children returning consent forms, 9.8% (n = 73) declined participation in the study. At the conclusion of the study, teachers (n = 37) received a $25 gift card for their participation.

Measures were administered at three time points during the 2012-2013 academic year. The first assessment (T1) was in October, the second (T2) in December, and the third (T3) in May. Approximately two months passed between T1 and T2, five months between T2 and T3, and seven months between T1 and T3. T1 was scheduled for October to allow an appropriate

length of time for children to become acquainted with each other and for teachers to learn about their classrooms' peer ecologies. Assessments were administered by trained graduate students and advanced undergraduate research assistants. Children completed measures in a group setting (e.g., lunchroom, library, classroom) during a class period lasting approximately one hour. To minimize discussion and interruptions, children were adequately spaced, asked to keep answers covered, and given distractor activities (e.g., mazes, word searches) between questions (see Appendices F and G for examples of such activities). Experimenters read aloud instructions for all measures. Measure order was counterbalanced—randomly and by school—to reduce the probability that the order influenced participants' responses. Teachers completed all measures at school and returned them to the experimenters within an average of two weeks of administration.

Results

All analyses were conducted using SPSS version 20.0 (IBM Corp, 2011). Preliminary analyses included descriptive and frequency statistics, as well as bivariate correlations, for key variables at all time points.

Stable Peer Victims

I used peer victimization data from multiple sources at T1 and T3 to identify children who are stably victimized by peers. Participants (n = 676) with peer victimization data at both T1 and T3 for at least one informant were included in analyses. One case was removed from analyses because the participant did not have peer victimization scores at both T1 and T3 for at least one informant. Participating children were dichotomized into two groups (meets or exceeds criteria for stable victim or does not meet criteria) by computing a stable victimization variable comprised of standardized victimization scores from children (i.e., nine items from the adapted SEQ), teachers (i.e., three victimization items), and peers (i.e., three items from the adapted

RCP) at both time points. This stable victimization variable was generated by first identifying whether or not children met or exceeded elevated levels of peer victimization by each informant across both T1 and T3, and then computing whether children met or exceeded the elevated threshold at both T1 and T3 for at least one informant. This was performed to eliminate error related to counting individual cases as multiple cases in our analyses, especially if the cases met stable victimization criteria by more than one informant.

To operationalize the elevated level of stable peer victimization, I chose a criterion cutoff that identified approximately 10% of the sample (approximately 65 children) as stably victimized. This figure fell within the range (2-15%; Craig & Pepler, 2003; Goldbaum, Craig, Pepler, & Connolly, 2003; Nansel et al., 2001; Solberg & Olweus, 2003) of published research on stable/chronic peer victimization. I anticipated that a criterion between .5 to 1.5 SD above the sample mean would yield the planned 10% base rate. Exploration of victimization scores suggested that 15.8% (n = 107) of the sample met elevated victimization levels between T1 and T3 using a criterion cutoff of 1 SD above the mean. However, this rate surpassed the predetermined percentage (10%) recommended for defining the group of stably victimized children. For the purposes of this study, the a priori operationalization of stable victims indicated that children were categorized as stably victimized if their peer victimization scores from one informant source (i.e., self, teacher, peer) exceeded 1.5 SD at both T1 and T3. This criterion cutoff yielded a group membership of 9.5% (n = 64) stably peer-victimized children. The specific breakdown for children meeting or exceeding the 1.5 SD thresholds at T1 and T3 by each informant is as follows: self-report (3.1%, n = 21), teacher rating (4.7%, n = 31), and peer rating (3.1%, n = 21). Children who did not meet criteria as stably victimized were categorized as comparison children (i.e., non-victims; 86.4%; n = 584).

Demographic characteristics of stably victimized and non-victimized children were explored using Pearson's Chi-Square analyses. Stably victimized boys (n = 42; 6.5% of sample; 65.6% of stably victimized; 13.4% of boys) evinced significantly higher membership in the stable victim group than stably victimized girls (n = 22; 3.4% of sample; 34.4% of stable victims; 6.6% of girls), χ^2 (1, N = 645) = 8.16, p = .004. This gender distribution seemed consistent with previous research on stable peer victims, with boys comprising about 60% of the stably victimized group (Goldbaum, Pepler, & Connolly, 2003). Additionally, Caucasian children (n = 26; 4.1% of sample; 41.3% of stable victims; 13.6% of Caucasian children) evinced less stable victimization than non-Caucasian children (n = 37; 5.8% of sample; 58.7% of stable victims; 8.4% of non-Caucasian children), though Caucasian children's proportion relative to their group was significantly higher than for non-Caucasian children, χ^2 (1, N = 634) = 4.13, p = .042. Finally, results suggested that there appeared to be no statistical differences in stable victimization between Hispanic children (n = 22; 3.5% of sample; 34.9% of stable victims; 8.1% of Hispanic children) and non-Hispanic children (n = 41; 6.5% of sample; 65% of stable victims; 11.3% of non-Hispanic children), χ^2 (1, N = 634) = 1.75, p = .186. See Table 4 for a comparison of demographic characteristics of stable peer victims and non-victims.

Global OBVQ Item

Frequency distributions for the global OBVQ item yielded the following response distributions for children in the sample: *I haven't been bullied in the past 2 months* (46.2%; n = 312), *only once or twice* (29.3%; n = 198), *2 or 3 times a month* (10.5%; n = 71), *about once a week* (6.1%; n = 41), and *several times a week* (7.1%; n = 48). Six univariate logistic regression analyses were used to examine the degree to which the global item from the OBVQ predicted group membership for stably victimized versus comparison children. I examined the true positive

(i.e., percentage of children accurately identified as stable victims) and false positive (i.e., percentage of children inaccurately identified as stable victims) probabilities for the different predictor thresholds (e.g., bullied *2 or 3 times a month, several times a week*) in identifying stable victims. Additionally, I examined the positive predictive value (PPV; proportion of total true positives to total positive screens) and ratio of false positives to total positive screens to evaluate the probability that children in the stable victim or comparison groups was classified as stable victim or non-victim by the OBVQ global item (Altman & Bland, 1994). Overall, the purpose of these analyses was to evaluate the specificity (percentage of correct classification of non-victims) and sensitivity (percentage of correct classification of stable victims) of the global OBVQ items in identifying stable peer victims (Phillips, Scott, & Blasczcynski, 1983). Moreover, understanding the probability of Type I error (classifying a non-victim as a stable victim) and Type II error (classifying a stable victim as a non-victim) became paramount when evaluating the utility of the OBVQ as a potential screener. Refer to Table 5 for the bivariate correlations between the OBVQ screeners and stable peer victimization variables.

Predicted Probability Cutoff Adjustment for Logistic Regressions

Two logistic regression analyses per threshold (i.e., *2 or 3 times a month, about once a week, several times a week*) were performed, one with the predicted probability cut value at .5 (default value in SPSS when performing logistic regression) and another with an adjusted predicted probability cutoff, which resulted in six total logistic regressions. The predicted probability cutoff was manually adjusted to maximize differences in the means between the predicted stable victimization group and the observed stable victimization group. This was performed so as to identify the optimal point in which children identified as stable victims are screened as non-victims by the OBVQ. To identify this cutoff, a variable was created that

captured the difference between the predicted and observed match of stably victimized children, and used to calculate the OBVQ's average predicted risk of missing observed stable victims by screening victims as non-victims. Predicted probability cutoff points were chosen after examination of both quantitative and graphical data, per recommendations by Tabachnik and Fidell (2013).

