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An Investigation of Reliability and Validity of the Bully Participant Behavior Questionnaire in an Elementary Sample

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Behavior Questionnaire in an Elementary Sample

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Morgan B. Nesbitt

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Abstract

The goal of this study was to investigate the factor structure, reliability, and validity for the Bullying Participant Behaviors Questionnaire (BPBQ) in an elementary sample. Previous research provided preliminary evidence of reliability and validity of the BPBQ scores with middle school students (Demaray, Summers, Jenkins, & Becker, 2014). The BPBQ is a self-report survey that purports to measure participation in five roles of bullying. These roles include bully, victim, assistant to the bully, defender of the victim, and outsider. Another goal of the study was to analyze possible sex and grade differences in the bullying roles. The current sample included 368 third through fifth grade students (51.6% girls, 98.9% White) from two rural elementary schools in the Midwest. Analyses included item-based exploratory analyses (higher-order EFA with Schmid-Leiman transformation), readability estimates, item to subscale correlations, and a grade by sex MANOVA. Results indicated that in elementary students, only three bullying roles (Bully, Victim, and Defender) are reliably measured. Higher-order factor analysis using the Schmid-Leiman transformation was conducted to determine whether the subscales could be interpreted separately. Moderate to high omega-subcale reliability estimates (ranging from .44-.80) indicated that the subscales uniquely measured different constructs and may be interpreted separately. No sex differences were found among bullying roles in elementary students. The only grade level difference found was that 5th graders showed significantly less defending behaviors than 3rd and 4th graders.

An Investigation of Reliability and Validity of the Bully Participant Behavior Questionnaire in an Elementary Sample

Introduction

Bullying is a significant problem for many schools in the United States (Cook, Williams, Guerra, & Kim, 2010). There are three things that must be present for an act to be considered bullying. It must be done with the intent to harm, it must be repetitive, and there must be a power differential between the bully and the victim (Olweus, 1993). Bullying can include behaviors such as kicking, fighting, pushing, teasing, name calling, or social exclusion. Involvement in bullying and victimization results from interactions between the individual and their environment. The social-ecological model of bullying states that bullying is maintained by the social environment of a school and that all individuals are involved, directly or indirectly (Swearer & Espelage, 2004). Understanding the social-ecological model of bullying is necessary when considering bullying roles. In the past, research on bullying primarily focused on two roles: the bully and the victim (Salmivalli, Lagerspetz, Bjorkqvist, Osterman, & Kaukiainen, 1996); however, because it is assumed that bullying is maintained by the social environment, one must consider other individuals involved, not only the bully and the victim (Swearer & Espelage, 2004). Other roles to consider besides the bully and victim are: assistant to the bully, defender of the victim, and outsider (Salmivalli et al., 1996). The Bully Participant Behavior Questionnaire (BPBQ) was developed to measure five bullying roles: bully, victim, assistant to the bully, defender of the victim, and outsider (Demaray, Summers, Jenkins, & Becker, 2014). This scale has been used with middle school children; however, it has not been used with elementary students. The goal of this study

was to attempt to determine if the BPBQ is appropriate for use with elementary school students by examining the readability of the scale, factor structure, as well as exploring reliability and validity. A self-report survey that assesses multiple bullying roles among elementary school students would be helpful because information could be collected on all individuals involved in and observing the acts of bullying. Additionally, large-scale collection of information can be done more efficiently using self-report.

Prevalence and Types of Bullying

Research shows that between 10-30% of children are directly involved in bullying; however, prevalence rates are inconsistent due to differences in measurement of bullying (Cook, Williams, Guerra, Kim, & Sadek, 2010). Having a clear definition of bullying is essential when measuring different aspects of bullying. There are different definitions of bullying in the research literature. One definition is "a subset of aggressive behavior, characterized by repetition and by an imbalance of power where the victim cannot defend him or herself for one or more reasons, for example, being outnumbered, smaller or weaker" (Fox, Jones, Stiff, & Sayers, 2014, p. 360). There are three things that must be present for an act to be considered bullying. It must be done with the intent to harm, it must be repetitive, and there must be a power differential between the bully and the victim (Olweus, 1993). Bullying can include behaviors such as kicking, fighting, pushing, teasing, name calling, or social exclusion. These bullying behaviors are categorized in the research as verbal, physical, and relational (often called indirect) bullying (Wang, Iannotti & Nansel, 2009).

Verbal bullying is using language or speech with a negative intent against the victim (Olweus, 1993). Verbal bullying is often seen as teasing another child, calling a

classmate names, or threatening another student. Adults may see verbal bullying as innocent teasing; however, it can be more personal and attack a victim specifically by taunting them based on specific characteristics, such as their race or weight (Griffiths, Wolke, & Horwood, 2006). A study showed that 37.4% of all bullying was verbal, with girls using verbal bullying more often than boys (Wang et al., 2009).

Physical bullying is defined as any type of outward violence against another student (Olweus, 1993). This type of bullying receives the most attention from school personnel and many schools have a zero tolerance policy for physical bullying (Jacobsen & Bauman, 2007). Physical bullying includes physical contact such as kicking, pushing, hitting, biting, or pinching the victim (Olweus, 1993). Physical bullying can also include forcefully taking or throwing another student's things (Olweus, 1993). Bullies who use physical bullying are generally larger and stronger than the victim and are more likely to get caught than bullies who use other methods because there is the possibility that the physical bullying will leave marks on the victim (Batsche & Knoff, 1994).

Relational bullying, also called indirect bullying, is aggression intended to harm another person by causing damage to their social relationships (Scheithauer, Hayer, Petermann, & Jugert, 2006). This includes talking behind the victim's back, gossiping about the victim, purposely leaving the victim out of activities, or spreading rumors about the victim (Jacobsen & Bauman, 2007). Jacobson and Bauman (2007) asked school personnel to rate the seriousness of the three different types of bullying (physical, verbal, and relational). Although all counselors considered each type of bullying a serious problem, individuals without anti-bullying training considered relational bullying the least serious type of bullying. The study showed that these individuals had less empathy

for victims of relational bullying and were less likely to intervene than with the other two types of bullying. However, counselors who had received anti-bullying training considered relational bullying a much more serious problem and were more likely to intervene than those who did not receive anti-bullying training. These findings suggest that anti-bullying training programs may increase the awareness of relational bullying, making school personnel more likely to see the signs of relational bullying (Jacobsen & Bauman, 2007).

Social-Ecological Model

Involvement in bullying and victimization results from interactions between the individual and their environment. This led to the conceptualization of the social-ecological model of bullying, which states that bullying is maintained by the social environment of a school and that all individuals are involved, whether directly or indirectly (Swearer & Espelage, 2004). Bronfenbrenner's ecological theory was used by Swearer and Espelage (2004) as a foundation for the social-ecological model. Bronfenbrenner described the child's environment as a multi-layered system of environments that influence the social development of the child. The layers consist of the individuals in the child's immediate environment (e.g., parents, caregivers, family members), individuals that the child interacts with outside of their household (e.g., school professionals, peers, neighbors), experiences of systems in a social setting that the child is not actually involved in (e.g., parents workplace), regional influences such as the culture of the environment the child lives in, and changes in these social systems throughout the child's life. When applying this model to conceptualize bullying behaviors, the relationships among the child, family, school and peers, community, and culture are

important variables to consider how they encourage or inhibit the bullying process (Swearer & Espelage, 2004).

In the social-ecological model, the center level includes the participants in bullying situations (bully, victim, or bystander). This level considers individual factors that may impact whether a person participates in bullying. The second layer, family, might have an influence on the individual if the child sees a sibling, or even parent, model bullying. The school and peers is another layer in the social-ecological model. The school climate and discipline policies may influence the child. If the child is a part of a peer group that engages in pro-bullying behaviors the child may be more likely to participate in bullying because of the influence from their peers. The forth layer in the social-ecological model, community, includes the influences of crime rate. The final layer in the social ecological model is culture. The social-ecological model looks at the problem of bullying from a "big picture" perspective, making it considered the most comprehensive model (Espelage & Swearer, 2003).

Participant Roles

Understanding the social-ecological model of bullying is necessary when considering bullying roles. In the past, research on bullying only considered two roles: the bully and the victim (Salmivalli et al., 1996); however, since bullying occurs in and is maintained by the social environment, other individuals involved should be considered, not only the bully and the victim (Swearer & Espelage, 2004). Other roles to consider besides the bully and victim are: assistant to the bully, defender of the victim, and outsider (Salmivalli et al., 1996).

Defenders of the victim and outsiders are often collectively called bystanders because they are not directly involved in the bullying. Bystanders are defined as "those who witness bullying and other acts of violence but are not themselves acting on the role of bully or victim" (Twemlov, Fonagy, & Sacco, 2004, p. 222). These individuals are important because even if the majority of students do not participate in the actual bullying behavior, they may behave in a way that reinforces the bullying process. Each of the five main participant roles and major characteristics associated with each role is described next.

Bully

Description. According to the definition of bullying presented above, bullies are individuals who use aggression towards their peers whom they have power over, repeatedly, and with the intent to harm. The power they have over their peers can be physical, intellectual, or social (Olweus, 1993).

Characteristics and Outcomes. A brief synopsis of Bully characteristics and outcomes was conducted to explore the characteristics and outcomes of bullies. Bullies are often characterized as being overly aggressive, destructive, and dominating over peers. Bullies often have a temper and a low frustration tolerance (Smokowski & Kopasz, 2005). Their parents tend to have a permissive parenting style with little supervision of the child. When punishment used in the home, it is often physical (Smokowski & Kopasz, 2005). Research shows that the tendency to bully is associated with somatic symptoms, anxiety, social dysfunction, and severe depression compared to students who tend to be prosocial (Slee, 1995). Longitudinal studies also suggest that long-term outcomes for bullies are not good. Bullies are more likely than the general population to have criminal records in

adulthood, to abuse substances, and to engage in domestic violence (Huesmann, Eron, Lefkowitz, & Wadler, 1984; Olweus, 1994). Individuals who bully others tend to be defiant, have poor grades in school, are more likely to drop out of school, and more likely to bring weapons to school (Hamburger, Basile, & Vivol, 2011).

Sex Differences. Research is inconsistent on whether boys or girls bully more frequently. Salmavalli et al. (1996) found that boys were more likely to bully than girls. However, other studies have shown no sex differences in rates of bullying (Demaray & Malecki, 2003; Swearer & Cary, 2007). Even though it is unclear if there are sex differences in rates of bullying in general, boys and girls tend to bully differently. According to a meta-analysis, among bullies, boys tend to engage in physical bullying, while girls tend to use relational bullying (Hamburger et al., 2011). Boys tend to engage in overt behaviors, while girls use covert behaviors, which may lead to the idea that boys engage in bullying more than girls, since overt behaviors are easier to measure than covert behaviors.

