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# Context and the Assessment of Peer Preference: The Lunch Table Rating Scale

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of the requirements for the degree of
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By

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**ABSTRACT**

This study reports on the development and initial evaluation of a novel peer-report measure of lunch mate preference. The Lunch Table Rating Scale (LTRS) was designed to assess peer preference within a narrow but important social context while limiting the unwanted influence of reputational bias on peer ratings. Psychometric properties of the LTRS were examined using a sample of 298 fourth-grade students. The LTRS demonstrated good internal consistency and adequate stability over a four-month interval. LTRS scores were positively correlated with social preference scores from a traditional classroom sociometric instrument and negatively correlated with self-, teacher-, and peer-reported levels of peer victimization. Structural models predicting children's level of peer victimization supported the incremental validity of the LTRS: Model fit improved when LTRS scores were used along with social preference and child gender as predictor variables. Results support the notion that the lunchroom is an important social context for studying the relationships of bullied children and offer preliminary evidence for the utility of the LTRS.

This thesis is approved for recommendation
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Children who experience stable peer victimization during childhood are at risk for a mix of negative outcomes throughout the lifespan (see Hawker & Boulton, 2000; Reijntjes, Kamphuis, Prinzie, & Telch, 2011; Rudolph, Troop-Gordon, Hessel, & Schmidt, 2011). Research has documented the critical role of peer relationships in determining which children are victimized and which victimized children experience negative outcomes (Card, Isaacs, & Hodges, 2007; Fox & Boulton, 2006). The degree to which children are accepted or actively rejected by peers is also a useful predictor of their overall adjustment, separate from their peer victimization experiences (Coie, Dodge, & Coppotelli, 1982; Morison & Masten, 1991; Parker & Asher, 1987). For school aged children, measures of peer acceptance are typically administered to every student in the classroom, with little regard to the amount of direct interactions among classmates or to the specific contexts in which those interactions take place. Thus it is possible for peers to nominate or rate a classmate based less on the quality of their direct social experiences with that child and more on the basis of that child's social reputation (Hymel 1986; Hymel, Wagner, & Butler, 1990).

I propose that assessing peer acceptance within a narrowly defined school context could yield information that is less influenced by reputational bias and more reflective of children's direct social exchanges with peers. The goal of the current investigation is to examine the psychometric properties of a newly developed measure of peer acceptance, one designed to assess the extent to which children are liked by nearby lunch mates. It is hypothesized that scores from this new measure will be significantly associated with a more traditional index of peer relationships (e.g., social preference scores) and will aid in predicting children's level of peer victimization.

**Peer Victimization**

The term *peer victimization* is often used synonymously with *bullying*, but the emphasis in this study is on the victims of school bullying rather than on the behavior of bullies. Elledge, Cavell, Ogle, and Newgent (2010), borrowing from prior research (Gazelle & Ladd, 2002; Hawker & Boulton, 2000; Juvonen & Graham 2001; Olweus, 1993), defined *peer victimization* as "repeated exposure to peer interactions that (a) convey harmful intent; (b) produce harmful effects; and (c) are sanctioned, implicitly or explicitly, by peers" (p. 172). This definition recognizes power differences that extend beyond the bully–victim dyad to include bystanders, supporters, and others who do not intervene in the face of peer victimization (Craig & Pepler, 1997; Olweus, 1993; Rodkin & Hodges, 2003). Recent work by Salmivalli and colleagues (2010) revealed that peer victimization is often a peer group phenomenon occurring in the context of a larger social structure such as a classroom or playgroup and not just within a bully-victim dyad. It appears that children who experience repeated peer victimization occupy a consistent position of low social standing within their classroom or playgroup (Rodkin & Hodges, 2003; Craig & Pepler, 1997; Salmivalli, 2010).

Researchers typically rely on reports from multiple informants when assessing peer victimization (Ladd & Kochenderfer-Ladd, 2002). Commonly used are reports from children, peers, and teachers. Researchers also distinguish between *direct* or *overt* forms of peer victimization and *indirect* or *relational* forms of victimization (Crick & Grotpeter, 1996; Crick & Nelson, 2002, Olweus, 1993). The former includes both physical acts such as pushing, hitting, and kicking, as well as verbally explicit forms of bullying such as teasing, name-calling, and threats. The latter refers to bullying actions that are performed covertly or with greater subtlety. These include exclusion from social activities, spreading rumors, and other actions aimed at

diminishing the interpersonal relationships or social reputation of victims. Extant research suggests that direct victimization is more common among boys than girls (Olweus, 1993) and that girls are more likely to experience indirect types of victimization than boys (Crick & Grotpeter, 1996; Storch & Ledley, 2005). However, some researchers find that relational victimization occurs with similar frequency in boys and girls (Prinstein, Boergers, & Vernberg, 2001; Card & Hodges, 2008). It also appears that the context of peer interactions can affect which types of bullying occur. For example, direct forms of bullying are more likely to occur in settings within schools where there is little adult supervision (Olweus, 1991).

It is not only important to distinguish among types of bullying, but also to draw distinctions between types of victims. O'Moore and Kirkham (2001) found that about 10% of children reporting moderate to high levels of peer victimization also reported the bullying of others. Children who are characterized by both bullying behavior and victimization experiences have been labeled *provocative victims, bully-victims*, or *aggressive victims* (Katiala-Heino, Rimpela, Rantenen, & Rimpela, 2000; O'Moore & Kirkham, 2001; Schwartz et al., 1998). This subgroup is significantly smaller than groups of children who are victims only or bullies only, but empirical evidence suggests that bully-victims are at greater risk for later adjustment difficulties (e.g., psychopathology, substance abuse) than children who are victims only or bullies only (Katiala-Heino et al., 2000; Rodkins and Hodges, 2003).

Recent studies examining the prevalence of peer victimization suggest that 20-30% of children and adolescents can be identified as victims at one time point during a given school year (Kochenderfer-Ladd, & Wardrop, 2001; Nansel, Overpeck, Pilla, Ruan, Simons-Morton, & Scheidt, 2001; Solberg & Olweus, 2003). Research conducted in the United States suggests that although many children report instances of victimization, only a small percentage of children,

generally estimated between 4-13%, are chronically bullied by peers (Kochenderfer-Ladd & Wardrop, 2001; Nansel, et al. 2001; Reijntjes et al., 2010). Prevalence estimates of chronic victimization vary significantly across epidemiological studies depending on the criteria used to define chronic victimization, informant (e.g., children, peers, teachers), the age of the sample, and the country in which the study was conducted (Kochenderfer-Ladd, & Wardrop, 2001; Frey, Hirchstein, Edstrom & Snell, 2009; **Wolke, Woods, Stanford & Schultz, 2001).**

Increased levels of peer victimization during childhood have been linked to a host of social and psychological difficulties, concurrently and persisting into adolescence and adulthood (Hawker & Boulton, 2000; Reijntjnes et al., 2010). Children who experience peer victimization are at an increased risk to evince depression, loneliness, low self-esteem, disrupted academic performance, and low school attendance (Gazelle & Ladd, 2002; Juvenon & Graham, 2001; Rudolph et al., 2011). Adolescents and adults who experienced peer victimization during childhood are at greater risk for substance use problems, depression, anxiety, eating disturbances, and suicidal ideation (Jackson, Grilo, & Masheb, 2000; Ledley et al., 2006; Niemela et al., 2011; Rigby, 2005; Roth, Coles, & Heimberg 2002; Schwartz, Phares, Tanleff-Dunn, & Thompson, 1999; Smokowski & Kopasz, 2005; Thompson, 1996). Although many children are exposed to instances of peer victimization, symptoms of emerging psychopathology are more common among children who persist in the victim role (Goldbaum, Craig, Pepler, & Connolly, 2003; Kochenderfer-Ladd & Wardrop, 2001).