Logistic Regressions

Global OBVQ item. *Threshold: 2 or 3 times a month.* For the first logistic regression model, the predictor variable was the single global OBVQ item dichotomously scored based on whether or not children met or exceeded the cutoff of being bullied *2 or 3 times a month*. Of children in the sample, 23.7% (n = 160) met or exceeded the *2 or 3 times a month* frequency for being bullied, while 75.4% (n = 510) did not meet the threshold. See Table 6 for the demographic characteristics of children meeting or exceeding the global OBVQ item thresholds by screener. The *2 or 3 times a month* threshold was recommended by Solberg and Olweus (2003) in evaluating the prevalence of bullied children, and has been utilized in various studies as a threshold to discriminate between victims and non-victims of school bullying. Logistic regression was performed to evaluate the accuracy of this threshold in identifying stably victimized children. The model was comprised of one dichotomous predictor variable (does child meet or exceed the *2 or 3 times a month* threshold in the global OBVQ item) and one dichotomous dependent variable (does child meet or exceed the 1.5 SD criterion at both T1 and T3 for victimization scores for at least one informant).

The logistic regression model was statistically significant, χ^2 (1, N = 645) = 31.84, p < .001, indicating that meeting or exceeding the OBVQ global item threshold of being bullied *2 or 3 times a month* distinguished between stable victims and non-victims. Considering that using

one dichotomous predictor in logistic regression yields a non-applicable Hosmer and Lemeshow Test due to containing 0 degrees of freedom, model fit was estimated via Cox and Snell's and Nagelkerke's R^2 statistics (Cox & Snell, 1989; Nagelkerke, 1991). The model explained between 4.8% (Cox & Snell R^2) and 10.1% (Nagelkerke R^2) of the variance in victim status. Moreover, the model yielded an odds ratio (expected beta; Bland & Altman, 2000) of 4.75, with a 95% confidence interval (CI) between 2.79 and 8.08. The odds ratio indicated that children meeting or exceeding the *2 or 3 times a month* threshold were almost five times more likely to be stably victimized than children not meeting the threshold. See Table 7 for a summary of information for the logistic regression.

When using the predicted probability cut value of .5 to evaluate the *2 or 3 times a month* threshold's probability of predicting stable victim versus non-victim status, the results yielded 0 true positives (the percentage of stably victimized children correctly classified as stably victimized) and 0 false positives (the percentage of non-victims incorrectly classified as stable victims), with a 100% correct predicted classification of non-victims as non-victims and 0% correct predicted classification of stable victims as stable victims. Both the positive predictive value (PPV) and the ratio of false positives to total positive screens were not applicable for computation when using the predicted probability cut value of .5. As such, after exploring graphical, quantitative, and descriptive data, I concluded that adjusting the predicted probability cut value to .15 would yield a more accurate representation of the global item's capacity to predict stable victimization by maximizing the mean difference between predicted and observed stable victims.

Using the predicted probability cut value of .15, the *2 or 3 times a month* threshold accurately predicted that 53.1% (n = 34) of observed stably victimized children were actual

stable victims. However, the threshold yielded a relatively high number of false positives (Type I error), with 19.3% (n = 112) of non-victims inaccurately predicted to be within the stable victimization group. Additionally, the positive predictive value (PPV; calculated by dividing the total number of true positives by the total number of positive screens) was quite low (23.3%), suggesting that the use of the threshold evinces low precision rates when identifying stable victims (Harper, 1999). In contrast, meeting or exceeding being bullied *2 or 3 times a month* yielded a high ratio of Type I error (false positives) relative to total positive screens (76.7%), suggesting that the use of this threshold allowed for high rates of false discovery (Storey, 2011).

Threshold: About once a week. All analyses completed with the global OBVQ item at the *2 or 3 times a month* threshold were repeated utilizing the threshold of being bullied *about once a week*. Children meeting or exceeding the threshold of being bullied *about once a week* comprised 13.2% (n = 89) of the sample, whereas 85.9% (n = 581) did not meet the threshold. The logistic regression model was also statistically significant, χ^2 (1, N = 645) = 16.87, p < .001, explaining between 2.6% (Cox & Snell R^2) and 5.4% (Nagelkerke R^2) of the variance associated with peer victim status. The odds ratio for using the global item's *about once a week* threshold was 3.74 (2.07 – 6.74, 95% CI), suggesting that children meeting or exceeding this threshold were almost four times more likely than children not reporting being bullied *about once a week* to meet the criteria for stable victims. Using the default .5 predicted probability cut value yielded the same results as those reported in the previous threshold (true positives = 0; false positives = 0; PPV = not applicable; ratio of false positive to total positive screens = not applicable). Adjusting the predicted probability cut value to .15 indicated that meeting or exceeding the bullied threshold of *about once a week* resulted in 31.3% (n = 20) of stably victimized children being screened as stable victims. Though the percentage of true positives decreased with this

threshold in comparison to the *2 or 3 times a month* threshold, the percentage of false positives also decreased, with the *about once a week* threshold yielding 10.8% (n = 63) false positives from observed non-victims. Though this might appear as an improvement from the previous model, the precision (24.1%) and false discovery rate (75.9%) were almost identical in both models.

Threshold: Several times a week. As with the threshold of being bullied *about once a week*, the OBVQ global item's threshold of being bullied *several times a week* was utilized as a predictor in logistic regression. For responses on the global item, 7.1% (n = 48) of the sample met or exceeded the *several times a week* threshold, while 92% (n = 622) of children did not meet this threshold. The logistic regression using the *several times a week* threshold was also significant, χ^2 (1, N = 645) = 24.06, $p < .001$. This model explained between 3.7% (Cox & Snell R^2) and 7.7% (Nagelkerke R^2) of the variance associated with victim status. The odds ratio for meeting the stable victim criterion if endorsing a positive screen with meeting or exceeding the *several times a week* threshold was 6.35 (3.22 – 12.50, 95% CI). As with the previous two models, the predicted probability cut value was adjusted to .15 for appropriate evaluation of the model. With this cut value, the results indicated that reporting being bullied *several times a week* yielded a true positive screen of 25% (n = 16) of stably victimized children, resulting in missing a higher percentage of stable victims than the previous two models. However, when using the *several times a week* threshold, the false positive ratio was reduced to 5% (n = 29), yielding the lowest percentage of Type I error of all three models. Moreover, the PPV of 35% presented as the highest precision of the models evaluated; accordingly, the false discovery rate was also the lowest (65%) of all models.

