

ON THE IMPORTANCE OF BEING FUN: OVER TIME ASSOCIATIONS BETWEEN
PERCEPTIONS OF FUN AND CHANGES IN PEER PREFERENCE AND
POPULARITY

by

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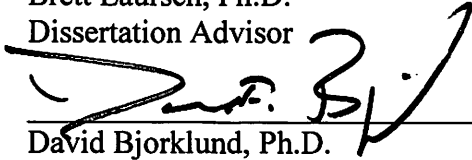
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This dissertation was prepared under the direction of the candidate's dissertation advisor, Dr. Brett Laursen, Department of Psychology, and has been approved by the members of her supervisory committee. It was submitted to the faculty of the Charles E. Schmidt College of Science and was accepted in partial fulfillment of the requirements for the degree of Doctor of Philosophy.

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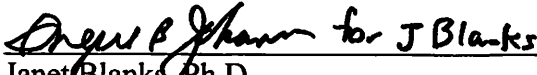
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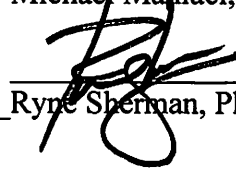
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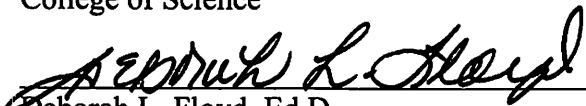
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ABSTRACT

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In this short- term longitudinal study (N=428), the unique predictive association between the positive peer nominated characteristic of being fun and peer status (peer preference and popularity) was assessed in a sample of fourth through sixth grade students. Concurrent hierarchical regression analyses and longitudinal structural equation modeling analyses found that peer nominated fun positively predicted preference and popularity, after accounting for the contribution of predictors potentially confounded with being fun, such as prosocial behavior, academic achievement, relational aggression, and physical aggression. The longitudinal association between fun and preference was qualified by grade in school, such that being fun predicted increases in preference for younger children but not for older children. There were bidirectional associations between peer status and fun; fun predicted increases in peer preference and popularity, but peer preference and popularity also predicted later increases in fun. The findings point to the need to expand existing conceptualizations of the antecedents of peer status

beyond known predictors and to examine the developmental shifts in the landscape of children's peer interactions that make certain characteristics more desirable at different ages.

DEDICATION

This work is dedicated to my biggest fan, my mother - who has always cheered me on in every undertaking, and to Alex, my forever love- with whose warm companionship I can reach every goal I set my heart on.

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INTRODUCTION

Everyone likes to have fun. But how important is being fun to peer relationships? We know surprisingly little about the topic. Findings suggest that children who are liked by peers tend to be prosocial, academically competent, non-disruptive, and non-aggressive (Asher & McDonald, 2009). None of these attributes, however, fully capture the concept of fun. To date studies have failed to assess how positive behaviors other than prosocial behaviors impact peer status. The closest scholars come to assessing fun are questions about how sociable (Chang, 2004) or how cool (Rodkin, Farmer, Pearl, & Van Acker, 2006) someone is. The failure to examine the perceptions of being fun is somewhat surprising given that scholars have emphasized the need to address how positive behaviors impact peer interactions (Carlo, Fabes, Laible, & Kupanoff, 1999; Fabes, Carlo, Kupanoff, Laible, 1999; Zimmer-Gembeck, Geiger, & Crick, 2005). The present study is designed to shed light on whether the quality of being fun predicts peer status (i.e., preference and popularity), and if associations between fun and peer status differ with age.

The term “fun” is commonly used to describe individuals in everyday life. Indeed it is among the top 10% of most popularly used words (Merriam-Webster Dictionary, 2016). Nevertheless, scholars have yet to define the psychological characteristics of a fun person. The dictionary defines fun as “someone or something that provides entertainment, amusement, or enjoyment; an enjoyable experience or person, *specifically*: playful” (Merriam-Webster Dictionary, 2016). Synonyms of fun include

“delightful, pleasurable, and recreational”. Antonyms include terms like “bore, drag, and downer”.