Previous research has examined numerous personal, cognitive, interpersonal, familial, and school context variables thought to influence children's risk for peer victimization (for a review see Card, Isaacs, & Hodges, 2007). Most relevant to this study is research documenting the role of children's social functioning and quality of peer relationships as risk or protective

factors. Research over the past three decades has shown that the quality of children's peer relationships is a robust predictor of peer victimization and a potential moderator of the relation between peer victimization and negative consequences of victimization (Card et al., 2007; Fox & Boulton, 2006; Prinstein, 2007).

**Peer Victimization and Children's Relationships with Peers**

The degree to which children are accepted by peers is one of the best-established correlates of children's level of peer victimization (Buhs, 2005; Pellegrini, Bartini, & Brooks, 1999). Not surprisingly, children with high levels of peer acceptance are at a reduced risk for being bullied and children actively rejected by peers are at an increased risk of being targets of bullying (Buhs & Ladd 2001; Hanish & Guerra, 2000; Hodges, Malone, & Perry, 1997). Work by Wolke, Woods, and Samara (2010) showed that children disliked by peers were more likely to persist as victims when compared to children that had been bullied but were generally liked by peers.

Additional studies link peer victimization to children's involvement in friendships, the quality of those friendships, and to the social status of their friends (Fox & Boulton, 2006; Hodges et al., 1999). Fox and Boulton (2006) found that for children perceived by peers as lacking social skills, the number of reciprocated best friends was negatively associated with level of peer victimization. Children's friendships have also been shown to moderate the relation between peer victimization and emerging psychopathology; for children with reciprocated friendships, the expected relation between peer victimization and emergent psychopathology is attenuated (Hodges et al., 1999).

**Assessing Peer Acceptance**

Peer acceptance is typically measured at the class- or grade-wide level, most often using peer nomination or sociometric instruments. Peer-based assessments reflect not only another's perspective on children's social functioning, as is the case with teacher- or parent-report, but also a summative estimate of the group's perceptions regarding a child's level of social acceptance or social reputation (Parker & Asher, 1987). Peer-report instruments are also valuable because they assess individuals relative to other children in the same social system. Perhaps the most important feature of peer-based assessments is research showing children's level of peer acceptance or rejection can account for unique and meaningful levels of variance when predicting later psychological and social maladjustment above and beyond what can be gleaned using self-report measures (Parker & Asher, 1987; Realmuto, August, Sieler, & Pessoa-Brandao, 1997).

A common approach to peer assessment involves a sociometric evaluation, which asks children to nominate classmates whom they like most and classmates whom they like least (Coie et al., 1982). These nominations are tallied and used to compute social preference (liked most – liked least nominations) and social impact (liked most + liked least nominations) scores. These scores are commonly used to classify children into distinct sociometric groups such as popular, rejected, neglected, and high social impact (Coie et al., 1982).

The use of negative nominations has raised ethical concerns due to fears that asking children to make explicit liked-least nominations could lead to stigmatization or mistreatment of negatively nominated classmates (Asher & Hymel, 1981; Hayvren and Hymel 1984). Several empirical studies have examined the link between negative peer nominations and subsequent mistreatment by peers; however, no studies to date have found strong evidence supporting this

connection (Bell-Dolan, Foster, & Sikora, 1989; Havren & Hymel, 1985; Mayeux, Underwood, & Risser, 2007). Nonetheless, concerns about negative effects have led to the development of alternative methods of measuring social preference that do not require explicit "liked-least" nominations (Asher & Dodge, 1986). Most common is the strategy of asking children to rate all classmates on a continuum of liking and then using instances of the lowest rating (e.g., not liked at all) as a liked-least nomination (see Asher & Dodge, 1986; Bukowski, Sippola, Hoza, & Newcomb, 2000). Asher and Dodge (1986) examined the psychometric properties of this alternative method and found it fairly comparable to those that rely on liked-least nominations, particularly when identifying children who are rejected by peers. This alternative approach is less useful, it seems, when identifying children who are neglected by peers.

Traditional sociometric procedures are known for their strong temporal stability, and established associations with concurrent and future maladjustment (Cillessen, Bukowski, & Haselager, 2000; Mayeux, Bellmore, & Cillessen, 2007; Parker & Asher 1987; Rudolph, Hammen, & Burge, 1995). Sociometric procedures were assumed initially to reflect the overall quality of children's interactions with classmates over time and across contexts (Coie et al., 1982; Dodge, 1983). Subsequent work suggested that social preference measures are not solely dependent on the quality of peer interactions but also reflect children's *reputation* among classmates (Hymel, 1986). Hymel found that for a child with an established negative reputation, peers tended to interpret his or her future behavior with a negative bias consistent with the established reputation. Conversely, peers tended to view more benignly the behavior of children with positive social reputations.

Hughes, Cavell, and Wilson (2001) raised additional questions about the factors that influence traditional measures of peer preference. These investigators found that a child's

relationship with the teacher, as assessed via peer nominations, predicted social preference scores even when controlling for peer-reported aggression. This finding suggests that peer preference is likely influenced by the quality of target children's interactions with teachers and not simply their interactions with classmates or their social reputation among peers.

Traditional sociometric procedures systems have also been regarded as relatively insensitive to intervention-induced change (Krehbiel & Milich, 1986). Several interventions designed to improve the social skills of rejected children found improvements in rejected children's knowledge of social skills, observed positive interactions with peers, and abilities to demonstrate social competency, but little or no gain in sociometric status (Bierman & Furman, 1984; Bierman, Miller, & Stabb 1987; Cillessen, Bukowski, & Haselager, 2000; La Greca & Santogrossi, 1980).

Another key limitation of traditional sociometric measurement is the overlap between peer acceptance and friendship. Parker and Asher (1993) found that measures of friendship quality and peer acceptance contributed independently to children's reports of loneliness, but there was also substantial overlap between the two constructs. Because children tend to nominate as "liked most" those classmates with whom they are friends (Parker & Asher, 1993) and because friendship is often assessed via sociometric nominations, it is likely that such choices reflect a selection bias and not simply an assessment of the quality of a child's interactions with classmates. Because peers' direct experiences with a child who is not well known or not well liked is often limited, some researchers have used measures of peer acceptance that require the ranking or rating of all classmates (Asher & Dodge, 1986; Bukowski et al., 2000).