Aggregate 4-item OBVQ Victimization Mean

Logistic regression analysis examined the utility of averaging scores from the four specific victimization items (i.e., exclusionary, physical, verbal, relational) of the OBVQ and evaluating its predictive capabilities in accurately and efficiently identifying stable victims, using both the .5 default predicted probability cut value and an adjusted cut value (.18). The aggregate score from the four items of the OBVQ as a predictor yielded a statistically significant model, χ^2 (1, N = 644) = 40.79, p < .001, explaining between 6.1% (Cox & Snell R^2) and 12.9% (Nagelkerke R^2) of the variance associated with victim status. The odds ratio for the model was 2.28 (1.77 – 2.93, 95% CI), suggesting that for every one point increase in OBVQ mean score, the odds of meeting criteria for stable victimization more than doubled. Using the default .5 predicted probability cut value, the model found rates of 6.3% (n = 4) of true positives and 0.7% (n = 4) of false positives. Additionally, the precision and false positive rate were both 50%. Considering the low percentage of positive screens and the overall reduced utility of such a stringent cut value (.5), the data were graphically and statistically evaluated to adjust the predicted probability cut value to an optimal .18. With this cut value, 40.6% (n = 26) of stably victimized children were accurately classified as such, while 10.5% (n = 61) of non-victims were inaccurately predicted to be stably victimized children. The precision of this method indicated that only 29.9% of all positive screens were observed to be stable victims, not making this method significantly better in this parameter than using the global item's thresholds of being bullied *2 or 3 times a month* (23.3%) or *about once a week* (24.1%). Moreover, the false discovery rate was 70.1%, which suggested that using an aggregate score of four items from the OBVQ tends to predict that a substantial percentage of children are stably victimized when they are observed to be non-victims. To maximize the usefulness of this method, it may be necessary

to identify specific thresholds or range of scores that can be used to predict a child's risk level for being stably victimized.

Gender and Ethnicity

Given gender and ethnic differences in peer victimization processes, I was interested in evaluating whether these demographic factors improved the OBVQ's capacity to identify stable victims. Specifically, the question revolved around whether meeting the threshold for being frequently bullied by the OBVQ *and* knowing a child's gender or ethnicity provides a better prediction of stable victimization than simply knowing a child's threshold level? For the purposes of this study, demographic variables were evaluated in only one screener (a) so that the focus remained on the OBVQ's predictive utility rather than on peripheral variables' capacities to improve predictions, and (b) to minimize the complexity of analyses and interpretations. An additional logistic regression analysis explored the effect of gender (i.e., male, female) and ethnicity on peer victimization rates for the optimal screener (i.e., OBVQ 4-item mean score; further explored in the Discussion section). Gender and ethnicity were evaluated in the same step as the OBVQ variable in the logistic regression. Two ethnicity dummy variables were created: (1) Hispanic and non-Hispanic, and (2) Caucasian and non-Caucasian. Including gender and ethnicity in the logistic regression with the OBVQ 4-item mean yielded a statistically significant model, χ^2 (4, N = 629) = 49.90, $p < .001$. The model explained between 7.6% (Cox & Snell R^2) and 15.9% (Nagelkerke R^2) of the variance associated with predicting stable victim status with an odds ratio of 2.27 (1.75-2.94, 95% CI). At the .5 predicted probability cut value, the model identified 4.8% (n = 3) of stable victims as stably victimized, and yielded a precision of 42.9%. Though the rate of false positives was quite low (0.7%; n = 4), the false discovery rate was 57.1%. Adjusting the predicted probability cut value to .2, the results indicated a true positive

rate of 39.7% (n = 25) and a false positive rate of 9.5% (n = 54). These data, as well as the precision (31.6%) and false discovery rate (68.4%), suggested that including gender and ethnicity in the model did not significantly improve the utility of the 4-item mean of the OBVQ as a screener for identifying stably victimized children.

Discussion

The purpose of this study was to examine the degree to which the Olweus Bully/Victim Questionnaire can accurately identify children whom are stably victimized by peers and may benefit from targeted attention or preventive interventions. A test's diagnostic accuracy is generally characterized by its sensitivity and specificity (Harper, 1999). I explored the utility, efficiency, and predictive capacities of the OBVQ via logistic regression models. The tested models yielded relatively low rates (i.e., < 54%) of true positives, indicating that the screeners underperformed in positively identifying a significant percentage of children stably victimized by peers. Moreover, the screeners did not perform adequately when examining the false discovery rate (i.e., > 65%), suggesting that the screeners tended to misdiagnose non-victims as stably victimized children. Additionally, changing the cutoff of being bullied *2 or 3 times a month* to *about once a week* or *several times a week* did not significantly improve the utility of the measure. Including demographic information (i.e., gender, ethnicity) when evaluating the screeners did not impact the usefulness of the OBVQ as a screener for identifying stable victims. Overall, it might appear that the OBVQ may not be the optimal tool for identifying stable victims for the purposes of selective or targeted attention.

However, these interpretations must be given with a note of caution. As previously described, a test's diagnostic utility is comprised of multiple parameters (e.g., precision, specificity, sensitivity, accuracy). All screeners evaluated in this study managed to yield

statistically significant models, suggesting that the OBVQ screeners do provide some predictive capabilities for identifying stable victims. Moreover, the results suggest that—depending on their intended use—the various OBVQ screeners may be used as preliminary screeners. The OBVQ's utility as a screener might be wholly dependent on the context and purpose surrounding its use. For example, if a public health researcher wants to evaluate the impact of a selective, preventative intervention (i.e., cost-effective, low-harm, low intrusion) that necessitates the screening into the study of as many children as possible (at the risk of including numerous non-stable victims), then the OBVQ might be an adequate measure.

Optimal Screener

The optimal screener was operationalized as the OBVQ method that minimized the false positive rate (false positive screens divided by observed negative condition) while maximizing sensitivity, precision (PPV), and accuracy (true positive screens plus true negative screens divided by total population) of identifying stable bullied children. Refer to Table 8 for a summary of the information regarding the accuracy of the various OBVQ screeners in identifying stable peer victims. The global OBVQ item's threshold of being bullied *2 or 3 times a month* yielded a false positive rate of 19.3%, sensitivity of 53.1%, precision of 23.3%, and overall predictive accuracy of 78%. The global response threshold of bullied *about once a week* resulted in a false positive rate of 10.8%, sensitivity of 31.3%, precision of 24.1%, and accuracy of 83.4%. The third global item threshold (bullied *several times a week*) indicated a false positive rate of 5%, sensitivity of 25%, precision of 35%, and accuracy of 88.1%. Finally, the mean victimization score from the four items from the OBVQ resulted in a false positive rate of 10.5%, sensitivity of 40.6%, precision of 29.9%, and accuracy of 84.6%.