Within the developmental literature, several important peer assessment tools have used behavioral descriptors to assess the impact of behaviors and attributes on peer relationships. In these descriptor matching measures, children are asked to nominate peers who best fit descriptions provided (e.g., The Revised Class Play, Masten, Morison, & Pellegrini, 1985; the Extended Class Play, Burgess, Rubin, Wojslawowicz, Rose-Krasnor, & Booth, 2003). In the Revised Class Play measure, children are asked to cast classmates into positive and negative roles. Nominations and reputation measures have been used to assess several important domains of behavior such as sociability, aggressiveness and sensitivity; however, few behaviors synonymous with fun have been investigated. In fact, only one item of The Revised Class Play asks children to nominate someone with a “good sense of humor”. The Extended Class Play, which is a modified version of the Revised Class Play, also only includes the sense of humor item (Burgess, Rubin, Wojslawowicz, Rose-Krasnor, & Booth, 2003). Hence, our understanding of who is perceived as fun by peers and the impact of such perceptions on peer status is limited.

Definitions of peer status, on the other hand, are well established. In the early years of peer relationships research, scholars examined peer status by the simple assessment of “popularity”, measuring how much a child was liked by members of the peer group. At the time, liking and popularity were used interchangeably (e.g., Koch, 1933). Today however, scholars agree that being preferred and being popular are different phenomena, with different causal roots and different consequences (Rubin, Bukowski, & Parker, 2006). Whereas preference reflects personal evaluations of how

well liked a person is, popularity reflects a group consensus of how influential, visible or powerful a person is (Cillessen, 2009). In the next few paragraphs, determinants of preference and popularity will be considered. The links between indices of fun and preference and the links between indices of fun and popularity will be explored.

Explaining links between indices of fun and peer preference

Peer preference is a measure of how much a child is liked by peers. Not all members of a peer group are equal. Some children bask in the affection of many peers, others struggle to be liked. Peer preference is related to a variety of socio-emotional (Rubin, Bokowski, & Parker, 2008) and cognitive (Slaughter, Dennis, & Pritchard, 2002) outcomes. For instance, one recent study found that well-liked youth are more persistent, less anxious, and enjoy more positive relationships with peers and teachers than their lesser liked peers (Kosir & Pecjak, 2005).

Peer preference is a continuous variable that can be measured two different ways. One way is to operationalize preference as the standardized difference between an individual's acceptance score and his or her rejection score (Coie, Dodge, & Coppotelli, 1982). In this procedure, a child's social preference reflects the sum of all of the most liked nominations he or she received minus the sum of all the least liked nominations he or she received. Alternatively, a rating scale measure of peer preference can be administered asking each child to indicate, on a likert scale, how much he or she likes every other classmate. In this procedure, peer preference represents the average score a child receives from all other raters. In each case, a high preference score reflects a high

level of peer acceptance and a low level of peer rejection, whereas a low preference score reflects a low level of acceptance and a high level of rejection.

Several themes have been advanced to explain the antecedents of preference. One theme starts from the learning theory premise that children who engage in behaviors that are rewarding to other children are well liked (e.g., Gottman, Gonso, & Rasmussen, 1975). A second theme starts from the social competence premise that “discrete behaviors that lead children to solve social tasks or achieve social success” are associated with peer liking and status (Rubin, Bukowski, & Parker, 1998). Behaviors that contribute to social success include prosociability, assertiveness, and self-control, all of which depend upon social information processing and problem solving skills (e.g., Crick & Dodge, 1994). A third theme starts from the premise that well liked children have specific attributes that are valued by other children and that social preference derives from the possession of these attributes (e.g., Coie, Dodge, & Kupersmidt, 1990; Vannatta, Gartstein, Zeller, & Noll, 2009). A final theme starts from the premise that some children are well-liked because relationships with these children fulfill important needs (Asher & Williams, 1987). In the following sections, each of these themes will be considered in relation to fun, exploring the ways in which being fun is expected to be related to peer preference. Specifically, fun will be described in terms of its association with acceptance and rejection.

Associations between rewarding behaviors and peer preference

Based on the premise that rewarding behaviors make one well liked, fun should be a strong predictor of preference. A fun peer elicits positive affect in others, making it

rewarding to be around him or her. From a reinforcement perspective, a person who promotes feelings of happiness should be well liked. Previous scholars have noted that sociometric measures are based on the assumption that peer acceptance and rejection originate from socially rewarding behaviors and interactions (Hartup, Glazer, & Charlesworth, 1967). One of the earliest examples of observed rewarding behaviors that were associated with acceptance included associative play, friendly approach, and conversation (Marshall & McCandless, 1957). Other rewarding behaviors assessed included attention towards peers, approval of peers, and submissiveness (Hartup, et al., 1967). In contrast, behaviors that are disruptive or unpleasant have been associated with peer rejection. Scholars have used the term “negative reinforcer” to describe such behaviors (Hartup et al, 1967). Among elementary school children, negative behaviors such as non-compliance, refusal to co-operate, interference of ongoing activities, derogation or ridicule, and aggression (including physical attacks or threatening demands) were all associated with peer rejection.