One way to limit the influence of reputational or selection bias on measures of peer acceptance would be to selectively assess those classmates who interact often with a target child. These could be classmates who sit with the child at lunchtime or near the child in the classroom. Within schools, some settings provide more opportunity for social exchange than other settings. For example, the playground and lunchroom generally offer more frequent and lengthier opportunities for peer interaction than the classroom (Leff, Power, Costigan & Manz, 2003). A measure of peer acceptance that is context-specific and used alongside traditional sociometric measurement systems could reduce potential confounds due to reputational or selection bias and provide a more sensitive means of assessing intervention-induced changes in peer acceptance. More importantly, a context-specific approach to assessing peer acceptance could aid in understanding the processes that lead some children to become chronic victims of peer harassment (Hodges et al., 1999; Leff, et al., 2003).

**The Present Study**

The current investigation examined the psychometric properties and predictive utility of a newly developed measure of peer acceptance, one designed to measure the extent to which children are liked by nearby peers during the school lunch period. In most elementary schools, the lunchroom offers distinct advantages for assessing peer relationships: There is ample opportunity for social interaction but limited opportunity for selecting with whom one interacts. Thus, children's ratings of their interactions with lunchtime peers should be less influenced by reputational bias or friendship choices. The Lunch Table Rating Scale (LTRS) was designed to assess children's level of peer acceptance within the school lunchroom. The goals of this study were to examine the reliability and validity of this new measure, and determine if scores from the LTRS predicted children's level of peer victimization. Primary hypotheses were 1) Scores

derived from the LTRS would demonstrate adequate internal reliability, temporal stability, and overlap with established measures of social functioning, 2) LTRS scores would predict children's level of peer victimization over and above traditional sociometric indices alone, and 3) a two-way LTRS level X LTRS variation interaction would be present, such that for children who have generally low ratings, increased variability in LTRS ratings would serves as protective factor for peer victimization.

## Method

### Participants

All fourth-grade students enrolled in one of seven public elementary schools in Northwest Arkansas were asked to participate in the Peer Safety Project, a larger study designed to gather information on several variables related to bullying. A total of 661 consent forms were sent home with children, and 333 (50.3%) were returned. Of those returned, parents' written consent and child assent were obtained for 298 (89.5%) children. Participating children were between ages 8 and 11 years with a mean age of 9.86 (*SD* = .46). The sample consisted of 163 girls (54.7%) and 145 boys (45.3%). Self-reported demographic information suggested that the sample consisted of individuals from the following ethnic backgrounds: Hispanic (41.1%), Caucasian (33.9%), bi- or multi-racial children (10.3%), Pacific Islander (6.8%), Asian (2.3%), Black (1.7%), American Indian (1.0%) and "Other" (2.7%).

Temporal stability of LTRS scores was examined using a separate sample of fourth- and fifth-grade students who completed the LTRS twice, 4 months apart ($n$ = 74). Children were from one of the schools used in the current sample but their participation occurred one year prior to that of the primary sample. This sample consisted of 33 boys (45.8%) and 39 girls (52.7%) and 2 children who did not provide information on their gender. Self-reported demographic

information suggested that the sample consisted of individuals from the following ethnic backgrounds: Hispanic (54.1%), Caucasian (27%), bi- or multi-racial children (5.4%), Asian (4.1%), Black (1.4%), and "Other" (5.7%).

**Measures**

**Lunch Table Rating Scale (LTRS).** The LTRS is a newly developed instrument that asks children to indicate the degree to which they accept or like nearby lunch mates. In the current study, children were presented with a picture illustrating seats around a school lunch table (See Figure 1), accompanied by a roster of participating classmates. Children were then asked to identify up to five lunch mates who typically sit closest to them during lunch (two children on either side and three children sitting across from them). Once nearby lunch mates were identified, children then rated each lunch mate on two dimensions: 1) how much they like to sit by them, and 2) how much they like to talk to them on a 5-point scale (0 = *Not at All*; 4 = *Very Much*). These ratings were highly correlated ($r$ = .78, $p$ <.001) and thus were averaged to create an *LTRS score* for each peer rater. Children were limited to the roster of participating classmates when identifying nearby lunch mates. If children identified classmates who were not in the study as nearby lunch mates, they were instructed to write an "X" in place of a roster number for that spot at the table.

Because the LTRS yields a number of different scores or parameters, it was important to examine the properties of these scores before examining relations between the LTRS and other variables of interest. Parameters derived from the LTRS included a) highest score received from a peer (LTRS Highest), b) lowest score received from a peer (LTRS Lowest), c) average score across raters (LTRS level), d) range of LTRS scores among raters (LTRS Range), and e) the standard deviation across LTRS scores (LTRS *SD*).

**Class-wide peer acceptance.** Class-wide sociometric ratings were obtained following the procedure detailed by Asher and Dodge (1986). First, children in the study were given a roster of participating classmates along with each child's study identification number. Children were then asked to nominate 3 children they "like to play with the most." Instead of "liked least" nominations, children rated how much they liked to play with every participating class classmate on a 5-point scale (1 = *don't like at all*; 5 = *like very much*) and a rating of 1 was counted as a "liked least" nomination. Social preference scores were computed by subtracting "liked least" nominations from "liked most" nominations and standardizing these scores within classrooms (Coie et al., 1982).

**Peer Victimization.** Peer victimization was assessed via child-, peer-, and teacher-reports. A 9-item scale adapted from the School Experiences Questionnaire (Kochenderfer-Ladd, 2004) was used to measure children's self-report of victimization. Physical, verbal, and relational forms of peer victimization were assessed, with each type represented by three items on the scale. Children rated each item on a five-point scale (0= *Never*; 4= *Always*). The questionnaire also contained four filler items that asked about peers' pro-social overtures. The observed alpha across the nine victimization items for the current sample was $\alpha = .87$. Thus, scores were averaged across the nine victimization items to form a total victimization score.

To assess teacher reports of peer victimization, teachers were given a roster listing each participating child and asked to rate the extent to which each child experienced physical (e.g. hit, kicked or pushed by other students), verbal (e.g. called names, teased, or threatened by other students), and relational (e.g. left out of activities or not talked to by other students) forms of victimization. Each form of victimization was assessed by a single item and rated on a 5-point

scale (0 = *Never*; 4 = *Always*). The observed alpha across the three items for the current sample was $\alpha = .76$. Thus, scores were averaged to form a total teacher victimization score.