The global OBVQ item at the *2 or 3 times a month* threshold provided a less than optimal screener for identifying stable victims of school bullying, evincing difficulty in discriminating non-victims from observed stable victims and over-classifying children as stably victimized relative to their actual victim status. The screener of being bullied *2 or 3 times a month* yielded the highest sensitivity, but also the highest false positive rate, lowest precision, and lowest overall accuracy. The findings also suggested that reporting being bullied *about once a week* was worse at identifying true positives than reporting being bullied *2 or 3 times a month*, but better at reducing Type I error. Moreover, the results suggested that using the *several times a week* threshold resulted in the lowest false positive rate, the highest precision, and the best overall accuracy of all screeners. Though the precision in this method appeared significantly higher and the number of false positives was lower than previously evaluated screeners, the actual number of participants screened as stably victimized was much lower than predicted or expected, especially when evaluating the utility of this method for identifying children that may benefit from selective interventions. The OBVQ mean method was also compared to the three global OBVQ screeners in terms of its utility in predicting stable victimization. The mean score method yielded better sensitivity than the other screeners (except the *2 or 3 times a month* threshold), and comparable precision and overall accuracy than the *about once a week* and *several times a week* thresholds in screening for stable victim status.

Depending on the intended use of the screener, different screening methods may provide better utility. For example, if a screener is to be utilized for the identification of peer victims for an invasive, costly, and lengthy intervention, it may be best to use a screener that focuses on maximizing specificity (accurately screening out non-victims), so as to reduce the likelihood of over-including cases that may not benefit from such interventions. In contrast, if a screener is to

be used for an intervention that is preventative in nature, requires few resources, and evinces low risk for children, then a screener that maximizes sensitivity (accurately identifying stable victims) may be more appropriate even if higher percentages of non-victims are included in the stable victim group. For the purposes of this study, I chose the OBVQ's 4-item mean score of specific types of victimization as the "optimal screener" given previously described results. For this screener to be useful for applied purposes (e.g., identifying children that may benefit from selective intervention), it will be necessary to develop a metric that captures specific score ranges that predict heightened risk for being stably victimized by peers. However, from an applied perspective, it is important to note that the OBVQ underperformed in identifying stable victims.

Why Did the OBVQ Underperform at Identifying Stable Peer Victims?

Though the proposed OBVQ screeners underperformed in efficiently predicting group membership of children stably victimized by peers, a number of factors (e.g., definitional, conceptual, methodological) might explain these findings. First, researchers in the fields of bullying and peer victimization have increasingly proposed that the concepts of bullying and peer victimization are distinct peer aggression phenomena. Solberg and Olweus (2003) describe bullying as a dyadic or group interaction that evinces an imbalance in power, produces harmful effects, and is delivered with malicious or harmful intent. Peer victimization, though defined similarly, is generally not characterized by the dyadic or imbalance of power components. Ybarra, Espelage, and Mitchell (2014) reported that power imbalance and repetition are essential components for identifying bullied children at-risk for subsequent psychopathology or social difficulties. Moreover, the authors suggested that bullied children are distinct from other victims of peer aggression—though highlighted that these non-bullied children may still have elevated rates of problems. Since the terms *bullying* and *peer victimization* may be distinct, it is important

to note that the OBVQ is recommended for use in assessing bullying rather than peer victimization processes. Consequently, if I am using a measure of bullying to predict peer-victimized children, it is possible that the findings simply highlight the idea that peer victimization and bullying are different in scope, process, and nature. If bullying is a different phenomenon than peer victimization, it may be too optimistic to expect that a bullying measure should accurately identify a very specific subgroup of peer-victimized children—those who stay stuck in a peer victim role over the majority of a school year. However, it is important to note that the definition provided when administering the OBVQ was an adapted one that did not contain the imbalance of power component of bullying. As such, the definition of bullying utilized in this study was one closer to the often-used description of peer victimization than the bullying definition provided by Olweus (1996).

Second, the OBVQ was designed as a measure to assess the prevalence of bullying, using a frequency metric (e.g., how often are children bullied) within a specific time span (i.e., within the last couple of months) administered at a single point in time (Solberg & Olweus, 2003). In contrast, the peer victimization measures used in this study evaluated the level of victimization (e.g., kicked *sometimes*, pushed *always*) experienced rather than the frequency of those experiences, and then these were re-assessed at a second time point. Considering that bullying and peer victimization experiences may be more transitory than stable, a measure that is used to assess global frequencies of bullying behaviors at one time point may be ill-equipped to make predictions of a group that is operationalized as one that meets an elevated level of victimization across two time points. Juvonen and Graham (2013) caution interventionists and scholars that using a measure at one time point to identify a particular group may yield relevant levels of false positives, especially if membership in that group is not particularly stable. Though the original

OBVQ (i.e., full 39-item measure) does inquire about the duration of bullying (e.g., a couple of months, one year), this is done via one item prospectively self-reported, which may not yield the most accurate information regarding the actual bullying experienced during that time frame.

Third, research suggests that a child may be bullied at a high level or frequency for a short amount of time, but that does not mean that the child will get "stuck" as a victim of school bullying for an extended period of time. As such, a high percentage of children may meet victim of bullying criteria via the OBVQ at T1, but they may still not meet criteria for stable peer victimization across T1 and T3. This might explain one of the discrepancies between frequently bullied and stably victimized children. Another study may administer the OBVQ at two time points to assess who are the children endorsing frequently being bullied that remain "stuck" across both time points as highly bullied children. This would evaluate the OBVQ's capacity to identify stably bullied children, and may inform as to the OBVQ's overall utility in then identifying stable peer victims.

Fourth, when describing bullying, a child may meet criteria for being bullied even if only one perpetrator consistently aggresses on a child. Thus, the child may not meet criteria for peer victimization as currently operationalized in this study (i.e., how much do *kids* engage in this behavior toward you). For example, children may perceive themselves as being bullied by one peer, but may not identify with being victimized by multiple peers or classmates. Peer victimization assumes that the aggression is a peer process, socially defined, and implicitly or explicitly reinforced by peers. If bullied children are not always peer victimized, then it is understandable that a bullying measure tended to miss actual peer victims and misdiagnose non-victims.

Fifth, recent research has sought to identify the manner in which children report peer aggression, bullying, and peer victimization experiences. Studies have found that children tend to endorse bullying and victimization levels differently, depending on whether the measure utilized is a definitional one (e.g., OBVQ; Solberg & Olweus, 2003)—one that provides a definition of the construct studied or a specific label (i.e., *bullying*)—or a behavioral one (e.g., California Bully Victimization Scale, Felix, Sharkey, Greif Green, Furlong, & Tanigawa, 2011; SEQ, Kochenderfer & Ladd, 2004)—one that does not provide a definition and inquires about specific behaviors experienced. Sawyer, Bradshaw, & O'Brennan (2008) found that estimates for the prevalence of victimization were higher when derived from a behavioral approach than a definitional approach, with a tendency for African American children (compared to Caucasian children) to be less likely to report being a victim of school bullying when using a definitional approach. Additionally, some children who experience peer victimization may be less likely to report being *bullied*, while others may internalize the label and be more likely to use it to describe their experiences. A recent study indicated that there are important differences between children who endorse being bullied and label or describe themselves as "victims" and children who experience bullying but do not identify with the label (Sharkey et al., 2014). Sharkey and colleagues reported that students who labeled themselves as being bullied endorsed lower functioning (e.g., psychosocial) than those experiencing bullying and not adopting a label.