There are stable individual differences in the affect that people elicit in others, a construct termed “affective presence” (Eisenkraft & Elfenbein, 2010). Behaviors have stable emotional consequences on others, which determine the degree to which an individual is rewarding to be around. Some individuals have a positive affective presence, consistently eliciting positive feelings such as enthusiasm, happiness, or calmness in interaction partners. Other individuals have a negative affective presence, consistently eliciting negative feelings such as boredom, stress, or anger in most interaction partners (Berrios, Totterdell, & Niven, 2015). Affective presence has important implications for whether an individual is liked by peers. One study found that adults who elicited positive

affect in others were also popular among peers (Eisenkraft & Elfenbein, 2010). The quality of being fun is similar to positive affective presence in that it is rewarding. Hence, it is expected that children who are perceived as being fun should also be well liked.

Associations between social competence and peer preference

Based on the premise that social competence makes one well liked, fun should be a strong predictor of preference. The quality of being fun may be a social skill, similar to possessing a good sense of humor, which allows children to get along better with peers. In this regard, fun can be seen as a mechanism through which children form and maintain positive relationships, which are central to peer preference. Additionally, a fun peer is likely to present avenues of entertainment that promote group functioning and closeness, and is also unlikely to engage in behaviors such as aggression or withdrawal that are linked to peer rejection.

Social interactions are the glue that bind individuals in a group together. Recent conceptualizations of sociometric measurement hold that peer status is a direct reflection of a child's social competence (Cillessen, 2011; Ladd, 2005), and that children like individuals whose behaviors promote the functioning of the group (Bukowski & Sippola, 2001). Because socially skilled children are integral to the success of a group, they should be better liked than children who are socially unskilled. Examples of social skills that are valued by the group include prosocial behaviors like cooperativeness, kindness, and helpfulness, which are reflected in tasks such as entering a social group, responding to ambiguous threats appropriately, managing conflict, and helping peers (Asher & McDonald, 2009). These prosocial behaviors rely heavily on social-cognitive

competencies and emotional functioning, differences in which differentiate children who are well liked from those who are rejected by peers (Aikins & Litwack, 2011).

Evidence supports the notion social competence is linked to peer preference. Children who are well-liked, are adept at group entry tasks, adopting the frame of reference of the people already in the group and entering without disrupting activities (Putallaz & Gottman, 1981). The social information processing literature confirms that children who are liked by peers have high levels of social self-concept (Kurdek & Krile, 1982), which allows them to attend to social cues appropriately. One study found that children high on preference were better at using affective cues to understand a hypothetical peer's intent than children who were rejected by peers (Keane & Parrish, 1992). Children who are high on preference are also able to use their social knowledge to generate and execute solutions that promote relationship goals. As a result, they create solutions that are prosocial, and adaptive. In one study, well accepted children recognized that friendly- assertive strategies were best for relationship improvement (Hart, Ladd, & Burleston, 1990). Another study found children who are liked process socially ambiguous provocations less aggressively than their rejected counterparts (Dodge, 1980) and are better able to resolve conflicts with peers using non-aggressive and verbally assertive strategies (Hopmeyer & Asher, 1997).

Social competence is enhanced by the ability to gauge others' and one's own emotions, communicate emotions and regulate one's internal emotional states (Aikins & Litwack, 2011). For instance, among young children, well regulated displays of happiness are associated with peer rated liking, whereas displays of anger are associated with peer rated disliking (Dehnham, McKinley, Couchoud, & Holt, 1990). Peer

acceptance is also associated with the ability to control anger in the face of provocations and to use verbal strategies to resolve the conflicts (Eisenberg, Fabes, Nyman, Bernzweig, & Pinuelas, 1994). In a recent study, adolescents high on peer preference were described by peers as good at sharing, cooperating, keeping promises, and making up after conflicts, and avoiding mean and angry behaviors (de Bruyn & van den Boom, 2005). Other findings show that children who are high on preference possess social developmental goals, such that their prosocial behaviors help them create intimacy and closeness in peer relationships (Rodkin, Ryan, Jamison, & Wilson, 2013). Children whose goals include developing and maintaining positive interpersonal relationships, exhibit prosocial behaviors in peer interactions, which in turn enhances peer preference.