Victim

Description. Like bullies, there are several different definitions of victims in the literature. Similar to the definition of bullying, for a situation to be considered victimization there must be an imbalance of power between the bully and the victim, the victim must be frequently targeted by bullies, and the victim must be abused in some manner (Olweus, 1993).

Characteristics and Outcomes. Victims tend to be smaller in stature than bullies, making them unable to protect themselves from physical bullying. Victim's parents tend to be overprotective and avoid conflict (Smokowski & Kopasz, 2005). Victims also are

often times more timid and insecure in social situations than non-victims and have difficulty making friends (Nansel et al., 2001). Poor self-esteem and communication are also characteristics of victims. Research shows that peer rejection is common among victims (Verlinden et al., 2014). There has been a link between victimization and internalizing disorders such as anxiety and depression (Brockenbrough, Cornell, & Loper, 2002). Research shows victimization has a negative impact on academics (Wang et al., 2014).

Sex Differences. Research has found that boys experience more victimization that girls (Demaray et al., 2014; Nansel et al., 2001). However, in 2007, Davidson and Demaray did not find sex differences in victimization. Mixed results could be due to the way victimization was assessed. If the questions were more physical, boys may have reported higher levels of victimization. Even though one cannot confirm whether victimization is more likely among boys or girls, it is more like that bullies will victimize individuals of their same sex (Pellegrini & Long, 2002).

Assistant to the Bully

Description. Assistants to the bully are individuals who reinforce or support the bully. This includes holding down a student or encouraging the bully to continue the bullying (Demaray et al., 2014). Salmivalli and colleagues (1996) separated the role of the assistant into two different roles: reinforcers of the bully and assistants to the bully.

Characteristics and Outcomes. Characteristics and outcomes of assistants and bullies tend to be highly correlated (Demaray et al., 2014). This makes sense considering they both show pro-bullying behaviors and their role may change depending on the situation (i.e., a student may serve as an assistant one day and a bully the next day). Low

self-esteem, empathy, and cooperation are common for assistants (Demaray et al., 2014). Research has shown that assistants are likely to have higher levels of depressive symptoms (Demaray et al., 2014; Seals & Young, 2003). Assistants to the bully, like bullies, tend to have negative attitudes toward school and teachers (Demaray et al., 2014). There was no research found on the academic outcomes of assistants.

Sex Differences. Similar to bullies, males are classified as assistants more often than females. The most frequent bullying role in boys tended to be assistant (Salmivalli et al., 1996). Reasons for this include that boys often use aggression to create social order and aggression is more approved of or even expected for boys (Salmivalli et al., 1996).

Defender of the Victim

Description. Defenders of the victim are often call active bystanders. Defenders stand up for the victim directly or indirectly by reporting the bullying to a teacher or other adult, confronting the bully, or helping the victim after they have been bullied by offering emotional support (Salmivalli et al., 1996; Rock & Baird, 2012). Defenders are outside observers of bullying and victimization that become active participants by stopping the bullying or helping the victim during or after the bullying situation. These individuals have a positive influence on the bullying situation (Rock & Baird, 2012).

Characteristics and Outcomes. Salmavali et al. (1996) found that roughly 20% of the school population takes on the role of defender. However, other researchers found approximately half the school population to be defenders (Nickerson & Mele-Taylor, 2014). Defending is more common among younger students and they also have high levels of friendliness, empathy, and self-esteem (Pozzoli & Gini, 2010). Defenders tend to have a high level of social acceptance from their peers (Salmavalli et al., 1996).

Defenders tend to be the most popular children who are more positively viewed by their peers (Salmavalli et al., 1996).

Sex Differences. Research has shown that defenders are more often female than male (Pozzoli & Gini, 2010; Salmavlli et al., 1996). Of the female population surveyed, 30.1% were defenders. On the other hand, only 4.5% of the male population surveyed were defenders (Salmivalli et al., 1996). However, Nickerson and Mele-Taylor (2014) found that boys were more likely than girls to be defenders.

Outsider

Description. Outsiders are also called passive bystanders. These individuals ignore or pretend not to notice when someone is being bullied. There is little known about this group of individuals, though outsiders tend to be older (Gini, Albiero, Benelli, & Altoe, 2008).

Characteristics and Outcomes. The majority of outsiders are female with high levels of empathy (Salmivalli et al., 1996). Outsiders are often hesitant in social situations and have lower levels of friendliness (Tani, Greenman, Chneider, & Fregoso, 2003). Previous research showed that Outsider were found to have negative attitudes towards teachers. Outsiders were also found to be correlated with depressive characteristics (r =.14, $p < .001$); (Demaray et al., 2014). There was no research found on academic outcomes for outsiders.

Sex Differences. Salmavalli and colleagues (1996) found that girls were more likely to be outsiders than boys (40.2% of girls were outsiders, 7.3% of boys were outsiders). However, a longitudinal follow up study found mixed results for outsiders (Salmivalli, Lappalainen, & Lagerspetz, 1998).

Assessment of Participant Roles

Several existing measures allow for the classification of bullies and victims, but very few instruments are designed to classify other participant roles. *The Injury Prevention and Control: Violence Prevention Department of the Center for Disease Control and Prevention* completed a comprehensive review of assessment tools for bullying and victimization for individuals from ages 8 to 40 (Hamburger et al., 2011). In this review, four scales for measuring bullying, eight scales for measuring victimization, and 13 for both bullying and victimization were discussed; however, only eight scales mentioned roles besides the bully or victim, and only one scale, the Participant Role Questionnaire, classified students into different bullying roles (Hamburger et al., 2011).

Participant Role Questionnaire

Salmivalli, Lagerspetz, Bjorkqvist, Osterman, and Kaukiainen (1996) created the participant role questionnaire (PRQ) that categorizes students into the roles of victim, bully, assistant to the bully, reinforcer to the bully, defender of the victim, and outsider by using a 15-item survey. The PRQ also uses a method called peer nomination. When using this method, students are asked to think of situations where one of their peers has been bullied and answer the questions based on how often their classmates behave in the ways presented in the questions (Salmivalli et al., 1996). To categorize students into the different roles, the scores on the Bully, Reinforcer, Assistant, Defender, and Outsider scales were standardized by classroom ($M = 0$, $SD = 1$). The scores were then used to identify children with corresponding bullying-situation roles. For example, a child was considered to have the Participant Role of being a Bully, if they scored above the mean (0.00) on the standardized bully scale and he/she had scored higher on that scale than on

any other scales. Using this process, 87% of participants were assigned to a participant role. This allows individuals to be assigned to only one role.

Even though the PRQ has some benefits, such as the ability to classify students into different roles, there are limitations. The first is that the survey was developed in Finland and has been used primarily there, making it difficult to know whether the results will generalize to the United States. Another possible limitation is the 3-point Likert scale. The scales only allows for the responses to be never, sometimes, or often. Although a 3-point Likert scale is easier to complete, using a 5-point Likert scale, opposed to a 3-point Likert scale, may add more variance to the scale and is an improvement on the PRQ (Summers & Demaray, 2008). A third limitation to the PRQ is the use of peer nomination. This method can be helpful for students in elementary schools because they are grouped with the same students for the majority of the day; however, middle school students often switch classes and can be in contact with many different children throughout the day, making peer nomination more difficult.

Bully Participant Behavior Questionnaire

A recently published bullying measure, Bully Participant Behavior Questionnaire (BPBQ) improved upon the PRQ by addressing some of the limitations of the PRQ (Demaray et al., 2014). The BPBQ was previously called the Bully Participant Role Survey (BPRS), but was changed to the Bully Participant Behavior Questionnaire to better reflect the fact that the BPBQ assesses behaviors that are related to bullying roles. The central goal for developing the BPBQ was to create a self-report measure that accurately assesses behaviors associated with the participant roles (bully, victim, assistant, defender and outsider). The BPBQ consists of five separate subscales that measure the

five bullying roles. These subscales are intended to be interpreted separately to determine the students behaviors in each bullying role.

The BPBQ addresses the limitations of the PRQ by using a 5-point Likert scale instead of the 3-point scale, a self-report format instead of peer nomination, and it has been used in schools in the United States. Self-report measures may have advantages over peer nomination because it is easier for large-scale administration and can be assessed at multiple time points. Self-report also may give the researchers a view of bullying from the individuals who are involved in the bullying, not thinking of their classmates involvement. Even though peer nomination can be useful, there may be legal and ethical issues involved in peer nomination because it usually gathers student names. Other measures have successfully utilized self-report methods to measure bullying and victimization, including the University of Illinois Bully Scale (UIBS) and the University of Illinois Victimization Scale (UIVS); (Espelage & Holt, 2001). The Bully-Victimization Scale (Reynolds, 2003) uses the self-report method to assess bullying and victimization for students in 3^{rd}-12^{th} grade (Davidson & Demaray, 2007). The success of these bullying and victimization scales provides evidence that self-report can be used to assess bullying; however, these scales, UIBS, UIVS, and BVS, only look at bullies or victims and not the other participant roles.

The BPBQ was originally developed and tested in a pilot study of middle school students (Summers, 2008). This study revealed a five-factor structure (Bully, Assistant, Victim, Defender, & Outsider). To develop the original questions, the PRQ (Salmivalli et al., 1996) and the Bully/Victim Questionnaire (Olweus, 1996) were reviewed. The roles of assistant and reinforcer to the bully were combined because they were closely

related (Summers, 2008). A 5-point Likert scale was chosen to answer the questions (1= *Never*, 2= *A Little*, 3= *Sometimes*, 4= *Often*, 5= *Very Often*).

In the pilot study, the BPBQ had 83 items in total. However, only items 1-54 were used to determine the factor structure. Items 55-83 was used to assess how frequently bullying occurred in various locations and what a student would do if he/she saw people of different relationships to him/her being bullied. Items 80-83 were demographic items. Two-hundred and three students from a rural middle school in Illinois (77 sixth graders, 59 seventh graders, and 67 eighth graders) were included in the pilot study. The factor analysis resulted in five-factors that accounted for 55% of the variance (Summers, 2008).

After examining the results of the pilot study, the scale was refined and tested again by Summers (2008) using a sample of 250 junior high students (124 eighth graders and 126 seventh graders) from a large suburban area of Chicago. The results of this study revealed a four-factor structure (Bully, Victim, Defender, Outsider). In that sample, the assistant factor was not present. Many items intended for the assistant factor loaded on the bully factor.

The BPBQ was refined again to add more items focusing on the assistant factor to better distinguish the bully from the assistant (Demaray et al., 2014). The final version of the BPBQ had five factors: Bully, Assistant, Victim, Defender, and Outsider. The bully subscale assessed how often the student participated in bullying behaviors. However, the assistant subscale assessed the student's likelihood to join in or encourage the bully to continue bullying others. The Victim subscale assesses the behaviors that one experiences if they are bullied. The Defender subscale assesses how often the individual participated

in behaviors related to defending the victim. The Outsider subscale includes items about the likelihood of a student to acknowledge bullying and ignore it.