Peer reports of victimization were gathered using an adapted version of the Revised Class Play (RCP), a commonly used peer-report instrument with established predictive validity (Masten, Morrison, & Pellegrini, 1985). Children were asked to imagine being the director of a class play who is casting up to three children who could play various roles described in the measure. Using the adapted RCP, children were asked to nominate three class mates who best fit roles describing children who were verbally, physically, or relationally victimized by peers. A sample item was "Who could play the part of someone who gets called mean names?" The number of nominations were summed across the three items, divided by the number of nominating classmates, and standardized within classrooms (see Elledge et al., 2010).

**Procedures**

Children for whom parental consent and child assent were obtained were taken out of class to a less populated area (e.g. gymnasium, cafeteria, or classroom) that would afford participants more privacy as they completed questionnaires and would minimize discussion about peer ratings. Children completed self- and peer-report measures in classroom groups while supervised by trained research assistants. For peer reports of victimization, the class-wide peer acceptance measure, and LTRS, children used a numerical roster and items were read aloud; children nominated classmates by writing in the numbers corresponding to their classmates' names or by circling the number of the child they nominated.

In addition to the measures noted earlier, children also completed a demographic questionnaire along with additional measures regarding bullying outside the scope of the current

investigation. The section for demographic information asked children to identify their gender, race, languages spoken in the home, and number of individuals in residence.

## Results

### Reliability of the LTRS

To examine my first hypothesis, inter-item consistency for the two LTRS items ("talk to", "sit by") was examined by computing bivariate correlations between the two ratings for all peer raters. As previously noted, the overlapping variance between the two items was .78 ($p <$ .001); therefore, I made the decision to combine these ratings into a single LTRS score for all subsequent analyses.

Next, temporal stability of LTRS scores was examined using a separate sample of fourth- and fifth-grade students who completed the LTRS twice, 4 months apart ($n$ = 74). 46 children were identified by at least one of the same class mates at both time 1 and time 2. The correlation between the LTRS scores provided by consistent raters between time points was .61 ($p <$ .001).

Also examined (via intra-class correlations; ICCs) was the level of consistency among peers' ratings for each target child. Because the number of peer raters varied across children, ICCs were computed for children who had at least three, four, five, or six peer ratings. The ICC for at least three peer raters ($n$ =154) was .19 ($p$ = .06); for at least four raters ($n$ =83) the ICC was .26 ($p$ <.05); for at least five raters ($n$ =42) the ICC was .29 ($p$ = .07); and for at least six raters ($n$ =22) the ICC was .16 ($p$ =.27). The observed pattern of ICCs suggests only modest convergence among peer raters with some evidence that agreement increases as the number of peer raters increases.

**Descriptive Statistics for the LTRS**

Because the LTRS is a new instrument, it was important to examine descriptive statistics for all potential scores or parameters that could be derived from the scale. The first parameter considered was the number of peers who identified a given child as a nearby lunch mate. This value ranged from 0 to 9, with a mean of 2.75 (*SD* = 1.73), a mode of 2, and a median of 3. Only 7.4% of participating children were not identified as a nearby lunch mate by any classmates and thus received no ratings on the LTRS.

A second parameter involves level of lunch mate liking. Because there was only modest agreement among raters, computing a mean score across peer raters is potentially problematic. Also considered was the sum of all ratings, the highest rating, and the lowest rating as a substitute for the mean across raters. The combination of highest and lowest ratings offered one possible solution, but using this strategy was also seen as problematic in that children rated highly by a single peer but poorly by remaining peers would have a score mathematically equivalent to children rated poorly by a single peer but rated highly by remaining peers. A sum score would capture the overall level of lunch mate preference, but because the number of peer raters varied across children, the score would have to be prorated, ultimately resulting in an average across raters. I also considered incorporating scores that reflected variability in peer ratings for a given child (e.g., range, *SD*). Presented in Table 1 are descriptive statistics for scores derived from the LTRS. Presented in Table 3 are correlations among these scores. Based on the available evidence and the perceived importance of variability among raters, I elected to use LTRS level scores and indices of variability as the test parameters for testing further hypotheses.

**Primary Analyses**

To further assess the convergent validity of the LTRS, I computed zero-order correlations between LTRS scores and both social preference and peer victimization. LTRS level (the mean across raters) was significantly and positively correlated with social preference ($r = .26$, $p < .001$). LTRS level was also significantly and negatively correlated with peer-, teacher-, and self-reported peer victimization (See Table 3. for all correlations). The number of classmates rating the target child was positively associated with both social preference ($r = .33$, $p < .001$) and, surprisingly, peer reports of peer victimization ($r = .17$, $p < .01$). Indices of variability (LTRS range and standard deviation scores) were not significantly correlated with social preference or peer victimization but were highly correlated with each other.

**Structural Models.** To examine my second hypothesis, I tested whether LTRS scores were predictive of children's level of peer victimization as rated by themselves and others (i.e., peers and teachers) using maximum likelihood structural models (AMOS, version 18). Because approximately 7% of the sample was missing LTRS variables (i.e. Level, Range, and SD), all models were run with both the original data (with missing data) and a full data set with missing values replaced with regression-imputed values. Results were comparable (differences in β weights occurred at the hundredths and thousandths place), and therefore only models with original data (no imputation) are presented.

Descriptive analyses suggested that data used for structural modeling were normally distributed, did not contain significant outliers, and had residuals clustered around zero. Scatter plots and zero-order correlations were used to examine potential violations of the assumptions of linearity and multi-collinearity. Results suggested a linear pattern of interrelations among variables and no correlations between variables exceeded .80, except for the correlation between

LTRS standard deviation and LTRS range, which was expected given the mathematical similarity of the two constructs.

Chi-square statistics, Bentler's comparative fit index (CFI), and the root mean square error approximation (RMSEA) were used to determine goodness of fit for each model. Chi-square is interpreted such that non-significant *p* values indicate "good fit" (Ullman, 2007). CFI assesses the degree to which a model improves fit relative to a model in which the variables are completely uncorrelated (Bentler, 1990). CFI values range from 0 to 1 with values above .95 indicating a good fit (Ullman, 2007). RMSEA examines the fit of a model in comparison to a perfectly fit model; several values have been suggested for discriminating good from poor fit, with criterion values ranging from .10 to .05 (Ullman, 2007). MacCallum, Browne, and Sugawara (1996) suggest that models with an RMSEA at or below .05 are indicative of good fit. Because I compared model fit between models in the current study, chi-square difference tests were used when applicable (Ullman, 2007).

All models were run separately for other- versus self-reported peer victimization. A latent construct for others' reports of peer victimization (Peer Victimization-Other) was created using peer- and teacher-reports of peer victimization as indicators. Self-reported peer victimization (Peer Victimization-Self) was formed from the average score across all self-report victimization items. Also created was a latent construct for LTRS variability that combined LTRS range and LTRS standard deviation as indicators. The first set of models regressed LTRS level, LTRS variability, social preference, and gender on the peer victimization-other variable. In the second set of models, these same variables were regressed on the peer victimization-self variable.

**Predicting Peer Victimization-Other.** Tested first was the full Peer Victimization-Other model that included LTRS level, LTRS variability, social preference, and gender (See Figure 2).