Group members reject individuals whose social skills interfere with smooth group interactions, as well as those who deviate from existing group norms (Cillessen, 2008). In this way, peer rejection is associated with two categories of social incompetence: aggression and social withdrawal. Children who are rejected by peers may be disruptive and aggressive, or they may be anxious and inhibited. Irrespective of their behavior problems, rejected children engage in fewer prosocial behaviors than accepted children (Parkhurst & Asher, 1992). When rejected children are confronted with an ambiguous provocation, they often aggress against peers, failing to clarify the actor's intent before reacting with hostility (Erdley & Asher, 1996). Rejected children also present deficits in conflict resolution skills, relying more on aggression or adult intervention when involved in a peer conflict in comparison to well-accepted children (Hopmeyer & Asher, 1997). Social withdrawal is similarly associated with peer rejection, an association that strengthens across the elementary school years (Hart et al., 2000). Finally, other forms of

social behaviors have been associated with peer rejection. When presented with unfairness or public success, rejected children act in ways that made them less likely to be viewed as “good sports” (Hubbard, 2001). In that fun is inversely associated with aggression and social withdrawal, it should have a similar negative association with rejection.

Associations between peer valued characteristics and peer preference

Peer preference is associated with characteristics that are viewed as desirable by peers or groups (Vaillancourt & Hymel, 2006). Based on the premise that peer valued characteristics make one well-liked by peers, the positive quality of being fun should be associated with peer preference. Perceptions of being fun are a valuable characteristic that other group members admire; children who possess this quality should be liked by group members.

Several scholars have expressed the need to look beyond the behavior of children to identify the determinants of peer status, and assess peer valued characteristics associated with peer liking (Vaillancourt & Hymel, 2006; Rodkin et al., 2000; Adler et al., 1992). Examples of peer valued characteristics include attractiveness, athletic abilities, leadership abilities, and academic competence (Casiglia, Lo Coco, & Zappulla, 1998; Vannatta, Gartstein, Zeller, & Noll, 2009). Although these qualities are not directly tied to specific forms of social competence, children who possess attractive qualities have an advantage in peer group relations. They are better liked. They have greater social opportunities. In addition, children who possess desirable traits are able to maintain social dominance to the extent that these characteristics reflect official values or norms that

define social hierarchies. Being fun maybe a similarly valued characteristic, because it affords multiple interpersonal advantages.

There is evidence suggesting that desirable qualities produce perceptual biases in observers and in those they interact with, such that children who are high on a desirable quality such as physical attractiveness are viewed favorably on other unrelated qualities (e.g., Adams & Crossman, 1978; Dion & Berscheid, 1974). Elementary school children rated as physically attractive by peers were also rated high on other positive behaviors and low on negative behaviors (Lerner & Lerner, 1977). Athletic abilities have been linked with peer status. Among adolescents, athleticism is associated with leadership skills, a quality that garners acceptance (Farmer, Estell, Bishop, O'Neal, & Cairns, 2003). Among younger children, the lack of athletic skills has been linked with perceptions of unpopularity (Hymel, Bowker, & Woody, 1993). Academic adjustment has been associated with indicators of peer status and social behavior (Kennedy, 1990). In a recent assessment, teacher and peer reported academic adjustment was linked with prosocial behavior as well as leadership behavior, which are related to peer acceptance (Farmer et al, 2003). It seems reasonable to assume that fun is a similarly desired quality that improves perceptions of liking among peers.

Evidence suggests that characteristics that are perceived as undesirable by the peer group lead to rejection. This is seen in the case of children with physical or intellectual disabilities, who are often rejected or less popular than other classmates (Laws & Kelly, 2005). Obesity is also linked with peer rejection and victimization, among preschool children (Musher-Eisznman, Holub, Miller, Goldstein, Edwards-Leeper, 2004), school aged children (Janssen, Craig, Boyce, & Pickett, 2004) as well as

high school students (Pearce, Boergers, & Prinstein, 2002). Physical weakness is also associated with peer rejection (Hodges, Malone, & Perry, 1997). Fun is unlikely to make one undesirable, and therefore should be unrelated to rejection.

Associations between need fulfillment abilities and peer preference

Some scholars believe that what makes a child well liked among peers is the ability to fulfill the needs of others (Asher & Williams, 1987). Children, like adults seek partners who can satisfy basic interpersonal needs. According to these scholars, children make evaluative judgments about peers based on their perceived ability to satisfy several basic needs including fun (reflecting a need for companionship and play), trustworthiness (reflecting a need for trust and security), influence (reflecting a need for autonomy and control over the environment), facilitation of goal achievement (reflecting a need for efficacy and agency), similarity (reflecting a need for connection), and self-esteem (reflecting a need for feeling a sense of self-worth) (Asher & McDonald, 2009). Children who help fulfill the need for play and companionship are well liked. Play is an essential component of early child development (Rubin, 1980). Play promotes social bonding and feelings of companionship. Play is supposed to be fun. Children prefer fun playmates and from this perspective, a fun peer will be liked because he or she is able to satisfy the need for play and companionship.