The current version of the BPBQ contains 50 items, 10 items per subscale. Students completing the BPBQ are given a definition of bullying that includes the requirements of frequent, power differential, and negative intent. The students then rate how often they engaged in different behaviors (bullying, assisting, defending, and outsider behaviors/ignoring) or experienced different behaviors (victim items) in the last month. This version of the BPBQ still uses a 5-point Likert scale; however, the responses have changed to never, 1 to 2 times, 3 to 4 times, 5 to 6 times, or 7 or more times. The study included 801 sixth through eighth grade students (270 sixth grade students, 264 seventh grade students, and 266 eighth grade students) from a suburban area in Illinois. The sample was bifurcated for analyses, with one half used for principal component analysis and one half for confirmatory factor analysis. The principal component analysis (PCA), using an oblique (Promax) rotation and forcing five factors accounted for 60% of the variance. The KMO measure of .88 indicated a high sampling adequacy for the factor analysis. Bartlett's test of sphericity was significant ($p < .001$). This indicated that the factor model was an appropriate fit. The confirmatory factor analysis was conducted using the other half of the split data set. This was done to verify the five factor structure. AMOS 20.0 maximum likelihood estimation was used to provide robust estimates of the parameters. This confirmed a five-factor structure with appropriate fit statistics (χ^2 (1145) = 2668.89, $p < .001$, CFI = .88, SRMR = .06, RMSEA = .065, 90% CI [.062, .068], PNFI = .74). High internal consistency was shown by alpha coefficients ranging from .88 to .94 with the Outsider subscale had the highest coefficients and Bully subscale

with the lowest. All item-subscale correlations ranged from .506 to .849. Evidence of validity is provided by predicable subscale correlations. Correlations between the Bully and Assistant subscales were high, $r = .60$, $p < .01$. The Bully and Victim scales were moderately correlated, $r = .32$, $p < .01$. The Assistant and Victim subscale correlations were small, $r = .19$, $p < .01$. The Victim and Defender subscales were moderately correlated, $r = .41$, $p < .01$. Correlations between Outsider and Victim subscales, $r = .25$, $p < .01$, and Outsider and Defender, $r = .21$, $p < .01$, were small (Demaray et al., 2014). Although there is evidence that BPBQ scores have adequate evidence of internal consistency reliability (and some evidence of validity) for use in middle school students, the appropriateness of the BPBQ for use with elementary school students in third through fifth grade is not known.

The Current Study

Due to the unavailability of a self-report bullying measure that measures participant roles, the BPBQ was developed. Preliminary support of reliability and validity of the BPBQ scores were reported using a middle school sample (Demaray et al., 2014); however, there was no current research on the BPBQ with elementary students. The main goal of this study was to investigate the use of the BPBQ with elementary students.

In order to meet this goal, four primary research questions are proposed. The first research question was: What is the readability of the BPBQ? The readability was calculated for each subscale to determine whether the scale can be read and understood by 3rd through 5th grade students. When developing the BPBQ, Summers (2008) aimed the questions to a third grade reading level.

The second research question was: What is the factor structure of the BPBQ with an elementary student sample? The variables used in the factor analysis included all BPBQ items. The intention was to explore the structure of these items. According Demaray et al. (2014), the BPBQ has a five-factor structure (bully, victim, assistant, defender, outsider) when using a middle school sample, but higher order factors were not investigated.

The third research question was: What is the internal consistency reliability of the BPBQ scores with an elementary student sample? It was predicted that the BPBQ subscales would have high item to subscale correlations. Demarary et al. (2014) found the internal consistency of the subscales to range from .877 to .939 using coefficient alpha. The same pattern was predicted for the elementary sample. Due to that fact that omega coefficients have been shown to be a better estimate than coefficient alpha for multidimensional constructs (McDonald, 1999), omega hierarchical and omega subscale were calculated using the Omega program (Watkins, 2013). Omega hierarchical coefficients provide an estimate of the reliability of the higher order factor with the effects or other factors removed. The Omega subscale coefficients for the factors present estimated the factor reliabilities with the effects of the higher order factor removed. Item-subscale correlations were predicted to be high. Demaray et al. (2014) found item-subscales correlations ranging from $r = .506$ to $r = .849$.

The fourth research question was: What is the construct validity of the BPBQ with an elementary student sample? It was predicted that the Bully and Assistant subscales would be highly correlated, the Bully and Victim subscales and the Assistant and Victim subscales would have low to moderate correlations, and the Victim and

Defender subscales would be moderately correlated. These patterns of correlations between subscales were found by Demaray et al. (2014) and were predicted to also be present in the elementary sample. Significant correlations between the Behavioral & Emotional Screening System (BESS; Kamphaus & Reynolds, 2007) and the Bully, Assistant, and Victim subscales were predicted.

The final research question was: Are there grade or sex differences in bullying roles for elementary students? It was predicted that boys would report being bullied and have higher Bullying scores more than girls (Demaray & Malecki, 2003; Espelage & Holt, 2001). Boys were predicted to have higher Assistant scores than girls (Salmivalli et al., 1996), and girls were predicted to have higher Defender and Outsider scores than boys (Salmivalli et al., 1996). Because there have not been participant role studies for elementary school students, no predictions were made for grade level differences.

Method

Participants

The current study includes 368 students from two rural elementary schools in the Midwest. There were 177 boys (48.1%), 190 girls (51.6%), and one student (0.3%) that did not specify their sex in the study. There were 115 (31.3%) third graders, 126 (34.2%) fourth graders, and 127 (34.5%) fifth graders in the study. Of the total number of students, 336 (77.2%) were strictly general education students. Twenty-eight (7.6%) received special education services, and 47 (12.8%) received title one services. Of the total number of students, 364 (98.9%) were white and 4 (1.1%) were nonwhite.

A smaller sample was used to answer the third research question regarding the construct validity of the BPBQ with an elementary sample. This sample included 94

elementary school students from a rural elementary school in the Midwest. There were 49 boys (52.1%), 44 girls (46.8%), and one student (1.1%) that did not specify their sex. There were 27 (28.7%) third graders, 29 (30.9%) fourth graders, and 38 (40.4%) fifth graders. Of the total number of students in this sample, 9 (9.6%) received special education services. The remaining 85 students (90.4%) were general education students. There were 93 (98.9%) white students and 1 (1.1%) nonwhite student in this sample.

Measures

Data were collected on bully participant role behaviors and social/emotional problems and were assessed using two self-report rating scales. The Bully Participant Behavior Questionnaire (BPBQ; Demaray et al., 2014) was used to measure the bully participant roles. To measure social/emotional problems, the Behavioral and Emotional Screening System (BESS; Kamphaus & Reynolds, 2007) was used.

Bully Participant Behavior Questionnaire (BPBQ)

The BPBQ is a 50-item rating scale developed to assess five bully participant behaviors: bullying, victimization, assisting, defending, and outsider behaviors. The BPBQ provides a score for each of the five subscales by having 10 items measuring each subscale. Before completing the rating scale, students are provided with a definition of bullying and asked to rate each question based on what they have experienced in the past 30 days. The responses are scored using a 5-point Likert scale (0=*Never*, 1=*1 to 2 times*, 2=*3 to 4 times*, 3=*5 to 6 times*, 4=*7 or more times*). The BPBQ was previously explained in detail, including development and evidence of reliability and validity, in the Assessment of Participant Roles Section above.

Behavioral and Emotional Screening System (BESS)

The Behavioral and Emotional Screening System - Student Form (BESS; Kamphaus & Reynolds, 2007) was used to assess the social emotional problems of students. The BESS is a nationally normed, 30-item self-report screener to measure the risk of behavioral and emotional problems. This scale used a 4-point Likert scale to answer each item (i.e., never, sometimes, often, almost always). The BESS was created as a screening measure to screen for student's possible social/emotional problems that may need additional help by providing a general risk score for each individual. The results of the screener are converted into *T* scores and are associated with the levels of normal level of risk (20-60), elevated level of risk (61-70), and extremely elevated level of risk (71 or higher).

To analyze the factor structure of the BESS, Dowdy and colleagues (2011) conducted a factor analysis using the original standardization data of the Behavior Assessment System for Children- Second Edition (BASC-2). The BESS is a condensed version of the BASC-2, which is a longer 139 item rating scale that gathers more in depth information than the BESS. Dowdy et al. (2011) found four factors in the BESS: Personal Adjustment, Inattention/Hyperactivity, Internalizing Problems, and School Problems. When using this model, each subscale has a different number of items associated with it. The Internalizing Problems subscale contains 10 items, which have questions regarding the students' worries, anger, feelings of being left out, and feelings of failure. Personal Adjustment subscale contains 8 items containing questions about decision-making abilities, parental trust, and respect from others. Inattention/Hyperactivity subscale has 5 items containing questions about talking when others are talking, paying attention to

teacher, and ability to stand still. The School Problems subscale includes 4 items, which have questions regarding the students' interest in school, desire to quit school, and feelings towards teachers. The range of correlations of items to subscale for Internalizing Problems is -.74 to -.36, Inattention/Hyperactivity is .37 to .68, Personal Adjustment is .43 to .62, and School Problems is .45 to .84. For this study, the raw scores of the Internalizing Problems subscale score, Personal Adjustment subscale score, and the School Problems subscale score was used. The Internalizing Problems subscale scores can range from 10 (all items rated as never occurring) to 40 (all items rated as almost always occurring). Possible scores for the Personal Adjustment scale ranges from 8 (all items rated as never occurring) to 32 (all items rated as almost always occurring). The range of scores for the School Problems subscale is 4 (all items rated as never occurring) to 16 (all items rated as almost always occurring); (Kamphaus & Reynolds, 2007).

Procedure

A school-wide evaluation of bullying and social-emotional issues in the schools was done at the request of school administrators. Approval from the Institutional Review Board at Eastern Illinois University was obtained to use the dataset for research purposes. Parents were notified of the evaluation and were given the opportunity to opt out of the evaluation, but no parents withdrew their child from the evaluation. No personally identifying information was contained in the dataset. Students only used identification numbers on surveys and the school administers and school social workers were the only individuals with the ability to connect identification numbers to student names. Students completed surveys in one day in their regular education classrooms during lunch. Directions were read aloud by research assistants, and research assistants were there to

answer questions. After the evaluation was complete, a comprehensive report was written to summarize the aggregate results of the evaluation.

Analysis

The first research question (What is the readability of the BPBQ?) was answered using an online readability calculator from readability-score.com. This program was used because it looked at five different readability formulas (Flesch Kincaid, Gunning-Fog, Coleman-Liau, SMOG, & Automated Readability). Coleman-Liau and SMOG formulas were not appropriate because these programs were meant to analyze passages, not sentences. The Flesch Kincaid program was deemed appropriate because it analyzed the number of words per sentence and the number of syllables per word. The Gunning Fog program is similar to the Flesch Kincaid program and analyzed words per sentences and complex words. The Automated readability formula was also considered appropriate because it compared characters per words and words per sentence. Each subscale was analyzed separately to obtain the readability level of each subscale.