Results indicated good fit for the model with $X^2$ (9, $N$ = 298) = 1.02, $p$ = .421, CFI = 1.0, RMSEA = .01, RMSEA 90% CI = .00-.06. For this model, all individual paths were significant at the p < .01 level (standardized β weights are displayed in Figure 2).

I next compared the Peer Victimization-Other full model with a reduced model that included only gender and social preference. This reduced model had an identical structure, but regression weights for paths from LTRS variables to peer victimization were fixed at 0. Fit indices indicated adequate fit for the model with $X^2$ (11, $N$ = 298) = 1.73, $p$ = .059, CFI = .983, RMSEA = .05, RMSEA 90% CI = .00-.08; however, it is clear when comparing fit indices that the full model yielded a better fit. To further assess the difference between models, a chi-square test was used to compare the two models. This test revealed no significant difference in fit between models ($X^2$ (2, $N$ = 298) = .71, $p$ = .57) suggesting that both models fit the data well and were not significantly different from one another in terms of Chi-square values.

Finally, to test my third hypothesis an interaction term was introduced to the full model to test for the proposed LTRS level X LTRS variability interaction. I predicted that LTRS level would interact with LTRS variability such that the relation between LTRS variability and peer victimization would be stronger in children with relatively low LTRS level scores. An interaction term was created using a latent variable that included as indicators the following cross products: LTRS level*LTRS standard deviation and LTRS level*LTRS range. All variables were centered before entered into the interaction term. All fit indices suggested poor fit for the interaction model with $X^2$ (19, $N$ = 298) = 5.00, $p$ < .001, CFI = .934, RMSEA = .12, RMSEA 90% CI = .09-.14. Additionally, the path coefficient between the interaction term and Peer Victimization-Other was non-significant.

**Predicting Peer Victimization-Self.** Results indicated good fit for the full Peer victimization-Self model with $X^2(5, N = 298) = .83$, $p = .530$, CFI = 1, RMSEA = .00, RMSEA 90% CI = .00-.07. For this model, only paths from LTRS variability and LTRS level to PV-Self were significant (standardized β weights are displayed in Figure 3).

In the reduced model, (gender and social preference only), regression weights were fixed at 0 for paths from the LTRS variables to Peer Victimization-Self. This model demonstrated less adequate fit with $X^2(7, N = 298) = 2.22$, $p < .05$, CFI = .98, RMSEA = .06, RMESEA 90% CI = .02-.11. When comparing the full model with the reduced model, the former resulted in a better fit across all indices. However, a chi-square difference test revealed no significant differences between the fit of the two models, $X^2(2, N = 298) = 1.39$, $p = .50$. A final model included the interaction term used in the first set of analyses. Results were similar to those found predicting Peer Victimization-Other, with all fit indices suggesting a poor fit: $X^2(19, N = 298) = 6.94$, $p < .001$, CFI = .930, RMSEA = .14, RMSEA 90% CI = .12-.17. Furthermore, the path coefficient between the interaction term and Peer Victimization-Self was non-significant.

## Discussion

Prior research has consistently documented a strong negative relation between children's level of peer victimization and the degree to which they are accepted by peers as measured by traditional sociometric instruments (Card & Hodges, 2008; Buhs, 2005). Class- or grade-wide sociometric instruments have been shown to be stable over time and to have strong predictive utility. But there are also limiting factors, including influence by enduring reputational bias (Hymel, 1986) and an insensitivity to change even when interventions yield observed gains in pro-social behavior or positive peer interactions (Bierman & Furman, 1984; Cillessen, et al., 2000; La Greca & Santogrossi, 1980). In this study, I examined the psychometric properties of a

measure that is potentially less confounded by reputational bias and more reflective of recent and direct peer exchanges. It was hypothesized that narrowing the assessment focus to a specific social context (i.e., the school lunch table) could provide information about peer acceptance that is less affected by reputational bias.

The LTRS demonstrated adequate internal consistency: Peers' ratings on the two liking items were highly correlated ($r$ = .74, p < .001). The LTRS also demonstrated adequate temporal stability in a separate sample of children who completed the measure four months apart. I did not find strong consistency among peer raters, the implications of which will be discussed later. Tests of convergent validity suggested that LTRS level scores were positively correlated with a more traditional measure of social preference ($r$ = .26; $p$ < .001). This finding suggests that both measures tap into a broader construct of peer acceptance but without considerable overlap. In line with previous work, it appears that traditional sociometric measures of social preference reflect children's general level of acceptance relative to others in their class or grade, whereas the LTRS assesses peer acceptance within a smaller ecological unit. LTRS level scores were negatively correlated with self-, teacher-, and peer-reports of peer victimization. These findings are in line with the well-documented negative association between measures of peer acceptance and levels of victimization. Thus it appears that the LTRS is a valid measure of peer preference. These findings offer support for the hypothesis that relationships among lunch mates can be measured with a reasonable degree of reliability and validity using the LTRS.

Structural models were used to test whether LTRS scores predicted other- and self-rated peer victimization beyond what could be predicted using more traditional measures of social preference and gender. For analyses predicting both other-report and self-report of peer victimization, fit indices for models including LTRS scores yielded a better fit than models that

included social preference and gender only. The presence of 2-way LTRS level X LTRS variability was also tested. The results of these tests did not support the hypothesized interaction.

The results presented here support the use of the LTRS as a reliable and valid measure of lunch mate preference. Furthermore, results support the conclusion that the use of a contextual measure of peer preference provides important incremental information on peer relationships beyond that obtained via traditional class-wide measures of social preference. The current findings also support prior research on the importance of the lunchtime or cafeteria settings as a relevant social context for studying children involved in bullying (Parault, Davis, & Pellegrini, 2007). These results also give credence to the notion that school lunchtime provides a promising point of intervention for children experiencing problems with peer relationships (Elledge et al., 2010).

A context-specific peer acceptance measure such as the LTRS might be particularly valuable when testing interventions that seek to improve children's social relationships. It is yet to be determined if a contextual assessment such as the LTRS offers a more sensitive means of measuring changes in peer relationships than traditional class-wide sociometric measures; however, the results presented here provide support for examining this possibility. Selective interventions that focus on improving relationships between bullied children and near-by lunch mates would provide a suitable test of the utility of the LTRS in the context of intervention evaluation. For example, Elledge and colleagues (2010) found preliminary support for a school-based mentoring program in which college age mentors visited bullied children during lunchtime. Unclear from the study was the mechanism by which bullied children appeared to

benefit. A measure like the LTRS offers a valid and practical way to examine hypothesized mechanisms of ecological interventions like that described by Elledge and colleagues.