Although studies assessing the degree to which preference is based on need fulfillment are sparse in the developmental psychology literature, evidence from adult romantic relationships (Gottman & DeClaire, 2000), evolutionary psychology (Bugental, 2000) and social psychobiology traditions (Panskepp, 2005) attest to the primacy of need

fulfillment in social bonding. Humans share with other mammalian brains special purpose emotional systems including anger-rage, sexuality-lust, nurturance-care, separation distress-panic, and joyful-play. This suggests that the need to play is universal. A peer who is fun and playful has the capacity to address a special rewarding emotional system. The “joyful-play” emotional command system is the one characterized by fun, play, laughter, humor, and silliness. It is related to relationship satisfaction. Adults make bids for connection with relationship partners in this emotional system, fulfillment of which leads to liking. The failure to meet these needs can result in relationship dissatisfaction. Bids for emotional connection significantly impact the quality of friendship between partners in a romantic relationship (Gottman & DeClaire, 2000), which raises the possibility that fun has implications for interactions in other peer relationships as well.

Explaining links between indices of fun and popularity

Popularity is an index of social prominence or social visibility, and a measure of relative status in the peer group (Cillessen & Mayeux, 2004). Popularity is typically assessed by asking children to nominate who in their class is popular. The number of nominations received by a child (standardized) represents the popularity score. It is also possible to create a standardized difference score that reflects the number of “most popular” nominations received minus the number of “least popular” nominations received (Cillessen, 2008). The latter strategy is analogous to the assessment of social preference.

Several themes have been advanced to explain the antecedents of popularity. Given that popularity is a measure of social status, one theme holds that characteristics

promoting dominance or resource control within the group lead to popularity. From this perspective, popularity is linked to assertive, strong and even aggressive behaviors that enhance the group's functioning (Bukowski & Sippola, 2001). A second theme holds that prosocial skills promote popularity (Aikins & Litwack, 2011). According to this perspective, popular children must carefully balance behaviors that are prosocial against behaviors that are dominant, making social competence a key to gaining and maintaining popularity. A third theme holds that peer valued characteristics make one popular among peers (LaFontana & Cillessen, 2002). According to this perspective, children who possess characteristics that are coveted by other members of a group lead to popularity, and exercising power and control in a socially acceptable manner.

Associations between behaviors promoting dominance and popularity

Based on the premise that behaviors that promote social dominance make one popular among peers, the quality of being fun is expected to predict popularity. Being fun can promote and maintain peer status because fun attracts attention. Popular children demonstrate social status and power by acting in ways that ensure they win positive social judgments (Rudolph et al., 2011). Humor is a socially appropriate means of expressing hostility and softening a dominant style of interacting (McGhee, 1998). In this regard, fun can be a useful quality in gaining and maintaining social visibility and popularity.

Several studies indicate that popularity is associated with dominance and power (Hawley, 2003; Vaillancourt & Hymel, 2006). Popular children who employ socially dominant behaviors may use physical and relational aggression (Cillessen & Mayeux,

2004; LaFontana & Cillessen, 2002). The term “toughs” has been used to describe children who rely on aggression to enforce social dominance (Rodkin, Farmer, Pearl, and Van Acker, 2000, 2006). In this case, aggression is not what leads to popularity, but rather aggression is what maintains a central position in the peer group. Support for this claim comes from research indicating that children who are popular have social demonstration goals aimed at looking powerful and dominant in the eyes of peers (Rodkin, Ryan, Jamison, & Wilson, 2013). Relational aggression is especially useful in this regard, particularly during the middle school years. By the same token, popularity is negatively associated with behaviors that suggest a lack of dominance, such as withdrawal (LaFontana & Cillessen, 2002) and being easily pushed around (Parkhurst & Hopmeyer, 1998).

Popularity is also associated with prosocial behaviors (LaFontana & Cillessen, 2002). Popular children employ prosocial behaviors to elevate their status in the peer group (Aikins & Litwack, 2011), in contrast to accepted children who use prosocial behaviors to improve social interactions. Like prosocial behaviors, fun may allow children to wield popularity in a positive yet assertive manner.