To answer the second research question (What is the factor structure of the BPBQ in an elementary student sample?), an exploratory factor analysis using principal axis factoring was completed. Bartlett's Test of Sphercity, Kaiser-Meyer-Olkin (KMO) test, and visual inspections of the pattern and structure matrices were used to determine the fit of the factor structure. Since the BPBQ used Likert-scaled response options, polychoric correlations were estimated using Polymat-c, a program developed by Lorenzo-Seva and Ferrando (2014), but the factor analysis in SPSS would not run with the polychoric correlations generated because the correlation matrix was not positive definitive. Therefore, item level data, and Pearson correlations, were used in the factor analysis.

A principal axis factor analysis was conducted. An oblique (Promax, K = 4) rotation was applied because it was hypothesized that the factors are correlated with one another. The analysis was conducted with forcing the extraction of 5 factors. This was chosen based on the theoretical framework used when developing the BPBQ and previous research (Demaray et al., 2014; Summer, 2008). A second-order factor analysis of the factors correlation matrix was done to have the appropriate data to explore the possibility of higher order factors. The three first-order factors were orthogonalized using the Schmid and Leiman (1957) procedure with the MacOrtho program (Watkins, 2004). Omega hierarchical coefficients provide an estimate of the reliability of the higher order factor with the effects or other factors removed.

The third research question (What is the reliability of the BPBQ with an elementary student sample?) was answered by exploring the internal consistency reliability through calculating alpha and omega coefficients. Omega coefficients were calculated due to the fact that alpha coefficients can be inflated in some situations.

The fourth research question (What is the validity of the BPBQ on an elementary student sample?) was be answered by calculating the correlations between the five bullying roles and the BESS.

The fifth research question (Are there grade or sex differences in bullying roles for elementary students?) was answered by performing a grade by sex MANOVA to analyze the sex and grade differences between the each of the five bullying roles. The dependent variables in the analysis were the BPBQ Bully, Victim, and Defender subscale scores. Cohen's *d* was used to calculate effect sizes for significant differences. Effect

sizes were considered small if *d* was below .20 and large if above .80. All other effect sizes were considered medium.

Results

Preliminary Analyses

Initial item-level analyses were conducted on all 50 BPBQ items. Item means and standard deviations were examined, along with skewness and kurtosis. These data are presented in Table 1. Preliminary analyses revealed that most items for the assistant and outsider subscales were very skewed and had high kurtosis (Skewness ranged from 3.27 to 8.60, Kurtosis ranged from 10.56 to 100.70). The bully subscale also had high skewness and kurtosis (Skewness ranged from 2.66 to 8.43, Kurtosis ranged from 9.29 to 83.52); however, we do not expect bullying to be normally distributed.

Readability

The results of the first research question (What is the readability of the BPBQ?) are presented in Table 2. Grade level readability estimates for the Bully subscale ranged from 4.6 grade level to 8.3 grade level with an average of 6.0 grade level. Readability estimates for the Assistant subscale ranged from 6.0 grade level to 8.8 grade level with an average of 7.2 grade level. The Victim subscale readability estimates ranged from 1.2 grade level to 3.8 grade level with an average of 2.1 grade level. The readability estimates for the defender subscale ranged from 4.6 grade level to 5.8 grade level with an average of 5.3 grade level. Outsider subscale readability estimates ranged from 7.4 grade level to 9.5 grade level with an average of 8.2 grade level. Assistant and Outsider subscales readability estimates are especially high. The readability estimates, combined with the

high skewness and kurtosis led to further consideration to remove the Assistant and Outsider subscales.

Factor Analysis

A principal axis factor analysis was conducted using all 50 items of the BPBQ. This was done forcing five factors. This was chosen due to the theoretical background of the BPBQ. An oblique (Promax, $K = 4$) rotation was applied because it was hypothesized that the factors are correlated with one another. Bartlett's Test of Sphericity was significant ($p < .001$), indicating the factor model is appropriate, and the KMO measure was .88, indicating high sampling adequacy. The factor structure accounted for 55% of the variance. Upon inspection of the factor loadings, four items cross-loaded and four items migrated to factor other than the intended factor. The pattern and structure loadings are presented in Table 3. The items on the Assistant subscale loaded on multiple factors and many items were cross loading. The Outsider subscale presented the same problem. This combined with the high readability estimates lead to the decision to remove items in the Assistant and Outsider subscales for further analysis.

Another principal axis factor analysis was conducted on the remaining 30 items. An oblique (Promax, $K = 4$) rotation was again applied because it was hypothesized that the factors are correlated with one another. The analysis was conducted with forcing the extraction of 3 factors. The factor structure accounted for 60% of the variance. The KMO measure of .92 indicated high sampling adequacy for the factor analysis. Bartlett's test of sphericity was significant ($p < .001$), indicating that the factor model is appropriate. Upon inspection of the factor loadings, all items loaded on the theoretically intended factor. with factor loadings ranging from .46 to .82 for Bully, .68 to .80 for Victim, and .66

to .87 for Defender. An analysis of the pattern matrix indicated that the strongest factor consisted of the Defender items, followed by Victim and Bully items. Table 4 provides a summary of the pattern and structure loadings. The correlations between factors (r = .06-.47) imply a higher-order or hierarchical factor model, thus second-order factoring should be considered.

A second-order factor analysis of the three factors correlation matrix was done to examine the possibility of higher order factors. The three first-order factors were orthogonalized using the Schmid and Leiman (1957) procedure with the MacOrtho program (Watkins, 2004). Omega hierarchical coefficients provide an estimate of the reliability of the higher order factor with the effects or other factors removed. The Omega hierarchical coefficient for the higher order factor (.54) was moderate. The Omega subscale coefficients for the three factors presented estimated the factor reliabilities with the effects of the higher order factor and other first order factors removed. The omega subscale coefficients were considered moderate to high for all three factors (.44-.80). These results indicated that in the present sample the three subscales possessed a sufficient amount of reliable variance for interpretation (Reise, Bonifay, & Haviland, 2013). Table 5 provides a summary of the higher order factor analysis.

Evidence of Reliability

After the Assistant and Outsider subscales were removed, estimates of reliability were calculated using the final 30 items to answer the third research question (What is the reliability of the BPBQ with an elementary student sample?). The prediction of high internal consistency was supported with alpha coefficients of .88 for the Bully subscale, .93 for the Victim subscale, and .95 for the Defender subscale. Omega

coefficients also showed some evidence for internal consistency. The Bully, Victim, and Defender subscales had Omega coefficients of .80, .44, and .64, respectively. As predicted, item to subscale correlations for the total sample were all moderate to high and significant, $p < .001$, and are presented in Table 6. Item-subscale correlations ranged from $r = .51$ to $r = .86$.

Evidence of Validity

In addition to Exploratory Factor Analysis other evidence was examined to answer the fourth research question (What is the validity of the BPBQ with an elementary student sample?) correlations were conducted among the BPBQ subscales and the BESS Total Score.

BPBQ Subscale correlations. Correlations among the BPBQ subscales provided some of evidence of construct validity and are provided in Table 7. As predicted, the Bully and Defender scales showed small correlations, $r = .05$, $p = .28$. Moderate correlations were found between the Victim and Defender subscales, $r = .45$, $p < .001$. Moderate correlations were also found between the Bully and Victim subscales, $r = .30$, $p < .001$.

Participant roles and social-emotional behaviors. Correlations between the Bully, Victim, Defender Subscales with the BESS resulted in statistically significant correlations and are also presented in Table 7. Although the correlation was significant, the Bully Subscale and the BESS showed a low correlation, $r = .12$, $p = .02$. The Victim Subscale and the BESS also showed a low correlation, $r = .17$, $p < .001$. The Defender Subscale and BESS showed low correlations, $r = .12$, $p = .02$.

Sex and Grade Level Difference in Participant Roles

To answer the final research question (Are there grade or sex differences in bullying roles for elementary students?), a 2 (sex) x 3 (grade) MANOVA was conducted to investigate sex and grade level differences for each participant role score (Research Question 4).

The main effect of sex was not significant, Wilks' Lambda= .98, F (3, 355) = 1.865, p = .14. This result indicated that there were no differences in the bullying roles between sexes. A summary of these results are presented in Table 8.

The main effect of grade level was statistically significant, Wilks' Lambda = .95, F (3, 710) = 3.29, p = .003. The follow-up ANOVAs indicated that significant differences were observed for the Defender Subscale Scores, F (1, 363) = 6.90, p = .001. Scheffe post hoc analyses indicated that 5th graders defender subscale scores were significantly lower than 3rd graders (Cohen's d = 0.48) and 4th graders (Cohen's d =0.41). These results indicate that 5th graders reported defending behaviors less often than 3rd and 4th graders. A summary of these results are presented in Table 9.

The Sex X Grade interaction was not significant, Wilks' Lambda = .98, F (6, 710) = 1.46. This result indicated that grade level effects did not depend o sex of the participant.

Discussion

The goal of this study is to investigate the factor structure, reliability, and validity for the Bullying Participant Behaviors Questionnaire (BPBQ) in an elementary sample. Based on results of the current study, only the Bully, Victim, and Defender subscales of the BPBQ may be considered somewhat appropriate as self-report scales in an elementary

sample. In their current form, the assistant and outsider subscales are not appropriate due to high readability estimates (i.e., readability estimates ranged from 6.0 grade level to 9.5 grade level) and the cross-loadings on the exploratory factor analysis. Preliminary evidence of reliability and validity was found for the elementary version of the BPBQ.

The first research question was: What is the readability of the BPBQ? The results of this analysis indicated that the Assistant and Outsider subscales were more appropriate for students in 7th and 8th grade, respectively. Because these items did not measure the same way with elementary students and middle school students, the Assistant and Outsider roles may not be distinct enough at the elementary level. Previous research on bullying roles in elementary noted that self-reported victimization and bullying are generally larger in grades 1-6 than in grades 7-9 (Karna et al., 2013). This may be because the assistant and outsider roles are not as common or measurable in elementary school. Also, elementary students tend to be concrete thinkers and may not have the ability to understand roles that are farther removed from the bullying event. The readability analysis indicated that the Bully, Victim, and Defender subscales were appropriate for students in 6th, 2nd, and 5th grade, respectively. Although, the readability for the Bully and Defender subscales are higher than expected, research assistants were able to answer questions and to give definitions of the unknown words. Many students', especially third grade students, utilized the research assistants to help with comprehension.