The results of the current study indicated that children reported higher frequencies of bullying through the OBVQ than levels of peer victimization through the other measures, suggesting that for this sample of fourth graders, a definitional measure captured a higher proportion of children. Consequently, if children tend to endorse more bullying or peer victimization using one

methodology (i.e., definitional) than another (i.e., behavioral), it may be inefficient or impractical to try to use one method to predict the other.

Sixth, the results of these analyses suggested that the OBVQ statistically predicted group membership for stable victims, but the screeners explained a small portion of the variance associated with victim status. As such, it is possible that utilizing a 1-item or 4-item screener may be insufficient in identifying group membership of a complex construct (e.g., stable peer victimization). To indirectly address this, I included demographic data in my optimal screener model to evaluate their impact on the predictive capacities of the OBVQ. However, the results suggested that ethnicity and gender do not provide incremental gains in the quality of the OBVQ's prediction of victim status. Further studies might explore the benefits of including other types of data with the screener and assess whether the screener's accuracy and precision improve. Additional information that might increase the predictive capabilities of the screener may include data on risk factors or correlates associated with peer victimization (e.g., internalizing symptoms, duration of victimization experiences, bullying behaviors).

Lastly, the OBVQ utilizes self-report to assess bullying experiences; in contrast, the stable peer victimization group membership was comprised of data from self-, teacher-, and peer-reports. Research suggests that there is generally moderate to low concordance across informants when evaluating childhood experiences. Cross informant discrepancy may explain why using a self-report screener to identify a construct operationalized by three informants' reports may have yielded low predictive capabilities. To test this hypothesis, a supplemental analysis (i.e., logistic regression) was performed to evaluate the OBVQ's predictive capacity in screening stably victimized children identified via self-report only. Given that I identified the OBVQ 4-item mean score as the optimal screener, I replicated the logistic regression analyses

using the OBVQ 4-item mean to predict self-reported stable victimization, identified via elevated levels of self-reported victimization at both T1 and T3. To maintain consistency between primary analyses and this supplemental analysis, I operationalized stable victims as children who met or exceeded 1.5 SD from the self-reported victimization mean at both T1 and T3. At the 1.5 SD greater than the mean threshold, 3.2% (n = 21) of children (N = 665) met or exceeded the stable peer victimization criterion. This percentage is significantly lower than the 10% base rate I had chosen to operationalize my stably peer victimized group. Consequently, I decided to decrease the stringency of the cutoff to meeting or exceeding .75 SD across both T1 and T3 in self-reported victimization so that I could capture the desired 10% base rate using only self-reported victimization. This threshold yielded 9.5% (n = 64) of the sample (N = 658) as stably victimized.

The results of this univariate logistic regression yielded a statistically significant model, χ^2 (1, N = 654) = 104.99, p < .001. The model explained 14.8% (Cox & Snell R^2) and 31.4% (Nagelkerke R^2) of the variance associated with victim status, indicating a notable improvement in predictive capacity when compared to the other models. The model also yielded an odds ratio of 4.02 (2.97 – 5.43, 95% CI), suggesting that for every one point increase in OBVQ mean score, the odds of meeting criteria for stable victimization quadrupled. Adjusting the predicted probability cutoff to .12, the results indicated that 71.9% (n = 46) of stably victimized children were accurately classified as such, while 16.3% (n = 96) of non-victims were inaccurately predicted to be stable victims. The precision of this method indicated that only 32.4% of positive screens were observed to be stable victims, not making this method better in this parameter than other previously evaluated screeners. Consequently, the false discovery rate of 67.6% suggests that this method tends to over-include children into the stable victim group even when they are not observed to be stably victimized. Overall, these findings suggested that using the OBVQ's 4-

item mean score to predict stable peer victimization as reported only by children's self-reports yielded significantly higher sensitivity than when using the OBVQ to predict a stable victimization group based on information from multiple informants.

It is important to reiterate that scholars differ in their utilization of multiple informants to assess peer processes in elementary school children. This is especially salient when evaluating the concordance—or lack thereof—between informants in assessing peer victimization and its correlates. Some scholars propose that self-reports provide the best information regarding childhood peer victimization and bullying experiences (Olweus, 1996). Recent research suggests that self-reports provide stronger and more positive correlations with maladjustment and psychopathology—especially for children experiencing the highest levels or frequencies of victimization—than those found in teacher- and peer-reports (Løhre et al., 2011). If self-reported victimization does predict negative sequela better than other informants' reports, then the use of the OBVQ global or 4-item mean score to predict stable self-reported victimization may be warranted. However, other scholars propose that using data from multiple informants is often optimal in evaluating unique perspectives of negative childhood interactions (Ladd & Kochenderfer-Ladd, 2002). Moreover, the use of self-reports only has been cautioned against, primarily because children might: (a) underreport victimization because of fear, shame, or embarrassment; (b) overreport due to inaccurate attributions of peers' intent and behaviors; or (c) be unaware of their own involvement with victimization experiences (Card & Hodges, 2008). A recent study by Graham, Bellmore, and Juvonen (2008) found that sixth grade students whose victimization scores were high in agreement in both self-report and peer-nominations evinced the worst adjustment outcomes when compared to children whose victimization levels were perceived differently by self and peers. Monks, Smith, and Swettenham (2003) also found—in a

sample of preschoolers—that the agreement between multiple informants in levels of peer victimization yielded meaningful implications. The results of their study suggested that at a young developmental level, children were more likely to nominate themselves, their friends, and the kids they knew and liked for most roles inquired in the study; peer-nominations and self-reports tended to agree more on victim status, while teachers and peers tended to agree the most on aggressor status. Another study, with a much broader grade range (1^{st} – 10^{th} grade), found low to moderate agreement in victimization reports between children and adults (i.e., parents, teachers). It is likely that there exist significant developmental differences that might moderate the accuracy of multiple informants' accounts of peer victimization experiences (e.g., the younger the child, the more likely it is that multiple informants' information might be valuable in evaluating his or her peer interactions).

Limitations

This study evinced a number of limitations, including conceptual and methodological, that are briefly discussed. Primarily, I conducted the study on the OBVQ's predictive utility in identifying stable peer victims on the premise that the following assumptions are met: (a) stable peer victimization is a valid construct, (b) stable victims are actually an at-risk group (i.e., elevated correlation with negative outcomes), and (c) stable victims may benefit from targeted or selective interventions. Recent studies have called into question the stability—or instability—of peer victimization and bullying experiences (Juvonen & Graham, 2013). Bettencourt, Farrell, Liu, and Sullivan (2012) found that in their sample of middle school children, victimized youth comprised the least stable group out of four total latent classes (i.e., predominantly victimized, non-victimized aggressors, aggressive-victims, well-adjusted youth). However, they found that the aggressive-victim group evinced significant stability over time, suggesting that this at-risk

group may benefit from targeted identification and preventative interventions. Similarly, Ryoo, Wang, and Swearer (2014) reported that in their sample, frequent victims and frequent perpetrators of school bullying evinced the lowest stability of group membership over time; both groups endorsed significant changes across transition school years. In contrast, other scholars suggest that victimization is moderately stable—though its trend is to decrease in prevalence—over time, and that its stability can vary widely by setting (e.g., school, camp; Strohmeier, Wagner, Spiel, & von Eye, 2010). Overall, the construct of stability of peer victimization is one that is still debated amongst scholars in the field; as such, it is possible that I utilized a psychometrically sound instrument to predict a vaguely defined construct. However, given the literature reviewed in this study, I do believe that stable peer victimization is a valid construct (though current methodologies may have not evaluated or defined it adequately), and that stable peer victims are indeed an at-risk group that warrants further investigation.