Associations between social competence and popularity

Social competence gives rise to popularity and fun is linked to social competence. Therefore, fun is expected to predict popularity. There are theoretical reasons why this may be the case. Social competence is at the heart of popularity, such that popular children have high levels of emotional knowledge and self-regulation (Aikins & Litwack, 2011). Recent studies with adults have conceptualized humor as a form of social

competence that requires similar emotional regulation and emotional awareness (Yip & Martin, 2006). Similarly, among children, humor is seen as a form of social competence that facilitates social interactions, friendships, and popularity (McGhee, 1989). If the same forms of social competence underlie children's behaviors that lead to perceptions of being fun and popularity, it is expected that fun and popularity will be positively associated.

Popularity is associated with social skills such as co-operation, leadership, helpfulness, kindness, and trustworthiness (de Bruyn & Cillessen, 2006; Gorman, Kim, Schimmelbusch, 2002; LaFontana & Cillessen, 1998; Parkhurst & Hopmeyer, 1998). Among adolescents, popular children have good relationships with teachers and peers, and show high levels of creativity and initiative (De Bruyn & van den Boom, 2005). Recent studies have also assessed the social cognitions and emotional adjustment of popular children. There are positive links between popularity and peer-rated social intelligence (social- information processing, social skills, and social awareness) and between popularity and self-reports of social intelligence (Andreou, 2006; Meijs, Cillessen, Scholte, Segers, & Spijkerman, 2010). Finally, popularity is positively associated with empathy and defending others against bullying (Caravita, Di Blasio, & Salmivalli, 2009). The same social and emotional abilities that predict popularity also underlie the quality of being fun, which suggests that fun should predict popularity.

Associations between peer valued characteristics and popularity

Based on the premise that popularity is derived from characteristics that are desired by the peer group, fun should predict popularity. Personal characteristics desired

by the peer group, such as being cool and “not boring” are positively associated with popularity (De Bruyn & van den Boom, 2005). Presumably, a fun peer is cool and “not boring”, which suggests that being fun is a property of being popular.

Popularity is also associated with other peer valued characteristics like academic competence, athleticism, sports involvement, physical attractiveness, stylishness, and wealth (Lease, Kennedy, & Axelrod, 2002; LaFontana & Cillessen, 2002; Vaillancourt & Hymel, 2006). One study found positive associations between popularity and participation in extracurricular activities (such as athletics and cheerleading) (Eder, 1985). Other studies find that popularity is associated with attractiveness and social connectedness (LaFontana & Cillessen, 2002; Xie, Li, Boucher, Hutchins, & Cairns, 2006) and being cool (Rodkin et al., 2006). There is even evidence that popularity is related to a good sense of humor, at least among boys (Closson, 2008). By virtue of possessing personal attributes, objects or group memberships that are coveted by peers, popular children are able to achieve and maintain social status. It seems reasonable to assume that fun is a similarly desired quality that enables children to achieve and maintain positive attention that leads to popularity.

In addition to considering how fun predicts peer status, the current study will assess how peer status predicts changes in fun. There are several reasons for expecting bidirectional associations between fun and peer status. Scholars have noted that positive peer experiences such as high peer status gives children an advantage over others by providing special opportunities for practicing their social skills (Cillessen, Bukowski, & Haselager, 2000). It is possible that children who are high on preference or are popular enjoy greater opportunities to practice the social skills that lead others to perceive them as

fun. Peer status also shapes children's self-views (Crick & Ladd, 1993), such that children who enjoy high peer status receive positive information about their own social skills, hence influencing their future behaviors. Thus, high peer status is likely to shape self-views about the social skills underlying fun behaviors, strengthening these behaviors over time. Consistent with the premise that social status may bolster one's reputation for fun are findings of bidirectional associations between peer status and prosocial behavior across the late childhood / early adolescent years (Zimmer-Gembeck, Geiger, & Crick, 2005). Peer nominated prosocial behavior in 3rd grade predicted increases in peer preference in 6th grade, and peer preference in 3rd grade simultaneously predicted increases in peer nominated prosocial behavior in 6th grade. It seems reasonable to expect similar bidirectional associations between peer status and other positive predictors of status, such as peer nominated fun.