The second research question was: What is the factor structure of the BPBQ with an elementary sample? The exploratory factor analysis of the three remaining subscales (Bully, Victim, and Defender) resulted in a three-factor structure, as expected after

removing the Assistant and Outsider subscales. However, factor loadings are often inflated when using principal component factor analysis (Brown, 2006). With the possibility of correlated factors, higher order factors must be investigated. The Schmid and Leiman (1957) procedure was used to determine the higher order structure of the BPBQ. The use of the Schmid and Leiman procedure was suggested by Carroll (1995) to interpret higher order models. The higher order factor analysis indicated that the subscales had a sufficient amount of unique variance attributed. This allows the Bully, Victim, and Defender subscales to be interpreted separately. Therefore, it is appropriate to look at a child's score on the Bully, Victim, and Defender subscales to determine whether they show more bullying, victimization, or defending behaviors. Previous research of the BPBQ found the subscale to have a five-factor structure (Bully, Assistant, Victim, Defender, & Outsider) in middle school students (Demaray et al., 2014; Summers, 2008). However, higher-order analyses were not completed in previous studies to determine whether each subtest could be interpreted for each of the five subscales in middle school students.

The third research question was: What is the internal consistency reliability of the BPBQ with an elementary sample? There is preliminary evidence of reliability with the BPBQ in an elementary sample with the high alpha and omega coefficients and moderate to high item-subscale correlations. Although this indicates some evidence of reliability of the BPBQ with elementary students, test-retest reliability was not measured to determine if the students would rate themself the same in the future. Stability of bullying roles in elementary schools has been found to be low (Schafer, Korn, Brodbeck, Wolke, & Schulz, 2005). For example, Kochenderfer-Ladd and Wardrop (2001) found that only 4% of

children from kindergarten to third grade had the same bullying role at all points of measurement. Bullies however, tend to be more stable than Victims, due to the view that aggressive behavior is a functioning of personality and early socialization (Schafer et al., 2005).

The fourth research question was: What is the validity of the BPBQ with an elementary sample? This was examined by looking at the subscale correlations and the correlations between the BESS and the BPBQ. Because the Assistant and Outsider subscales were removed from the scale, these subscales were not included in the analyses. The results confirmed the predictions for subscales correlations between the Bully, Victim, and Defender subscales. The moderate correlations found between the Bully subscale and Victim subscale is consistent with previous research (Demaray et al., 2014; Salmivalli et al., 1996). The presence of bully/victims in research supports the moderate correlations between the Bully and Victim subscales. Bully/victims are individuals who are both a perpetrator of bullying and a victim of the bullying (Olweus, 1993). The small correlations found between the Bully subscale and Defender subscale is consistent with previous research on the BPBQ (Demaray et al., 2014). This is expected due to the theoretical understanding that bullies tend to be pro-bullying and defenders tend to be anti-bullying. The moderate correlations between the Victim subscale and Defender subscale also follow the idea that Defenders and Victims are typically anti-bullying. The significant correlations between the BPBQ and the BESS also confirmed what was predicted; however, the correlations were low. This could indicate that the BPBQ is not sensitive enough to measure the social-emotional behaviors of children in different roles. It is also possible that elementary students do not have the same pattern of social-

emotional problems in relation to bullying as middle school students. Also, the BESS is typically used as a screener for social emotional problems; therefore, it dos not look as in depth at social emotional problems. Results may differ if a more thorough evaluation of social-emotional problems was used as a comparison. The self-report measure of the BESS was used. Elementary students in general, often struggle identifying social emotional problems in themselves; therefore, if teacher or parent report was used, results may differ.

The final research question was: Are there grade or sex differences in bullying roles for elementary students? It was predicted that boys would have higher Bully and Victim scores and girls would have higher Defender scores. No sex differences were found in the elementary sample. This could be because sex roles are not as developed in elementary school. No predictions were made for grade level differences because of a lack of previous research on bullying roles with elementary students. However, significant differences in bullying roles at different grade levels were found. Fifth grade students showed significantly less defending behaviors than third and fourth graders. This could be because tattling behaviors decrease as children get older and students are less likely to tell a teacher when they see a classmate getting bullied. Trach, Hymel, Waterhouse, and Neale (2010) found that 6th graders were more likely to defend than 8th graders. This finding plus the finding from the current study, show a pattern of defending behaviors decreasing, as students get older.

Limitations

Though this is the first investigation of using the BPBQ with an elementary sample, the sample of students was nearly all white and from a rural area of the Midwest.

Future studies should examine the utility of the BPBQ among elementary students from more ethnically and geographically diverse backgrounds. The ability to generalize findings in the current study is limited due to these restrictions. The sample used for the factor analysis included only 368 students, from two rural elementary schools in the Midwest. The sample used to answer the questions regarding validity included 94 students from one rural elementary school in the Midwest. More research is needed to determine if the results of this study will generalize to other study, or if the results are sample specific.

An additional limitation is the readability of the BPBQ. Even with removing the subscales with the highest readability estimates (Assistant and Outsider), the remaining subscale items may be difficult for students of varying reading ability. A way to improve this could be to have each item read aloud to the students.

Finally, the measure used to demonstrate evidence of validity was based on data that were available and not necessarily based on theoretical associations with bullying behaviors. More research to determine the validity of the BPBQ in elementary students is necessary. Comparing the BPBQ with the PRQ could lead to evidence of validity for the BPBQ.

Future Directions

In the current study, only a self-report measure of bullying was used to look at the bullying roles. When using self-report for elementary students, only three bullying roles emerged; however, five emerged with middle school students. It would be beneficial to have a teacher report version of the BPBQ to investigate whether the roles emerged in elementary school when having the teachers rate the students. This would also be

beneficial for schools to have the teacher's perspective on what bullying behaviors are most problematic for their students. This would give information to use when planning for intervention.

Changing the wording of the BPBQ items to be more suitable to younger students would be beneficial to measuring bullying roles in elementary students. Due to the fact that not all students read at grade level, readability below 3rd grade would be appropriate. Reading the items aloud to students may also improve the measurement of the BPBQ for elementary students. For the current study, the BPBQ was administered to students in a group. Future studies should consider administering the assessment individually to be certain the student understands each question. The questionnaire may need to be shorted to improve measurement for these children. This could include only using the items for the Bully, Victim, and Defender subscales, or by having fewer items in the five subscales to investigate if this improves measurement.

Also, assessing bullying roles in high school would lead to a more thorough understanding of bullying roles and grade level differences A pattern of decreasing defending behaviors was found in this study and previous research. This should be researched further to determine if the pattern is present in other samples and if this continues into high school.

Another future research question could include further analyses of social-emotional problems and bullying roles in elementary students. This is necessary to develop a better understanding of the effects of bullying on social-emotional factors. Using a more thorough assessment, opposed to a screener as used in this study, may

provide more information. Also, using parent or teacher report of social-emotional problems would provide additional information.

More information about possible higher order factors for the BPBQ in elementary school and middle school is necessary to add more information regarding the use of the BPBQ. Higher order factor analysis was completed in the current study; however, this was not done in previous studies of the BPBQ with middle school students. Exploring the possibility of a higher order factor would be beneficial to determine whether the five bullying roles that emerged with the middle school sample can be interpreted individually, or if there is a general dimension influencing the subscales.

Conclusion

The goal of this study is to investigate the readability, factor structure, reliability, and validity for the Bullying Participant Behaviors Questionnaire (BPBQ) in an elementary sample. The preliminary analyses, readability estimates, and factor analysis of the BPBQ in an elementary sample indicated that the Bully, Victim, and Defender subscales can be used with elementary students. The factor analysis included exploratory factor analysis will all five subscales (Bully, Assistant, Victim, Defender, & Outsider), exploratory factor analysis with the final three subscales (Bully, Victim, & Defender), and higher order factor analysis using the Schmid-Leiman transformation with the final three subscales. Moderate to high omega reliability estimates (ranging from .44-.80) indicate that the subscales are measuring different constructs and can be interpreted separately. This allows researchers to determine a student's score for each subscale to explore the extent to which a student participates in each bullying role. Some evidence of reliability was shown through high alpha and omega coefficients for the Bully, Victim,

and Defender subscales. Some evidence of validity was shown through subscale correlations; however, correlations between the BESS and BPBQ were low. Future research should focus on the factor structure of the BPBQ in middle school students by performing higher-order factor analyses to determine if the BPBQ subscales are measuring different constructs and can be interpreted separately, modifying the BPBQ to be more appropriate for younger students, creating a teacher rating form of the BPBQ, and further exploring the social-emotional effects of the bullying roles on elementary students.

References

Batsche, G. M., & Knoff, H. M. (1994). Bullies and their victims: Understanding a pervasive problem in the schools. *School Psychology Review, 23*, 165-165.

Beale, A. V., & Scott, P. C. (2001). 'Bullybusters': Using drama to empower students to take a stand against bullying behavior. *Professional School Counseling*, *4*(4), 300-305.

Brockenbrough, K. K., Cornell, D. G., & Loper, A. B. (2002). Aggressive attitudes among victims of violence at school. *Education & Treatment Of Children*, *25*(3), 273-287.

Brown, T. A. (2006). *Confirmatory factor analysis for applied research.* New York: Guilford.

Canivez, G. L. (in press). Bifactor modeling in construct validation of multifactored tests: Implications for understanding multidimensional constructs and test interpretation. In K. Schweizer & C. DiStefano (Eds., under contract), *Principles and methods of test construction: Standards and recent advancements.* Gottingen, Germany: Hogrefe Publishers.

Cook, C. R., Williams, K. R., Guerra, N. G., Kim, T. E., Sadek. S. (2010). Predictors of bullying and victimization in childhood and adolescence: A meta-analytic investigation. *School Psychology Quarterly, 25,* 65-83. doi: 10.1037/a0020149.

Davidson, L. M., & Demaray, M. K. (2007). Social support as a moderator between victimization and internalizing--externalizing distress from bullying. *School Psychology Review*, *36*(3), 383-405.

Demaray, M. K., & Malecki, C. K. (2003). Perceptions of the frequency and importance of social support by students classified as victims, bullies, and bully/victims in an urban middle school. *School Psychology Review, 32,* 471-489. doi: 10.1037/h0084129.

Demaray, M. K., Summers, K. H., Jenkins, L. N., & Becker, L. D. (2014). Bully Participant Behaviors Questionnaire (BPBQ) : Establishing a reliable and valid measure. *Journal of School Violence,* doi: 10.1080/15388220.2014.964801.

DiPerna, J. C., & Elliott, S. N., (2000). *The Academic Competence Evaluation Scales* (K -12 ed.) San Antonio, TX: The Psychological Corporation.

Dowdy, E., Twyford, J. M., Chin, J. K., DiStefano, C. A., Kamphaus, R. W., & Mays, K. L. (2011). Factor structure of the BASC–2 Behavioral and Emotional Screening System Student Form. *Psychological Assessment*, *23*(2), 379-387. doi:10.1037/a0021843.

Espelage, D. L., & Holt, M. K. (2001). Bullying and victimization during early adolescence: Peer influences and psychosocial correlates. *Journal of Emotional Abuse, 2,* 123-142. doi: 10.1300/J135v02n02_08

Espelage, D. L., & Swearer, S. M. (2003). Research on school bullying and victimization: What have we learned and where do we go from here? *School Psychology Review, 32,* 365-383.