Second, assuming that stable peer victimization is a valid construct, it is possible that the criterion utilized to assess it was not valid. Taking from previous research on the stability of victimization and bullying experiences, studies have yielded sample rates of stable or chronic victimization between 1.5% and 16%. I specifically chose a criterion cutoff in peer victimization scores that would yield a base rate of 10% of the sample as stably victimized. I adjusted the threshold to meeting elevated levels of peer victimization to 1.5 SD above the mean in teacher, self, and peer reports, but there is no guarantee that I am missing stably victimized children that may warrant further attention. Accordingly, the actual base rate in my sample of stably victimized children could have been anywhere from 2% to 20% (or more). Third, the OBVQ was adapted to meet the needs of the current study. I recognize that reducing the number of items utilized for the screeners (from 39 in the original OBVQ to five in the current study) and altering

the definition used by Olweus (1996) to one that does not include the power imbalance components may have influenced the results in a manner that does not yield an accurate representation of the OBVQ's overall utility in screening for stable peer victims. Fourth, the predicted probability cut values adjusted in the logistic regressions were chosen via graphical, descriptive, and quantitative data to identify the optimal cutoff that maximized sensitivity and specificity. However, studies have called for the use of receiver operating characteristic (ROC) area under the curve (AUC) to predict optimal levels in which a diagnostic instrument maximizes these probabilities (Hanley & McNeil, 1982). Fifth, it is important to note that the sample utilized was a limited one (i.e., fourth graders across ten schools in a south central state). Children in other grades (younger, older) might endorse different levels of bullying and peer victimization, and the OBVQ's predictive capabilities might have increased—or decreased—with a different age group. Moreover, the sample might have yielded different results if the study was (a) located in a different setting (e.g., rural, urban), (b) comprised of other socioeconomic groups (e.g., impoverished, wealthy), or (c) composed of other ethnic distributions (e.g., predominantly Caucasian, majority African American). Finally, it is necessary to report that I sought to identify the sample's stably victimized children, regardless of gender and ethnicity. Though gender distinctions were found in the stable victim group (i.e., significantly more boys evinced stable victimization than girls), no adjustments were made to balance the proportion of boys and girls in the sample. However, when identifying children, some researchers have utilized adjusted cutoffs (different for boys versus girls) so that they can be equally attended to by selective or targeted interventions (Elledge, Cavell, Ogle, & Newgent, 2010).

Implications

The aim of this study was to examine the utility of using a widely-used measure of bullying, the Olweus Bully/Victim Questionnaire, as a screener to identify individual children stably victimized by peers who may benefit from targeted intervention or attention. Overall, the results suggested that the OBVQ screeners underperformed in the test domains of precision, sensitivity, and overall utility. However, these findings did not indicate that the OBVQ evinced low utility as a measure of bullying or in assessing the prevalence of bullying and victimization experiences. Rather, the findings suggested that the OBVQ might not be the optimal tool that researchers or interventionists are seeking to best identify stable victims. Depending on the intended use of the OBVQ in identifying stable victims, its inclusion as a screener in a selective intervention study may be acceptable. Further investigation of the OBVQ as a screener may allow for evaluating how well the measure predicts subsequent risk for psychopathology and maladjustment, which are the foci of targeted interventions (i.e., the prevention of poor outcomes that are beginning to emerge). However, selective interventions that necessitate accurate and practical instruments to identify a specific at-risk group (stable victims) are still lacking an effective, accurate, and practical screener. More importantly, the study highlighted the need for further research to examine alternative tools, instruments, measures, and methodologies to accurately and efficiently screen for stable victimization in the schools. In conclusion, the field still lacks a practical and useful measure to identify stably victimized children.

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Table 1

Raw Means and Standard Deviations for Ratings of Peer Victimization by Informant, Child Gender, and Time Point

	Boys				Girls				Total			
	T1		T3		T1		T3		T1		T3	
Source	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*
Self	.93	.78	.93	.80	.77	.74	.98	.82	.85	.76	.95	.81
Teacher	.74	.67	.94	.68	.65	.63	.82	.62	.69	.65	.88	.65
Peer	.26	.76	.25	.86	-.24	.58	-.23	.69	.01	.72	.01	.82

Table 2

Bivariate Correlations Between Ratings of Peer Victimization by Informant and Time Point

Ratings of Peer Victimization			1	2	3	4	5	6
1	Self-Report	T1	--					
2	Self-Report	T3	.544**	--				
3	Teacher-Rating	T1	.237**	.201**	--			
4	Teacher-Rating	T3	.199**	.206**	.616**	--		
5	Peer-Rating	T1	.243**	.133**	.309**	.272**	--	
6	Peer-Rating	T3	.257**	.238**	.294**	.392**	.504**	--

Note. ** $p < .001$

Table 3

Bivariate Correlations Between Similarly Worded Items in the OBVQ and SEQ at T1

Victimization Type		Item	1	2	3	4	5
Verbal							
1	OBVQ	I was called mean names, was made fun of, or teased in a hurtful way	--				
2	SEQ	How much do kids in your class call you mean names?	.478**	--			
3	SEQ	How much do kids in your class say hurtful things to you?	.444**	.543**	--		
4	SEQ	How much do kids in your class tease you at school?	.523**	.581**	.507**	--	
Physical							
1	OBVQ	I was hit, kicked, pushed, shoved, or locked indoors.	--				
2	SEQ	How much do kids in your class hit you?	.373**	--			
3	SEQ	How much do kids in your class kick you?	.387**	.437**	--		
4	SEQ	How much do kids in your class push you?	.409**	.426**	.364**	--	
Relational/Exclusionary							
1	OBVQ	Other students left me out of things on purpose, kept me from their group of friends or completely ignored me.	--				
2	OBVQ	Other students told lies or spread false rumors about me and tried to make others dislike me.	.534**	--			
3	SEQ	How much do kids in your class say mean things about you or tells lies about you to other kids?	.471**	.534**	--		
4	SEQ	How much do kids in your class tell you that you CAN'T play with them?	.454**	.404**	.464**	--	
5	SEQ	How much do kids in your class NOT invite you to things to get back at you for something?	.427**	.398**	.413**	.419**	--

Table 4

Demographic Characteristics of Stable Peer Victims and Non-Victims

Variable			Stable Peer Victims		Non-Victims	
			n	%	*n*	%
	Gender					
		Boys	42	65.6	272	46.8
		Girls	22	34.4	309	53.2
	Ethnicity					
		Hispanic	22	34.9	249	43.6
		Non-Hispanic	41	65.1	322	56.4
	Race					
		Caucasian	26	41.3	165	28.9
		Non-Caucasian	37	57.8	406	71.1