**Limitations**

The current study had several limitations. First, data were collected using a cross-sectional design, limiting conclusions about the temporal nature of predictive relations assessed via structural modeling. Furthermore, the relatively small sample, although diverse in its inclusion of children of Hispanic heritage, did not allow for analyses by distinct ethnic or racial subgroups. Another limitation was the relatively small number of measures used to examine the validity of the LTRS. In future studies, it would be helpful to compare scores on the LTRS to other developmental vulnerabilities such as aggressive or disruptive behavior, and to measures of depressed, anxious, or withdrawn behavior.

Another limitation is the modest agreement among peer raters on the LTRS. To the author's knowledge, previous research has not addressed inter-rater consistency among peer liking *ratings*, but there has been limited work examining level of convergence on peer nominations. Marks, Babcock, Cillessen, and Crick (2012) found that behavioral nominations yielded consistently greater inter-rater consistency than nominations of subjective liking. Terry (2000) posits that nominations of subjective liking and the procedures used to quantify constructs such as popularity assume a lack of convergence among raters because the ratings are made based on diverse and multidemisional criteria that reflect individual children's preferences for classmates. Marks and colleagues also found that alpha levels varied as a function of the percentage of classmates providing information about their classmates (2012). By design, the LTRS is a subjective rating of liking that uses information from a relatively small portion of

classmates and thus it could have been anticipated that the level of agreement between peer raters would be small.

There were also limitations to the manner in which the LTRS was administered. It was assumed that all, or most, of the children surveyed. would sit at the lunch table with their classmates; however, I found that a sizeable number of children sat with students from other classes. Because the roster of names that accompanied the LTRS included only those children from the same classroom, some peers could not rate some of their nearby lunch mates even though they were participating in the study. This issue, along with the moderate participation rate (45% of all eligible students), led to high percentages of children with 2 or fewer raters. In the future it would be beneficial to encourage greater class-wide participation or provide the option of allowing peers to rate students outside of their own class.

**Future Directions**

The current study provides initial support for the LTRS and for its further study. Future applications of this novel measure should include a broader test of the predictive utility of the LTRS beyond peer victimization. It is also recommended that the LTRS be used in longitudinal studies with more complex research designs so that its predictive utility can be further examined. Another promising direction is including the LTRS along with traditional measures of social preference in the context of an intervention outcome study, especially if the intervention targets lunchtime peer interactions. The LTRS could be used to assess the proximal impact of attempts to enhance children's social acceptance. I would hypothesize that the LTRS, as a measure that is potentially more sensitive to changes in the quality of peers' direct exchanges with target children, would yield greater evidence of gains than class-wide measures of peer preference.

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## Figures and Tables

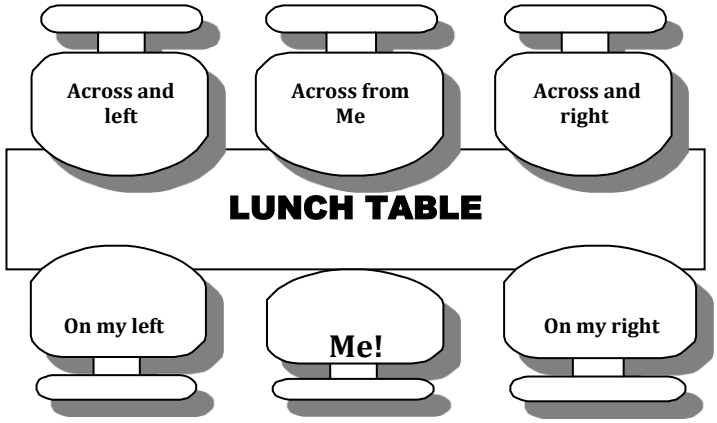



*Figure 1.* Lunch Table Ratings Scale: Diagram used to orient participants to the LTRS measure

Table 1.

*Means and Standard Deviations for Lunch Table Rating Scale Variables*

| | Mean (SD) | Mode | Range |
|---|---|---|---|
| 1. LTRS Level | 2.67 (.90) | 4 | 0-4 |
| 2. LTRS Highest | 3.44 (.90) | 4 | 0-4 |
| 3. LTRS Lowest | 1.78 (1.26) | 1 | 0-4 |
| 4. LTRS Range | 1.97 (1.21) | 3 | 0-4 |
| 5. LTRS SD | 1.05 (.65) | 0 | 0-2.83 |
| 6. LTRS N Raters | 2.76 (1.73) | 2 | 0-9 |

Table 2.
*Means and Standard Deviations for Peer-Victimization Variables*

| | Teacher | Child | Peer (N nominations) |
|---|---|---|---|
| | Mean (SD) | Mean (SD) | Mean SD |
| 1. Physical Vic. | .62 (.78) | .67 (.72) | 2.93 (1.91) |
| 2. Verbal Vic. | 1.06 (.90) | .89 (.86) | 2.93 (1.83) |
| 3. Relational Vic. | 1.01 (.86) | 1.77 (.94) | 2.90 (1.64) |
| 4. All Vic. Items | .90 (.69) | 1.11 (.68) | 8.77 (4.06) |

*Note: This table displays raw scores. For further analyses, all teacher- and peer-ratings were standardized by class.*

Table 3.

*Correlations among LTRS Scores, Peer Victimization, and Social Preference*

| Variable | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. |
|---|---|---|---|---|---|---|---|---|
| 1. LTRS Level | - | -.39*** | -.44*** | .09 | .26*** | -.18** | -.19** | -.13* |
| 2. LTRS Range | - | - | .89*** | .32*** | .03 | .00 | - .01 | -.10 |
| 3. LTRS SD | - | - | - | .20 | -.03 | .03 | .00 | -.10 |
| 4. N LTRS Raters | - | - | - | - | .33*** | .17** | .11 | -.02 |
| 5. Social Preference | - | - | - | - | - | -.19** | -.28*** | -.01 |
| 6. Peer-Rated Vic. | - | - | - | - | - | - | .23*** | .17** |
| 7. Teacher-Rated Vic. | - | - | - | - | - | - | - | .20** |
| 8. Self-Rated Vic. | - | - | - | - | - | - | - | - |

*Note: All teacher- and peer-report measures were standardized by class prior to computing correlations.*