Fox, C. L., Jones, S. E., Stiff, C. E., & Sayers, J. (2014). Does the sex of the bully/victim dyad and the type of bullying influence children's responses to a bullying incident?. *Aggressive Behavior*, *40*(4), 359-368. doi:10.1002/ab.21529.

Gini, G., Albiero, P., Benelli, B., & Altoe, G. (2008). Determinants of adolescents' active

defending and passive bystanding behavior in bullying. *Journal of Adolescence, 31*, 93-105. doi: 10.1016/j.adolescence.2007.05.002.

Gresham, F., & Elliott, S. N. (2008). *Social Skills Improvement System- Rating Scale (SSIS-RS)*. Bloomington, MN: Pearson.

Griffiths, L. J., Wolke, D., Page, A. S., & Horwood, J. P. (2006). Obesity and bullying: Different effects for boys and girls. *Archives of Disease in Childhood, 91*, 121-125. doi: 10.1136/adc.2005.072314.

Hamburger, M. E., Basile, K..C., Vivolo, A.M. (2011). *Measuring Bullying Victimization, Perpetration, and Bystander Experiences: A Compendium of Assessment Tools.* Atlanta, GA: Centers for Disease Control and Prevention, National Center for Injury Prevention and Control. Retrieved from: http://www.cdc.gov/violenceprevention/pdf/bullyCompendiumbk-a.pdf

Huesmann, L.R., Eron, L.D., Lefkowitz, M.M, & Wadler, L.O. (1984). Stability of aggression over time and generations. *Developmental Psychology, 20,* 1120-1134. doi: 10.1037/0012-1649.20.6.1120.

Jacobsen, K. E., & Bauman, S. (2007). Bullying in schools: School counselors' responses to three types of bullying incidents. *Professional School Counseling*, *11*(1), 1-8. doi:10.5330/PSC.n.2010-11.1.

Kaltiala-Heino, R., Rimpela, M., Rantanen, P., & Rimpela, A. (2000). Bullying, depression, and suicidal ideation in Finnish adolescents: School survey. *British Medical Journal, 319,* 348-351. doi: 10.1136/bmj.319.7206.348

Kamphaus, R. W., & Reynolds, C. R. (2007). *Behavior Assessment System for*

Children—Second Edition (BASC–2): Behavioral and Emotional Screening System (BESS). Bloomington, MN: Pearson.

Karna, A., Voeten, M., Little, T. D., Alanen, E., Poskiparta, E., & Salmivalli, C. (2013). Effectiveness of the KiVa Antibullying Program: Grades 1-3 and 7-9. *Journal Of Educational Psychology*, *105*(2), 535-551. doi: 10.1037/a0030417.

Klomeck, A. B., Marrocco, F., Kleinman, M., Schonfeld, I. S., & Gould, M. S. (2007). Bullying, depression, and suicidality in adolescents. *Journal of the American Academy of Child & Adolescent Psychiatry, 46,* 40-49. doi:10.1097/01.chi.0000242237.84925.18.

Kochenderfer-Ladd, B., & Wardrop, J. L. (2001). Chronicity and instability of children's peer victimization experiences as predictors of loneliness and social satisfaction trajectories. *Child Development, 72*, 134–151. doi: 10.1111/1467-8624.00270.

Lorenzo-Seva, U., & Ferrando, P. J. (2014, August 15). Polymat-c: a comprehensive spss program fro computing the polychromic correlation matrix. *Behavior Research Methods*, 1-6. doi:10.3758/s13428-014-0511-x.

McDonald, R. (1999). *Test theory: A unified treatment.* Mahwah, NJ: Erlbaum Associates.

Nansel, T. R., Overpeck, M., Pilla, R. S., Ruan, W. J., Simons-Morton, B., & Scheidt, P. (2001). Bully behaviors among US youth: Prevalence and association with psychosocial adjustment. *Journal of the American Medical Association, 285,* 2094-2100. doi:10.1001/jama.285.16.2094.

Nickerson, A. B., & Mele-Taylor, D. (2014). Empathetic responsiveness, group norms,

and prosocial affiliations in bullying roles. *School Psychology Quarterly*, *29*(1), 99-109. doi:10.1037/spq0000052.

Olweus, D. (1993). Bullying at school: What we know and what we can do. Oxford, UK: Wiley-Blackwell.

Olweus, D. (1996). The revised Olweus bully/victim questionnaire. University of Bergen, Research Center for Health Promotion.

Pellegrini, A. D., & Long, J. (2002). A longitudinal study of bullying, dominance, and victimization during the transition from primary to secondary school. *British Journal of Developmental Psychology, 20*, 259-280. doi: 10.1348/026151002166442.

Pozzoli, T., & Gini, G. (2010). Active defending and passive bystanding behavior in bullying: The role of personal characteristics and perceived peer pressure. *Journal Of Abnormal Child Psychology*, *38*(6), 815-827. doi:10.1007/s10802-010-9399-9.

Reise, S. P., Bonifay, W. E., & Haviland, M. G. (2013). Scoring and modeling psychological measures in the presence of multidimensionality. *Journal Of Personality Assessment*, *95*(2), 129-140. doi:10.1080/00223891.2012.725437

Reynolds, W. M. (2003). *Reynolds Bully-Victimization Scales for Schools.* The Psychological Corporation: San Antonio, TX.

Rock, P. F., & Baird, J. A. (2012). Tell the teacher or tell the bully off: Children's strategy production for bystanders to bullying. *Social Development, 22*, 414-424. doi: 10.1111/j.1467-9507.2011.00627.x.

Salmivalli, C., Lagerspetz, K., Björkqvist, K., Österman, K., & Kaukiainen, A. (1996). Bullying as a group process: Participant roles and their relations to social status

within the group. *Aggressive Behavior, 22*, 1-15. doi: 10.1002/(SICI)1098-2337(1996)22:1<1::AID-AB1>3.0.CO;2-T.

Salmivalli, C., Lappalainen, M., & Lagerspetz, K. J. (1998). Stability and change of behavior in connection with bullying in schools: A two-year follow-up. *Aggressive Behavior*, *24*(3), 205-218. doi:10.1002/(SICI)1098-2337(1998)24:3<205::AID-AB5>3.0.CO;2-J.

Schafer, M., Korn, S., Brodbeck, F. C., Wolke, D., & Schulz, H. (2005). Bullying Roles in Changing Contexts: The Stability of Victim and Bully Roles from Primary to Secondary School. *International Journal Of Behavioral Development*, *29*(4), 323-335. doi: 10.1177/01650250544000107.

Scheithauer, H., Hayer, T., Petermann, F., & Jugert, G. (2006). Physical, verbal, and relational forms of bullying among german students: Age trends, sex differences, and correlates. *Aggressive Behavior*, *32*(3), 261-275. doi:10.1002/ab.20128.

Schmid, J., & Leiman, J. M. (1957). The development of hierarchical factor solution. *Psychometrika, 22,* 53-61. doi:10.1007/BF02289209.

Slee, P. T. (1995). Bullying: Health concerns of Australian secondary school students. *International Journal Of Adolescence And Youth*, *5*(4), 215-224. doi:10.1080/02673843.1995.9747767.

Smokowski, P. R., & Kopasz, K. H. (2005). Bullying in school: An overview of types, effects, family characteristics, and intervention strategies. *Children & Schools*, *27*(2), 101-110. doi: 10.1093/cs/27.2.101.

Summers, K. (2008). *The relationship among bullying participant roles, social support,*

and school climate (Unpublished doctoral dissertation). Northern Illinois University, Dekalb, IL.

Summers, K., & Demaray, M. K. (2008). *Bully Participant Role Survey.* DeKalb, IL, Northern Illinois University.

Swearer, S. M., & Cary, P. T. (2007). Perceptions and Attitudes Toward Bullying in Middle School Youth: A Developmental Examination Across the Bully/Victim Continuum. In J. E. Zins, M. J. Elias, C. A. Maher (Eds.), *Bullying, victimization, and peer harassment: A handbook of prevention and intervention* (pp. 67-83). New York, NY, US: Haworth Press.

Swearer, S. M., & Espelage, D. L. (2004). Introduction: A social-ecological framework of bullying among youth. In D. L. Espelage, S. M. Swearer (Eds.), *Bullying in American schools: A social-ecological perspective on prevention and intervention* (pp. 1-12). Mahwah, NJ, US: Lawrence Erlbaum Associates Publishers.

Tani, F., Greenman, P. S., Schneider, B. H., & Fregoso, M. (2003). Bullying and the Big Five: A study of childhood personality and participant roles in bullying incidents. *School Psychology International*, *24*(2), 131-146. doi:10.1177/0143034303024002001.

Trach J., Hymel S., Waterhouse T., & Neale K. (2010). Bystander responses to school bullying: A cross-sectional investigation of grade and sex differences. *Canadian Journal of School Psychology, 25*, 114-130. doi: 10.1177/0829573509357553.

Twemlow, S. W., Fonagy, P., & Sacco, F. C. (2004). The role of the bystander in the social architecture of bullying and violence in schools and communities. *Annals New York Academy of Sciences, 1036*, 215-232. doi: 10.1196/annals.1330.014.

Verlinden, M., Veenstra, R., Ringoot, A. P., Jansen, P. W., Raat, H., Hofman, A., & ... Tiemeier, H. (2014). Detecting bullying in early elementary school with a computerized peer-nomination instrument. *Psychological Assessment*, *26*(2), 628-641. doi:10.1037/a0035571.

Wang, J., Iannotti, R. J., & Nansel, T. R. (2009). School bullying among adolescents in the United States: Physical, verbal, relational, and cyber. *Journal of Adolescent Health, 45*, 368-375. doi: 10.1016/j.jadohealth.2009.03.021.

Wang, W., Vaillancourt, T., Brittain, H. L., McDougall, P., Krygsman, A., Smith, D., & Hymel, S. (2014). School climate, peer victimization, and academic achievement: Results from a multi-informant study. *School Psychology Quarterly*, *29*(3), 360-377. doi:10.1037/spq0000084.

Watkins, M. W. (2004). *MacOrtho* [Computer Software]. State College, PA; Ed & Psych Associates.

Watkins, M. W. (2013). *Omega.* [Computer software]. Phoenix, AZ: Ed & Psych Associates.