Developmental Differences in Associations between Fun and Peer Status

The predictors of social preference vary with age. For example, the importance of intelligence in the prediction of social success increases across childhood and into adolescence (Weisfeld, Muczenski, Weisfeld, & Omark, 1987). As the emphasis on cognition grows, there may be a concurrent decline in the importance of fun. From a motivational perspective, there is reason to expect that fun becomes a weaker predictor of preference and popularity as children grow older. Peer relationships that emphasize companionship during the early childhood years shift their focus during preadolescence to emphasize intimacy, which is less closely tied to fun than to companionship (Sullivan, 1953). Other scholars have noted similar transitions such that by preadolescence, friendships become lesser reliant on fun and companionship and more reliant on

intimacy, trust and commitment (Laursen & Hartup, 2002). The behavioral provisions of friendship also change: Play is replaced by disclosure, affection and emotional support (Furman & Buhrmester, 1992). Given these developmental trends, it seems likely that the salience of fun should diminish with age, as preference becomes tied to behaviors that promote intimacy.

Similar age differences in the predictors of popularity have been found. Popularity judgments become more sensitive to peer nominated aggression and dominance during early adolescence (Prinstein & Cillessen, 2003). As the emphasis on social power grows, there may be a concurrent decline in the importance of fun to popularity. During the early elementary school years, prosocial behaviors are prominent predictors of popularity, but by seventh grade, children describe popularity in terms of aggressive behaviors, attractiveness, self-presentation, social connectedness, and participation in extra-curricular activities (Xie et al., 2006). As children better understand the notions of power and visibility, behaviors promoting social dominance become associated with popularity (Allen, Weissberg, & Hawkins, 1998; Bukowski, Sippola, & Newcomb, 2000). Based on the increasing value of dominance in the shifting social landscape of early adolescence, the salience of fun should diminish with age, as popularity becomes tied to behaviors that promote social dominance.

The present study

The proposed study was designed to examine whether fun nominations uniquely predict peer preference and popularity; both concurrently and over time, and to assess whether these associations vary as a function of age. To assess the unique contribution of

fun in predicting peer status, it is important to disentangle the effects of fun from those of other known predictors of preference as well as popularity. In the current study, unique concurrent and longitudinal associations between fun and preference as well as fun and popularity will be assessed after removing the variance arising from potentially similar variables. Variance associated with positive behavioral predictors of preference such as prosocial behaviors (Asher & McDonald, 2009) and academic achievement (Rodkin, Farmer, Pearl, & Van Acker, 2000) will be removed from analyses examining the role of fun in peer preference. Similarly, variance associated with positive behavioral predictors of popularity such as prosocial behaviors (LaFontana & Cillessen, 2002) and academic achievement (Lease, Kennedy, & Axelrod, 2002) will be removed from analyses examining the role of fun in popularity.

Similarly, variance associated with negative behavioral predictors of preference such as relational and physical forms of aggression (Asher & McDonald, 2009) will be removed from analyses examining the role of fun in peer preference. Studies have found positive associations between aggression and popularity in childhood and adolescence cross-sectionally (LaFontana & Cillessen, 2002; Parkhurst & Hopmeyer, 1993; Vaillancourt & Hymel, 2006) and longitudinally (Cillessen & Mayeux, 2004; Prinstein & Cillessen, 2003; Rose et al., 2004). To isolate the role of fun in predicting popularity, the variance associated with physical and relational aggression will be removed in analyses.

Hypotheses concerning associations between fun and peer preference

These hypotheses are advanced to determine concurrent and longitudinal associations between peer perceptions of being fun and preference, and whether the associations between fun and preference vary as a function of age.

Do peer perceptions of fun uniquely predict peer preference concurrently? Based on previous findings that peer preference is tied to rewarding behaviors that are desired by peers (Gottman, Gonso, & Rasmussen, 1975; Coie, Dodge, & Kupersmidt, 1990; Asher & Williams, 1987), I hypothesized that the quality of being fun will predict peer preference concurrently, after partitioning the variances associated with confounding variables such as prosocial behavior, academic achievement, physical aggression and relational aggression.

Are there bidirectional associations between peer preference and perceptions of fun such that initial perceptions of fun predict increases in peer preference, and initial peer preference predict increases in perceptions of fun? Based on the premise that socially competent behaviors that are desired by peers predict increases in preference (Zimmer-Gembeck, Geiger, & Crick, 2005; Asher & McDonald, 2009), I hypothesized that initial levels of fun would predict increases in peer preference. Scholars have also noted the importance of children's peer experiences in shaping positive social behaviors (Hartup, 1983). High social status is an important peer experience that facilitates the development of future positive behaviors such prosocial behavior (Zimmer-Gembeck, Geiger, & Crick, 2005). Based on this premise, I hypothesized that initial levels of preference would predict increases in peer perceptions of fun.