Table 5

Bivariate Correlations Between OBVQ Screener and Stable Peer Victim (at 1.5 SD > M) Variables for Total Sample and by Informant

Variable	1	2	3	4	5	6	7	8
1 OBVQ – Global (2 or 3 times a month)	--							
2 OBVQ – Global (About once a week)	.699**	--						
3 OBVQ – Global (Several times a week)	.496**	.710**	--					
4 OBVQ – Mean Score (4 Items)	.616**	.567**	.493**	--				
5 Stable Peer Victim – Self-Report	.226**	.161**	.252**	.307**	--			
6 Stable Peer Victim – Teacher-Rated	.135**	.126**	.105**	.070	.041	--		
7 Stable Peer Victim – Peer-Rated	.101**	.031	.084*	.135**	.066	.209**	--	
8 Stable Peer Victim – Criterion	.242**	.182**	.235**	.278**	.553**	.677**	.558**	--

Note. * $p < .05$ ** $p < .001$

Table 6

Demographic Characteristics of Children Meeting or Exceeding the Global OBVQ Thresholds by Screener

Screener	Variable		Meets/Exceeds Threshold		Does Not Meet Threshold	
			n	%	*n*	%
OBVQ – Global Item (*2 or 3 times a month*)	Gender					
		Boys	88	55.0	235	53.7
		Girls	72	45.0	235	46.3
	Ethnicity					
		Hispanic	56	35.7	222	44.4
		Non-Hispanic	101	64.3	278	55.6
	Race					
		Caucasian	59	62.4	143	28.6
		Non-Caucasian	98	37.6	357	71.4
OBVQ – Global Item (*About once a week*)	Gender					
		Boys	52	58.4	271	46.8
		Girls	37	41.6	308	53.2
	Ethnicity					
		Hispanic	36	40.9	242	42.5
		Non-Hispanic	52	59.1	327	57.5
	Race					
		Caucasian	32	36.4	170	29.9
		Non-Caucasian	56	63.6	399	70.1
OBVQ – Global Item (*Several times a month*)	Gender					
		Boys	29	60.4	294	47.4
		Girls	19	39.6	326	52.6
	Ethnicity					
		Hispanic	20	42.6	258	42.3
		Non-Hispanic	27	57.4	352	57.7
	Race					
		Caucasian	16	34.0	186	69.5
		Non-Caucasian	31	66.0	424	30.5

Table 7

Logistic Regressions Predicting Stable Peer Victim Status

Screener	*N*	χ^2	C&S R^2	N R^2	B	SE	OR	CI (95%)
OBVQ – Global Item (*2 or 3 times a month*)	645	31.84**	.05	.10	1.56	.27	4.75	2.79 – 8.08
OBVQ – Global Item (*About once a week*)	645	16.87**	.03	.05	1.32	.30	3.74	2.07 – 6.74
OBVQ – Global Item (*Several times a week*)	645	24.06**	.04	.08	1.85	.35	6.35	3.22 – 12.50
OBVQ – Mean Score (4 Items)	644	40.79**	.06	.13	0.82	.13	2.28	1.78 – 2.93
OBVQ – Mean Score (4 Items & Demographics)	629	49.90**	.08	.16	0.82	.13	2.27	1.75 – 2.94
Gender					0.58	.29	1.79	1.01 – 3.17
Ethnicity					0.05	.37	1.06	0.52 – 2.16
Race					0.55	.36	1.73	0.85 – 3.51
OBVQ – Mean Score (4 items; Predicting Self-Report)	654	104.99**	.15	.31	1.39	.15	4.02	2.97 – 5.43

Note. χ^2 = Chi-Square; C&S R^2 = Cox & Snell R^2; N R^2 = Nagelkerke R^2; B = beta (logit coefficient); SE = standard error; OR = odds ratio (expected beta); CI (95%) = confidence interval at 95% for the odds ratio. Gender = male, female; Ethnicity = Hispanic, non-Hispanic; Race = Caucasian, non-Caucasian. ** $p < .001$.

Table 8

Accuracy of the OBVQ Screener in Identifying Stable Peer Victims Using the Adjusted Predicted Probability Cutoff

Screener	PPC	Sensitivity %	Specificity %	FPR %	PPV %	FDR %	Accuracy %
OBVQ – Global Item (*2 or 3 times a month*)	.15	53.1	80.7	19.3	23.3	76.7	78.0
OBVQ – Global Item (*About once a week*)	.15	31.3	89.2	10.8	24.1	75.9	83.4
OBVQ – Global Item (*Several times a week*)	.15	25.0	95.0	5.0	35.0	65.0	88.1
OBVQ – Mean Score (4 Items)	.18	40.6	89.5	10.5	29.9	70.1	84.6
OBVQ – Mean Score (4 Items & Demographics)	.20	39.7	90.5	9.5	31.6	68.4	85.4
OBVQ – Mean Score (4 Items; Predicting Self Report)	.12	71.9	83.7	16.3	32.4	67.6	82.6

Note. PPC = predicted probability cutoff; FPR = false positive rate; PPV = positive predictive value; FDR = false discovery rate.

Appendix A

PSP7

Peer Safety Project

Wait!!

The leader will explain how to answer the questions below. If you still need help, please raise your hand.

SCHOOL #: _____ **TODAY'S DATE: _____**

TEACHER #: _____ **YOUR GRADE: _____**

STUDY ID #: _____ **YOUR AGE: _____**

Are you a boy or a girl?

- ☐ **BOY**
- ☐ **GIRL**

What languages are spoken in your home?

- ☐ **ENGLISH**
- ☐ **SPANISH**
- ☐ **MARSHALLESE**
- ☐ **OTHER: _____**

What is your race or culture?

- ☐ **WHITE**
- ☐ **BLACK**
- ☐ **HISPANIC/LATINO**
- ☐ **ASIAN**
- ☐ **AMERICAN INDIAN**
- ☐ **PACIFIC ISLANDER**
- ☐ **BI/MULTI-RACIAL**
- ☐ **OTHER: _____**

Appendix B

The Way Kids Are

Some questions ask about the kids in your class. Other questions ask about you.

A. How much do kids in your class call you mean names?				
0 (Never)	1	2 (Sometimes)	3	4 (Always)
B. How much do kids in your class hit you?				
0 (Never)	1	2 (Sometimes)	3	4 (Always)
C. How much do kids in your class like each other as friends?				
0 (Never)	1	2 (Sometimes)	3	4 (Always)
D. How much do kids in your class say hurtful things to you?				
0 (Never)	1	2 (Sometimes)	3	4 (Always)
E. How much do **YOU** tease other kids, or call them mean names, or say hurtful things to them?				
0 (Never)	1	2 (Sometimes)	3	4 (Always)
F. How much do kids in your class say mean things about you or tells lies about you to other kids?				
0 (Never)	1	2 (Sometimes)	3	4 (Always)
G. How much do kids in your class kick you?				
0 (Never)	1	2 (Sometimes)	3	4 (Always)
H. How much do kids in your class try to help if you are being picked on by other kids?				
0 (Never)	1	2 (Sometimes)	3	4 (Always)

Appendix B (Cont.)