Table 1
Descriptive Statistics for Items in the BPBQ (N = 368)

		M	SD	Skewness	Kurtosis
1. (B)	I have called another student bad names	.29	.65	2.90	10.36
2. (B)	I have made fun of another student	.23	.56	3.29	13.97
3. (B)	I have purposely left out another student	.26	.60	2.97	11.22
4. (B)	I have pushed, punched, or slapped another student	.14	.58	5.38	31.47
5. (B)	I have told lies about another student	.14	.50	4.89	28.64
6. (B)	I have tried to make people dislike another student	.09	.37	5.07	29.34
7. (B)	I have stolen things from another student	.06	.36	8.43	83.52
8. (B)	I have thrown things at another student	.12	.43	5.45	39.02
9. (B)	I have said bad things about another student	.20	.59	4.03	18.99
10. (B)	I have talked about someone behind their back	.31	.63	2.66	9.29
11. (A)	When someone was making fun of another student, I joined in	.18	.59	4.43	22.56
12. (A)	When someone was verbally threatening another student, I joined in	.12	.51	5.16	28.86
13. (A)	When someone bumped into another person, I joined in	.09	.41	6.20	47.16
14. (A)	I have made fun of someone when they were pushed, punched, or slapped.	.05	.30	8.60	92.50
15. (A)	I have made fun of someone who was being called mean names.	.07	.25	3.54	10.56
16. (A)	When someone else broke something that belonged to another student, I stopped to watch.	.24	.67	3.93	17.87
17. (A)	When someone else tripped another student o purpose, I laughed	.13	.47	5.07	31.49
18. (A)	When someone else knocked books out of another student's hands on purpose, I laughed	.04	.35	9.73	100.70
19. (A)	When someone else pinched or poked another student, I joined in.	.11	.43	5.82	41.90
20. (A)	When someone else threw something at another student, I joined in.	.11	.49	5.88	38.31
21. (V)	I have been called mean names	1.06	1.26	1.17	.35
22. (V)	I have been made fun of	.96	1.22	1.37	1.00

Table 1 Continues

Table 1 (Continued)

		M	SD	Knewness	Kurtosis
23. (V)	I have been purposely left out of something	.87	1.19	1.45	1.17
24. (V)	I have been ignored	1.13	1.25	1.21	.49
25. (V)	I have been pushed around, punched or slapped	.59	1.13	2.03	3.03
26. (V)	I have been pushed or shoved	.79	1.19	1.69	1.93
27. (V)	People have told lies about me	.92	1.26	1.34	.66
28. (V)	People have tried to make others dislike me	.78	1.16	1.64	1.85
29. (V)	I have been threatened by others	.49	1.06	2.41	4.87
30. (V)	I have had things taken from me	.77	1.18	1.67	1.88
31. (D)	I tried to become friends with someone after they were picked on	1.80	1.47	.44	-1.24
32. (D)	I encouraged someone to tell an adult after they were picked on.	1.54	1.43	.64	-.94
33. (D)	I defended someone who was being pushed, punched, or slapped.	1.51	1.49	.65	-1.01
34. (D)	I defended someone who had things purposely taken from them.	1.26	1.41	.96	-.40
35. (D)	I defended someone who was being called mean names.	1.52	1.46	.68	-.93
36. (D)	I tried to include someone if they were being purposely left out.	1.87	1.43	.35	-1.24
37. (D)	I helped someone who had their books knocked out of their hands on purpose.	1.33	1.48	.83	-.77
38. (D)	I helped someone who was purposely tripped.	1.48	1.44	.74	-.82
39. (D)	When I saw someone being physically harmed, I told an adult.	1.52	1.48	.66	-.96
40. (D)	I defended someone who I thought was being tricked on purpose.	1.34	1.44	.84	-.66
41. (O)	I pretended not to notice when things were taken or stolen from another student	.21	.60	4.14	20.99
42. (O)	I pretended not to notice when rumors were being spread about other students	.29	.70	3.27	12.49
43. (O)	I ignored it when I saw someone making fun of another student	.20	.55	3.60	16.50
44. (O)	I pretended not to notice a situation that purposely left someone out	.22	.62	3.92	18.23
45. (O)	I ignored it when I saw someone breaking or damaging another student's things.	.17	.51	4.04	21.19

Table 1 Continues

Table 1 (Continued)

		M	SD	Knewness	Kurtosis
46. (O)	I pretended not to notice when someone else tripped another student on purpose	.13	.42	4.46	27.08
47. (O)	I ignored it when someone else punched or poked another student	.19	.55	3.84	17.95
48. (O)	I ignored it when someone else threw something at another student.	.16	.52	4.79	27.76
49. (O)	I ignored it when someone else tricked another student	.18	.53	3.93	19.40
50. (O)	I pretended not to notice when someone was destroying another student's property.	.11	.47	5.56	35.96

Note. The labels in parenthesis indicate the intended subscale of the BPBQ (B= Bully, A= Assistant, V= Victim, D= Defender, O= Outsider).

Table 2
Readability Analysis for the BPBQ

	Bully	Assistant	Victim	Defender	Outsider
Flesch-Kincaid	5.0	6.0	1.3	4.6	7.6
Gunning- Fog	8.3	8.8	3.8	5.8	9.5
Automated Readability	4.6	6.7	1.2	5.6	7.4
Average	**6.0**	**7.2**	**2.1**	**5.3**	**8.2**

Note. Score indicates grave level readability. The average readability score was used for decision-making.

Table 3
Factor Structure of BPBQ with All Items

	Factor 1		Factor 2		Factor 3		Factor 4		Factor 5		
Items	*P*	*S*	*P*	*S*	*P*	*S*	*P*	*S*	*P*	*S*	h^2
1. (B)	**.73**	.65	.03	.21	.07	.06	-.04	.31	-.13	.21	.44
2. (B)	**.85**	.81	-.06	.19	.03	.04	.03	.45	-.09	.34	.67
3. (B)	**.60**	.61	.08	.23	-.05	.02	.07	.37	-.10	.24	.39
4. (B)	**.50**	.61	.01	.20	.07	.09	-.07	.36	.29	.50	.43
5. (B)	**.45**	.63	.02	.22	.04	.07	.08	.47	.26	.53	.46
6. (B)	**.61**	.68	-.10	.11	.02	.00	.08	.45	.11	.44	.49
7. (B)	**.03**	.42	.01	.11	-.01	-.01	-.03	.42	**.83**	.83	.69
8. (B)	**.55**	.51	.09	.18	-.12	-.04	.05	.28	-.19	.12	.30
9. (B)	**.67**	.76	.06	.29	.00	.07	.14	.52	-.01	.40	.59
10. (B)	**.73**	.72	-.07	.15	.04	.05	-.08	.37	.12	.42	.54
11. (A)	-.06	.20	.11	.20	.01	.05	**.44**	.41	-.03	.18	.18
12. (A)	-.24	.14	.06	.13	-.02	-.01	**.48**	.46	.20	.34	.26
13. (A)	-.15	.36	.08	.17	-.07	-.04	**.30**	.58	**.66**	.76	.63
14. (A)	.08	.44	-.01	.11	.01	.01	-.09	.39	**.83**	.82	.69
15. (A)	**.46**	.45	.17	.24	-.07	.03	-.16	.17	.06	.22	.23
16. (A)	.04	.34	.12	.21	-.06	-.00	**.39**	.50	.11	.35	.27
17. (A)	**.45**	.56	-.07	.10	-.01	-.02	.10	.42	.16	.42	.36
18. (A)	-.03	.41	.03	.12	-.01	-.00	-.10	.41	**.99**	.93	.88
19. (A)	.21	.39	-.04	.12	.01	-.00	**.52**	.52	-.21	.16	.31
20. (A)	-.03	.30	.05	.20	-.00	.02	**.67**	.61	-.09	.24	.38
21. (V)	-.02	.16	**.72**	.76	.09	.42	.11	.19	-.17	-.03	.61
22. (V)	-.01	.19	**.75**	.79	.09	.44	.07	.19	-.11	.02	.64
23. (V)	.00	.19	**.76**	.74	-.02	.33	-.09	.12	.04	.09	.55
24. (V)	.08	.29	**.71**	.73	-.04	.29	.05	.26	-.03	.13	.54
25. (V)	-.09	.15	**.74**	.74	.03	.37	.02	.18	.03	.10	.55
26. (V)	.04	.26	**.76**	.78	.02	.38	-.00	.22	.01	.13	.61
27. (V)	.06	.31	**.78**	.81	.01	.37	-.03	.25	.10	.21	.66
28. (V)	-.04	.23	**.78**	.79	-.01	.35	.08	.25	.01	.13	.62
29. (V)	.08	.30	**.71**	.75	.04	.38	-.05	.21	.09	.19	.57
30. (V)	.05	.27	**.80**	.79	-.04	.33	-.04	.21	.04	.14	.63
31. (D)	-.09	-.06	.05	.32	**.65**	.67	.02	-.05	-.07	-.10	.46
32. (D)	-.04	-.01	.03	.34	**.76**	.76	-.08	-.07	.05	-.01	.58
33. (D)	.09	.06	.02	.37	**.78**	.79	-.11	-.07	-.02	-.04	.63
34. (D)	.06	.12	.03	.42	**.83**	.84	-.09	.01	.14	.11	.73
35. (D)	.08	.12	.03	.43	**.84**	.85	-.04	.01	.02	.04	.73
36. (D)	-.02	.02	-.06	.34	**.85**	.82	.14	.04	-.13	-.09	.69
37. (D)	-.12	-.02	.00	.38	**.83**	.82	.14	.04	-.06	-.05	.70
38. (D)	-.05	.03	.03	.41	**.83**	.84	.01	.00	.04	.02	.71
39. (D)	-.05	.02	.03	.39	**.80**	.81	.00	-.01	.02	.00	.65
40. (D)	-.06	.10	-.04	.39	**.87**	.86	.01	.02	-.01	.01	.74
41. (O)	.04	.31	.20	.27	-.06	.03	**.37**	.46	.04	.27	.24

Table 3 Continues

Table 3 (Continued)

	Factor 1		Factor 2		Factor 3		Factor 4		Factor 5		
Items	*P*	*S*	*P*	*S*	*P*	*S*	*P*	*S*	*P*	*S*	h^2
42. (O)	.13	.32	-.02	.12	.03	.03	**.34**	.41	.00	.24	.18
43. (O)	-.11	.20	-.08	.08	.07	.03	**.67**	.54	-.09	.20	.32
44. (O)	.13	.37	.04	.18	-.01	.01	**.50**	.53	-.09	.23	.30
45. (O)	.04	.41	-.04	.11	-.03	-.05	**.56**	.64	.14	.45	.44
46. (O)	.14	.38	-.03	.12	-.01	-.02	**.42**	.51	.03	.32	.27
47. (O)	.07	.44	-.15	.05	.04	-.03	**.50**	.64	.26	.53	.48
48. (O)	.19	.47	-.03	.14	-.03	-.04	**.53**	.63	.00	.37	.42
49. (O)	-.02	.34	.07	.20	.04	.06	**.34**	.51	**.32**	.49	.33
50. (O)	-.06	.30	-.13	-.01	.00	-.07	**.32**	.49	**.45**	.57	.39
Eigenvalue	3.32		8.26		11.33		2.43		2.01		
% Variance	6.65		16.52		22.67		4.86		4.17		

Note. The labels in parenthesis indicate the intended subscale of the BPBQ (B= Bully, A= Assistant, V= Victim, D= Defender, O= Outsider). *S* = Structure Coefficient, *P* = Pattern Coefficient, h^2 = Communality. Salient factor pattern coefficients (≥ .30) are presented in bold. Items 7, 13, 49, and 50 all cross-loaded onto two factors. Promax rotated factor correlations: F1F2 r = 0.466, F1F3 r = 0.052, F1F4 r = -0.007, F1F5 r = -0.008, F2F3 r = 0.283, F2F4 r = 0.250, F2F5 r = 0.128, F3F4 r = 0.555, F3F5 r = 0.489, F4F5 r = 0.523.