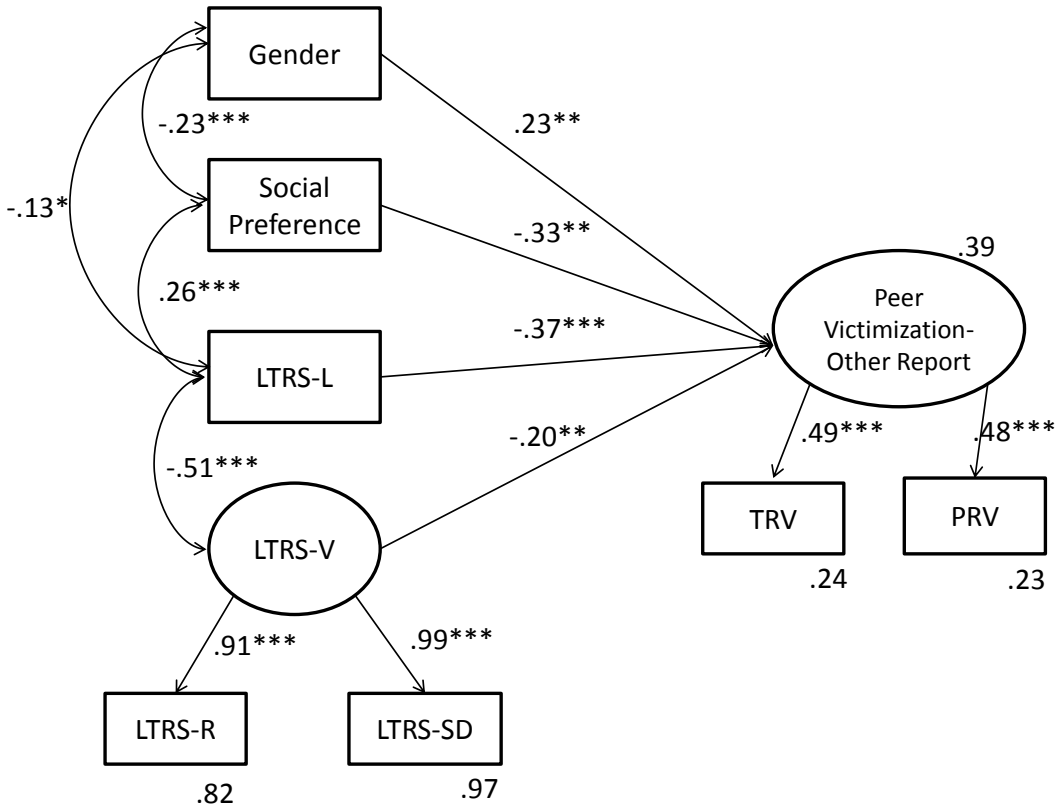



*Figure 2.* Peer-Victimization Other: LTRS scores, Gender, and Social Preference predicting peer victimization as rated by teachers and peers.

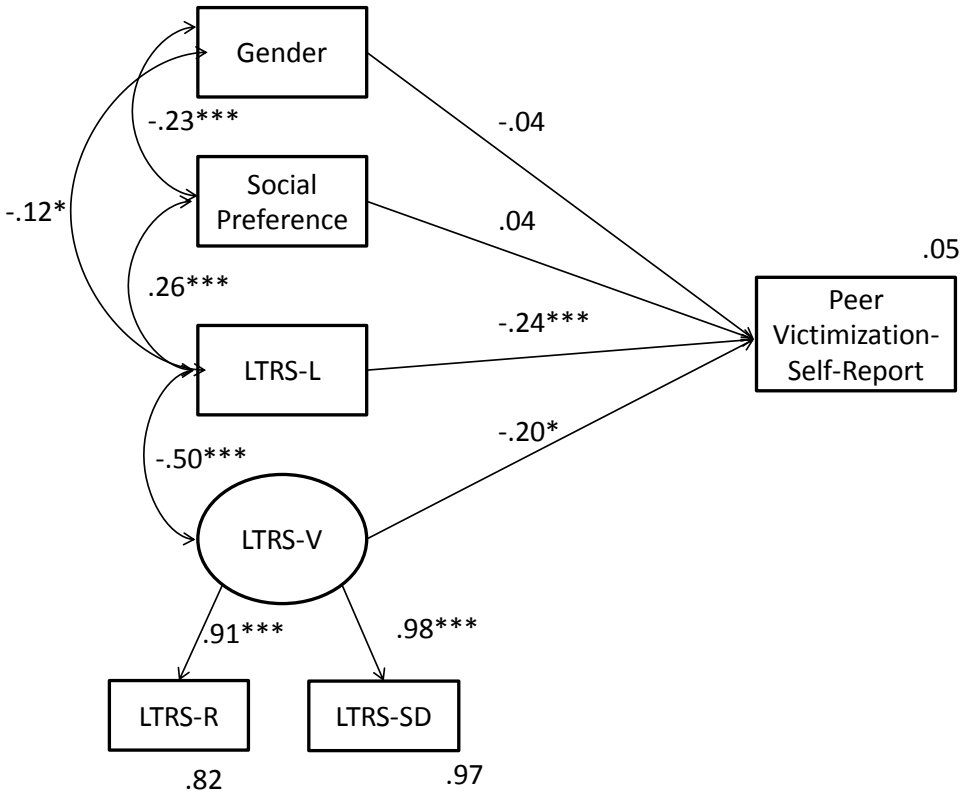



*Figure 3.* Peer Victimization-Self: LTRS scores, Gender, and Social Preference predicting peer victimization as rated by target children.

## Appendix I: Measures

UNIVERSITY OF ARKANSAS

PSP6

Peer Safety Project

**Wait!!**

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

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

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

**STUDY ID #: _____ YOUR BIRTHDAY: _____**

---

**Are you a boy or a girl?**

- ☐ **BOY**
- ☐ **GIRL**

**What languages are spoken in your home?**

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

**What is your race or culture?**

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

The Way Kids Are

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

| | | | | |
|---|---|---|---|---|
| **A.** How much do kids in your class call you mean names? | | | | |
| 0 (Never) | 1 | 2 (Sometimes) | 3 | 4 (Always) |
| **B.** How much do kids in your class hit you? | | | | |
| 0 (Never) | 1 | 2 (Sometimes) | 3 | 4 (Always) |
| **C.** How much do kids in your class like each other as friends? | | | | |
| 0 (Never) | 1 | 2 (Sometimes) | 3 | 4 (Always) |
| **D.** How much do kids in your class say hurtful things to you? | | | | |
| 0 (Never) | 1 | 2 (Sometimes) | 3 | 4 (Always) |
| **E.** How much do **YOU** tease other kids, or call them mean names, or say hurtful things to them? | | | | |
| 0 (Never) | 1 | 2 (Sometimes) | 3 | 4 (Always) |
| **F.** How much do kids in your class say mean things about you or tells lies about you to other kids? | | | | |
| 0 (Never) | 1 | 2 (Sometimes) | 3 | 4 (Always) |
| **G.** How much do kids in your class kick you? | | | | |
| 0 (Never) | 1 | 2 (Sometimes) | 3 | 4 (Always) |
| **H.** How much do kids in your class try to help if you are being picked on by other kids? | | | | |
| 0 (Never) | 1 | 2 (Sometimes) | 3 | 4 (Always) |
| **I.** How much do kids in your class tell you that you CAN'T play with them? | | | | |
| 0 (Never) | 1 | 2 (Sometimes) | 3 | 4 (Always) |
| **J.** How much do **YOU** tell other kids they can't play with you, or **YOU** don't invite them to things to get back at them, or **YOU** say mean things or tell lies about them to other kids? | | | | |
| 0 (Never) | 1 | 2 (Sometimes) | 3 | 4 (Always) |
| **K.** How much do kids in your class get along with each other? | | | | |
| 0 (Never) | 1 | 2 (Sometimes) | 3 | 4 (Always) |