The Way Kids Are

Some questions ask about the kids in your class. Other questions ask about you.

I. How much do kids in your class tell you that you CAN'T play with them?				
0 (Never)	1	2 (Sometimes)	3	4 (Always)
J. How much do **YOU** tell other kids they can't play with you, or **YOU** don't invite them to things to get back at them, or **YOU** say mean things or tell lies about them to other kids?				
0 (Never)	1	2 (Sometimes)	3	4 (Always)
K. How much do kids in your class tease you at school?				
0 (Never)	1	2 (Sometimes)	3	4 (Always)
L. How much do kids in your class NOT invite you to things to get back at you for something?				
0 (Never)	1	2 (Sometimes)	3	4 (Always)
M. How much do kids in your class push you?				
0 (Never)	1	2 (Sometimes)	3	4 (Always)
N. How much do **YOU** hit, or push, or kick other kids in your class?				
0 (Never)	1	2 (Sometimes)	3	4 (Always)
O. In my class, EVERYBODY is my friend.				
0 (Never)	1	2 (Sometimes)	3	4 (Always)

Appendix C

Teacher's Peer Bullying Scale

Please answer the following questions on this page about the student whose ID number is: _____.

A. How much is this student hit, pushed, or kicked by other students?				
0 (Never)	1 (Almost Never)	2 (Sometimes)	3 (Almost Always)	4 (Always)
B. How much is this student called mean names, told hurtful things, or teased by other students?				
0 (Never)	1 (Almost Never)	2 (Sometimes)	3 (Almost Always)	4 (Always)
C. How much are these students told they can't play, or they have mean things or lies said about them, or they aren't invited to things just to get back at them?				
0 (Never)	1 (Almost Never)	2 (Sometimes)	3 (Almost Always)	4 (Always)
D. How much does this student bully by hitting other students, by teasing other students, or by telling other students they can't play?				
0 (Never)	1 (Almost Never)	2 (Sometimes)	3 (Almost Always)	4 (Always)

Appendix D

Class Play

- We'd like you to pretend that your class is doing a play and you are the director of that play. It is your job to decide who plays the different parts in the play. Listed below are the descriptions for the different parts of the play.
- Read each one and circle the roster numbers of the 3 students who could play the part best. Because you're the director, you can't pick yourself for any part.
- Yes, you can choose the same student again and again.
- Remember, there is no right or wrong answer, but do keep your answers private.

A. Which kids can play the part of someone who gets along well with the teacher, who likes to talk to the teacher, and who the teacher enjoys spending time with? Circle 3 different numbers.

1	7	13	19
2	8	14	20
3	9	15	21
4	10	16	22
5	11	17	23
6	12	18	24

B. Which kids can play the part of someone who gets teased, called mean names, or told hurtful things by other kids? Circle 3 different numbers.

1	7	13	19
2	8	14	20
3	9	15	21
4	10	16	22
5	11	17	23
6	12	18	24

C. Which kids can play the part of someone who gets pushed, hit, or kicked by other kids? Circle 3 different numbers.

1	7	13	19
2	8	14	20
3	9	15	21
4	10	16	22
5	11	17	23
6	12	18	24

Appendix D (Cont.)

Class Play

- We'd like you to pretend that your class is doing a play and you are the director of that play. It is your job to decide who plays the different parts in the play. Listed below are the descriptions for the different parts of the play.
- Read each one and circle the roster numbers of the 3 students who could play the part best. Because you're the director, you can't pick yourself for any part.
- Yes, you can choose the same student again and again.
- Remember, there is no right or wrong answer, but do keep your answers private.

D. Which kids can play the part of someone who is told they can't play with other kids, has mean things and lies said about them, or isn't invited to things just to get back at them? Circle 3 different numbers.

1	7	13	19
2	8	14	20
3	9	15	21
4	10	16	22
5	11	17	23
6	12	18	24

E. Which kids can play the part of someone who hits other kids, teases other kids, or tells other kids they can't play with them? Circle 3 different numbers.

1	7	13	19
2	8	14	20
3	9	15	21
4	10	16	22
5	11	17	23
6	12	18	24

Appendix E

UNIVERSITY OF ARKANSAS

Office of Research Compliance
Institutional Review Board

November 26, 2013

MEMORANDUM

TO:	Timothy Cavell James Thomas Samantha Gregus Freddie Pastrana Juventino Hernandez Rodriguez
FROM:	Ro Windwalker IRB Coordinator
RE:	PROJECT CONTINUATION
IRB Protocol #:	06-11-102
Protocol Title:	*Peer Safety Project (PSP)*
Review Type:	☐ EXEMPT ☒ EXPEDITED ☐ FULL IRB
Previous Approval Period:	Start Date: 11/01/2006 Expiration Date: 12/04/2013
New Expiration Date:	12/04/2014

Your request to extend the referenced protocol has been approved by the IRB. If at the end of this period you wish to continue the project, you must submit a request using the form *Continuing Review for IRB Approved Projects*, prior to the expiration date. Failure to obtain approval for a continuation on or prior to this new expiration date will result in termination of the protocol and you will be required to submit a new protocol to the IRB before continuing the project. Data collected past the protocol expiration date may need to be eliminated from the dataset should you wish to publish. Only data collected under a currently approved protocol can be certified by the IRB for any purpose.

This protocol has been approved for 2200 total participants. If you wish to make *any* modifications in the approved protocol, including enrolling more than this number, you must seek approval *prior to* implementing those changes. All modifications should be requested in writing (email is acceptable) and must provide sufficient detail to assess the impact of the change.

If you have questions or need any assistance from the IRB, please contact me at 210 Administration Building, 5-2208, or irb@uark.edu.

210 Administration Building • 1 University of Arkansas • Fayetteville, AR 72701
Voice (479) 575-2208 • Fax (479) 575-3846 • Email irb@uark.edu

Appendix F

All About Me

Birthday: _____
Hometown: _____
Eye Color: _____
Hair Color: _____

Favorite
Food: _____
Restaurant: _____
Color: _____
Book: _____
Holiday: _____
Car: _____
Place I've been: _____
Thing to do on a warm summer day: _____
Thing to do on a rainy afternoon: _____
Movie: _____
Song: _____
TV show: _____
Animal: _____
Game: _____
Sport: _____
Music: _____
Actor/Actress: _____
Singer: _____

Have You Ever…
Been outside of the U.S.? ☐ Yes ☐ No
Danced in front of people? ☐ Yes ☐ No
Smiled for no reason? ☐ Yes ☐ No
Laughed so hard you cried? ☐ Yes ☐ No
Pet a monkey? ☐ Yes ☐ No

Random Thoughts
What is your favorite memory? _____
Place you would like to travel to? _____
What do you want to be when you grow up? _____

Can You…
Write with both hands? ☐ Yes ☐ No
Whistle? ☐ Yes ☐ No
Blow a bubble? ☐ Yes ☐ No
Roll your tongue? ☐ Yes ☐ No
Cross your eyes? ☐ Yes ☐ No
Touch your tongue to your nose? ☐ Yes ☐ No
Stay up a whole night? ☐ Yes ☐ No

Appendix G