Table 4
Final Factor Structure of the BPBQ

BPBQ Items	F1: Bully		F2: Victim		F3: Defender		
	P	*S*	*P*	*S*	*P*	*S*	h^2
1. I have called another student bad names. (B)	**.61**	.62	.03	.22	.01	.06	.39
2. I have made fun of another student. (B)	**.82**	.81	-.05	.21	.01	.04	.65
3. I have purposely left out another student. (B)	**.59**	.61	.08	.24	-.06	.02	.38
4. I have pushed, punched, or slapped another student. (B)	**.67**	.66	-.02	.21	.06	.09	.44
5. I have tried to make people dislike another student. (B)	**.64**	.65	.03	.23	.02	.07	.42
6. I have tried to make people dislike another student. (B)	**.70**	.67	-.09	.12	.00	-.00	.46
7. I have stolen things from another student. (B)	**.48**	.48	-.02	.12	-.02	-.00	.23
8. I have thrown things at another student. (B)	**.46**	.49	.10	.19	-.12	-.04	.25
9. I have said bad things about another student. (B)	**.75**	.78	.08	.30	-.02	.07	.61
10. I have talked about someone behind their back. (B)	**.73**	.71	-.08	.17	.04	.04	.51
11. I have been called mean names. (V)	-.07	.16	**.75**	.77	.07	.43	.60
12. I have been made fun of. (V)	-.06	.19	**.78**	.80	.08	.44	.65
13. I have been purposely left out of something. (V)	-.04	.19	**.75**	.73	-.02	.34	.53
14. I have been ignored. (V)	.08	.30	**.73**	.73	-.05	.30	.54
15. I have been pushed around, punched, or slapped. (V)	-.09	.15	**.76**	.74	.01	.37	.56
16. I have been pushed or shoved. (V)	.02	.26	**.78**	.79	.01	.38	.62
17. People have told lies about me. (V)	.09	.33	**.77**	.80	.00	.38	.65

Table 4 Continues

Table 4 (Continued)

BPBQ Items	F1: Bully		F2: Victim		F3: Defender		
	P	*S*	*P*	*S*	*P*	*S*	h^2
18. People have tried to make others dislike me. (V)	-.00	.24	**.80**	.79	-.02	.36	.62
19. I have been threatened by others. (V)	.11	.32	**.68**	.74	.05	.38	.56
20. I have had things taken from me. (V)	.02	.26	**.80**	.79	-.04	.34	.62
21. I have tried to become friends with someone after they were picked on. (D)	-.10	-.05	.05	.32	**.66**	.67	.46
22. I encouraged someone to tell an adult after they were picked on. (D)	-.05	-.00	.01	.35	**.76**	.76	.58
23. I defended someone who was being pushed, punched, or slapped. (D)	.01	.05	-.01	.37	**.80**	.79	.63
24. I defended someone who had things purposely taken from them. (D)	.10	.15	-.00	.43	**.84**	.84	.72
25. I defended someone who was being called mean names. (D)	.06	.12	.02	.43	**.84**	.85	.73
26. I tried to include someone if they were being purposely left out. (D)	-.02	.02	-.03	.35	**.83**	.81	.66
27.I helped someone who had their books knocked out of their hands on purpose. (D)	-.06	-.01	.02	.38	**.82**	.82	.68
28. I helped someone who was purposely tripped. (D)	-.01	.05	.02	.41	**.84**	.84	.71
29. When I saw someone being physically harmed, I told an adult. (D)	-.03	.03	.03	.39	**.80**	.81	.65
30. I defended someone who I thought was being tricked on purpose. (D)	.06	.10	-.03	.40	**.87**	.86	.74
Eigenvalue	9.95		5.14		3.01		
% Variance	33.16		17.14		10.03		

Note. The labels in parenthesis indicate the intended subscale of the BPBQ (B= Bully, V= Victim, D= Defender). *S* = Structure Coefficient, *P* = Pattern Coefficient, h^2 = Communality. Salient factor pattern coefficients (≥ .30) are presented in bold. Promax rotated factor correlations: Bully/Victim $r = 0.473$, Bully/Defender $r = 0.060$, Victim/Defender $r = 0.307$.

Table 5
Higher Order Factor Analysis for the BPBQ

	General		F1: Bully		F2: Victim		F3: Defender			
Item	*b*	S^2	*b*	S^2	*b*	S^2	*b*	S^2	h^2	u^2
1 (B)	.21	.05	**.58**	.34	.02	.00	.01	.00	.39	.61
2 (B)	.22	.05	**.78**	.61	-.03	.00	.01	.00	.65	.34
3 (B)	.21	.04	**.56**	.32	.06	.00	-.05	.00	.38	.64
4 (B)	.22	.05	**.63**	.40	.02	.00	.05	.00	.44	.55
5 (B)	.23	.05	**.61**	.37	.02	.00	.02	.00	.42	.58
6 (B)	.15	.02	**.66**	.44	-.06	.00	.00	.00	.46	.54
7 (B)	.12	.02	**.46**	.21	-.01	.00	-.02	.00	.23	.77
8 (B)	.15	.02	**.44**	.19	.07	.00	-.10	.01	.25	.79
9 (B)	.28	.08	**.72**	.51	.05	.00	-.01	.00	.61	.41
10 (B)	.19	.04	**.70**	.48	-.05	.00	.03	.00	.51	.48
11 (V)	.56	.32	-.07	.01	**.52**	.27	.06	.00	.60	.41
12 (V)	.59	.35	-.05	.00	**.54**	.29	.06	.00	.65	.36
13 (V)	.52	.27	-.04	.00	**.52**	.27	-.01	.00	.53	.46
14 (V)	.52	.27	.08	.01	**.50**	.25	-.04	.00	.54	.48
15 (V)	.53	.28	-.08	.01	**.53**	.28	.01	.00	.56	.44
16 (V)	.57	.33	.02	.00	**.54**	.29	.00	.00	.62	.38
17 (V)	.59	.35	.09	.01	**.53**	.28	.00	.00	.65	.37
18 (V)	.56	.32	-.00	.00	**.55**	.30	-.02	.00	.62	.38
19 (V)	.56	.31	.10	.01	**.47**	.22	.04	.00	.56	.47
20 (V)	.56	.32	.02	.00	**.55**	.31	-.04	.00	.62	.38
21 (D)	.37	.14	-.10	.01	.03	.00	**.54**	.29	.46	.57
22 (D)	.42	.18	-.05	.00	.01	.00	**.63**	.39	.58	.43
23 (D)	.44	.20	.01	.00	-.01	.00	**.66**	.43	.63	.37
24 (D)	.50	.25	.10	.01	-.00	.00	**.69**	.48	.72	.27
25 (D)	.51	.26	.06	.00	.01	.00	**.69**	.48	.73	.26
26 (D)	.44	.19	-.02	.00	-.02	.00	**.69**	.47	.66	.34
27 (D)	.46	.21	-.06	.00	.01	.00	**.68**	.46	.68	.33
28 (D)	.49	.24	-.01	.00	.02	.00	**.69**	.48	.71	.29
29 (D)	.46	.21	-.03	.00	.02	.00	**.66**	.43	.65	.36
30 (D)	.49	.24	.06	.00	-.02	.00	**.72**	.51	.74	.25
Total Variance		.18		.13		.09		.14	.60	.46
% Common Variance		.34		.23		.17		.27		
			α = .88		α = .93		α = .95			
	ω_h = .54		ω_s = .80		ω_s = .44		ω_s = .64			

Note. *S* = Structure Coefficient, *b* = loading of item on factor, S^2 = variance explained, h^2 = communality, u^2 = uniqueness, ω_h = Omega hierarchical, ω_s = Omega subscale, α = Cronbach's coefficient alpha. Bold type indicates coefficients and variance estimates consistent with the theoretically proposed factor. The labels in parenthesis indicate the intended subscale of the BPBQ (B= Bully, V= Victim, D= Defender).

Table 6
Item-Subscale Correlations

Bully		Victim		Defender	
BPBQ 1	.694**	BPBQ 11	.794**	BPBQ 21	.723**
BPBQ 2	.829**	BPBQ 12	.820**	BPBQ 22	.794**
BPBQ 3	.671**	BPBQ 13	.763**	BPBQ 23	.816**
BPBQ 4	.703**	BPBQ 14	.758**	BPBQ 24	.847**
BPBQ 5	.677**	BPBQ 15	.771**	BPBQ 25	.856**
BPBQ 6	.686**	BPBQ 16	.808**	BPBQ 26	.831**
BPBQ 7	.508**	BPBQ 17	.816**	BPBQ 27	.841**
BPBQ 8	.551**	BPBQ 18	.809**	BPBQ 28	.855**
BPBQ 9	.800**	BPBQ 19	.764**	BPBQ 29	.827**
BPBQ 10	.749**	BPBQ 20	.806**	BPBQ 30	.863**

Note. ** $p < .01$.

Table 7
Correlations Among the BPBQ Subscales and the BESS

	Bully	Victim	Defender	BESS
Bully	--			
Victim	.291**	--		
Defender	.051	.458**	--	
BESS	.103*	.136**	.135**	--

Note. ** $p < .01$. * $p < .05$.

Table 8
Means and Standard Deviations by Sex and Total Sample on the BPBQ Subscales

Sex	*n*	Bully		Victim		Defender	
		M	*SD*	*M*	*SD*	*M*	*SD*
Female	190	2.04	2.84	8.61	9.71	16.23	12.34
Male	177	2.04	4.44	8.07	9.11	14.07	11.53
Total	367	1.85	3.69	8.35	9.41	15.19	11.99

Note. The main effect of sex was not significant.

Table 9

Means and Standard Deviations by Grade Level on the BPBQ Subscales

Grade Level	*n*	Bully		Victim		Defender	
		M	*SD*	*M*	*SD*	*M*	*SD*
3rd	114	1.58	4.40	8.91	10.34	17.23	13.30
4th	126	1.69	2.75	7.91	8.65	16.53	12.21
5th	127	2.23	3.81	8.29	9.32	12.09	9.83
Total	367	1.85	3.69	8.35	9.41	15.19	11.99

Note. The main effect of grade level was significant, Wilks' Lambda = .95, F (3, 710) = 3.29, p = .003. The follow-up ANOVAs indicated that significant differences for the Defender Subscale Scores, F (1, 363) = 6.90, p = .001. Post hoc Scheffe analyses indicated that on the Defender subscale 5th graders scores significantly lower compared to 3rd graders (Cohen's d = 4.82) and 4th graders (Cohen's d =4.08). These results indicate that 5th graders show defending behaviors less often than 3rd and 4th graders.