| | | | | |
|---|---|---|---|---|
| **L.** How much do kids in your class tease you at school? | | | | |
| 0 | 1 | 2 | 3 | 4 |
| (Never) | | (Sometimes) | | (Always) |
| **M.** How much do kids in your class NOT invite you to things to get back at you for something? | | | | |
| 0 | 1 | 2 | 3 | 4 |
| (Never) | | (Sometimes) | | (Always) |
| **N.** How much do kids in your class push you? | | | | |
| 0 | 1 | 2 | 3 | 4 |
| (Never) | | (Sometimes) | | (Always) |
| **O.** How much do **YOU** hit, or push, or kick other kids in your class? | | | | |
| 0 | 1 | 2 | 3 | 4 |
| (Never) | | (Sometimes) | | (Always) |
| **P.** In my class, EVERYBODY is my friend. | | | | |
| 0 | 1 | 2 | 3 | 4 |
| (Never) | | (Sometimes) | | (Always) |

**Class Play**

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

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

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

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

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

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

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

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

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

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

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

---

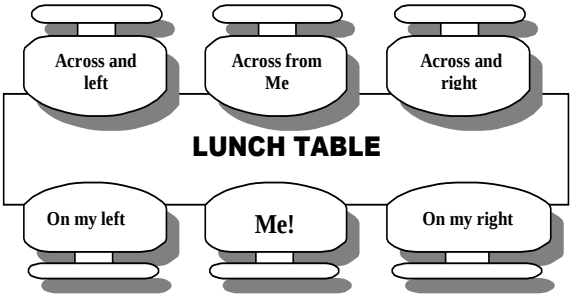
**F.** Who are the kids that you play with the most? Circle 3 different numbers.

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

## Peer Play Rating Scale

Look at the list of numbers on this page. Each number matches a child's name on the class roster. Think about each child, and put a check (√) in the box under the face that shows how much you like to play with that child. Be sure to check one box for each name on the class roster (except your own).

| How much do you like to play with this child? Roster Number | **Not at all** 0  | **Some** 1  | **A little** 2  | **A lot** 3  | **Very Much** 4  |
|---|---|---|---|---|---|
| **1** | | | | | |
| **2** | | | | | |
| **3** | | | | | |
| **4** | | | | | |
| **5** | | | | | |
| **6** | | | | | |
| **7** | | | | | |
| **8** | | | | | |
| **9** | | | | | |
| **10** | | | | | |
| **11** | | | | | |
| **12** | | | | | |
| **13** | | | | | |
| **14** | | | | | |
| **15** | | | | | |
| **16** | | | | | |
| **17** | | | | | |
| **18** | | | | | |
| **19** | | | | | |
| **20** | | | | | |
| **21** | | | | | |
| **22** | | | | | |
| **23** | | | | | |
| **24** | | | | | |




This page can be tricky. Listen carefully so you know what to do!

| **How much do you talk to this person during lunch?** | | Not at all | Some | A little | A lot | Very Much |
|---|---|---|---|---|---|---|
| Which seat? | ID# | | | | | |
| **On my right** | | | | | | |
| **On my left** | | | | | | |
| **Across from me** | | | | | | |
| **Across and right** | | | | | | |
| **Across and left** | | | | | | |

| **How much do you like to sit by this person during lunch?** | | Not at all | Some | A little | A lot | Very Much |
|---|---|---|---|---|---|---|
| Which seat? | ID# | | | | | |
| **On my right** | | | | | | |
| **On my left** | | | | | | |
| **Across from me** | | | | | | |
| **Across and right** | | | | | | |
| **Across and left** | | | | | | |

Teacher's Peer Bullying Scale

For each of these three questions, please rate the extent to which you think each student experiences the following:

How much are these students hit, pushed, or kicked by other students?

| Name/ ID # | Never | Almost Never | Sometimes | Almost Always | Always |
|---|---|---|---|---|---|
| 1 | | | | | |
| 2 | | | | | |
| 3 | | | | | |
| 4 | | | | | |
| 5 | | | | | |
| 6 | | | | | |
| 7 | | | | | |
| 8 | | | | | |
| 9 | | | | | |
| 10 | | | | | |
| 11 | | | | | |
| 12 | | | | | |
| 13 | | | | | |
| 14 | | | | | |
| 15 | | | | | |
| 16 | | | | | |
| 17 | | | | | |
| 18 | | | | | |
| 19 | | | | | |
| 20 | | | | | |
| 21 | | | | | |
| 22 | | | | | |

How much are these students called mean names, told hurtful things, or teased by other students?

| Name/ ID # | Never | Almost Never | Sometimes | Almost Always | Always |
|---|---|---|---|---|---|
| 1 | | | | | |
| 2 | | | | | |
| 3 | | | | | |
| 4 | | | | | |
| 5 | | | | | |
| 6 | | | | | |
| 7 | | | | | |
| 8 | | | | | |
| 9 | | | | | |
| 10 | | | | | |
| 11 | | | | | |
| 12 | | | | | |
| 13 | | | | | |
| 14 | | | | | |
| 15 | | | | | |
| 16 | | | | | |
| 17 | | | | | |
| 18 | | | | | |
| 19 | | | | | |
| 20 | | | | | |
| 21 | | | | | |
| 22 | | | | | |

| How much are these students told they can't play, or they have mean things or lies said about them, or they aren't invited to things just to get back at them? | | | | | | | How much do these students bully by hitting other students, by teasing other students, or by telling other students they can't play? | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Name/ ID #** | **Never** | **Almost Never** | **Sometimes** | **Almost Always** | **Always** | | **Name/ ID #** | **Never** | **Almost Never** | **Sometimes** | **Almost Always** | **Always** |
| 1 | | | | | | | 1 | | | | | |
| 2 | | | | | | | 2 | | | | | |
| 3 | | | | | | | 3 | | | | | |
| 4 | | | | | | | 4 | | | | | |
| 5 | | | | | | | 5 | | | | | |
| 6 | | | | | | | 6 | | | | | |
| 7 | | | | | | | 7 | | | | | |
| 8 | | | | | | | 8 | | | | | |
| 9 | | | | | | | 9 | | | | | |
| 10 | | | | | | | 10 | | | | | |
| 11 | | | | | | | 11 | | | | | |
| 12 | | | | | | | 12 | | | | | |
| 13 | | | | | | | 13 | | | | | |
| 14 | | | | | | | 14 | | | | | |
| 15 | | | | | | | 15 | | | | | |
| 16 | | | | | | | 16 | | | | | |
| 17 | | | | | | | 17 | | | | | |
| 18 | | | | | | | 18 | | | | | |
| 19 | | | | | | | 19 | | | | | |
| 20 | | | | | | | 20 | | | | | |
| 21 | | | | | | | 21 | | | | | |
| 22 | | | | | | | 22 | | | | | |