Does the association between peer perceptions of fun and preference vary as a function of age? Consistent with evidence showing that play and companionship give way to intimacy, trust, reciprocity and commitment in close peer relationships across the transition into adolescence (Laursen & Hartup, 2002), I hypothesized that fun would decline in its importance to preference as children grow older. Specifically, I expected that the association between the quality of being fun and liking by peers will weaken as children make the transition from elementary to middle school.

Hypotheses concerning associations between fun and popularity

These hypotheses are advanced to determine concurrent and longitudinal associations between peer perceptions of being fun and popularity, and whether the associations between fun and popularity vary as a function of age.

Are peer perceptions of fun uniquely associated with popularity, concurrently?

Based on previous findings that popularity is tied to peer valued characteristics that reflect social competence (LaFontana & Cillessen, 2002) I hypothesized that being fun will predict popularity concurrently, after partitioning the variance associated with confounding variables such as prosocial behavior, academic achievement, physical aggression and relational aggression.

Are there bidirectional associations between popularity and perceptions of fun such that initial perceptions of fun predict increases in popularity, and initial popularity predicts increases in perceptions of fun? Based on the premise that peer valued characteristics and socially competent behaviors predict increases in popularity (Vaillancourt & Hymel, 2006; LaFontana & Cillessen, 2002), I hypothesized that initial

levels of fun will predict increases in popularity. In addition, since positive peer experiences such as high social status provide important learning opportunities and contexts for children to practice social skills, opportunities that are not available to less popular peers (Cillessen, Bukowski, & Haselager, 2000), I hypothesized that initial levels of popularity would predict increases in peer perceptions of fun.

Does the association between peer perceptions of fun and popularity vary as a function of age? Based on findings that popularity judgments become more sensitive to peer nominated dominance and social power during early adolescence (Prinstein & Cillessen, 2003), I hypothesized that fun would decline in its importance to popularity as children grow older. Specifically, I expected that the association between fun and popularity will weaken as children make the transition from elementary to middle school.

METHOD

Participants

Participants were drawn from two public schools representative of the state of Florida in terms of ethnicity and family income. The study included 428 students (241 girls, 187 boys) from grades 4 through 6. There were 75 fourth grade boys, 74 fourth grade girls, 58 fifth grade boys, 87 fifth grade girls, 54 sixth grade boys, and 80 sixth grade girls. Fourth graders ranged in age from 9 to 11 years old ($M=9.44$ years, $SD=0.51$), fifth graders ranged in age from 10 to 11 years old ($M=10.50$ years, $SD=0.54$), and sixth graders ranged in age from 11 to 13 years old ($M=11.40$ years, $SD=0.53$).

Instruments

The “My Classmates” questionnaire was completed by participants at two time points wherein they answered questions about themselves using self-report measures, and their same-sex classmates using peer nomination procedures.

Peer Reputation. Participants completed a modified version of the Extended Class Play (Burgess, Rubin, Wojslawowicz, Rose-Krasnor, & Booth, 2003) (Appendix A). For each item, students received a roster of same-sex participants by class (Grades 4 and 5) or by grade (Grade 6). From this roster, students nominated those who best fit the description. An unlimited number of nominations was permitted. Self-nominations were not permitted.

Two items were used to measure *fun* (Hawley, Little, & Card, 2007): “Someone who is fun to be around” and “Someone who is easy to joke around with” ($\alpha = 0.75$). Two items were used to measure *prosocial behavior* (Masten, Morison, & Pellegrini, 1985): “Someone who helps others with their problems” and “Someone who makes sure everyone is treated equally” ($\alpha = 0.69$). Two items were used to measure *academic achievement* (Graham, Taylor & Hudley, 1998): “Someone who does well in school” and “Someone who knows the right answer” ($\alpha = 0.69$). One item was used to measure *popularity* (LaFontana & Cillessen, 2002): “Someone who is popular”. Two items were used to measure *relational aggression* (Bukowski, Schwartzman, Santo, Bagwell, & Adams, 2009): “Someone who talks bad about others behind their backs to hurt them” and “Someone who keeps others out of the group” ($\alpha = 0.64$). Two items were used to measure *physical aggression* (Bukowski et al., 2009): “Someone who hits, pushes, or shoves people” and “Someone who hurts others physically” ($\alpha = 0.63$). Single and two-

item peer nominations provide reliable measures of variables and have been widely used in the peer relationships literature (Marks, Babcock, Cillessen, & Crick, 2013).

Nominations were standardized to adjust for class size using a regression based procedure corrects for bias resulting from variability in number of nominators (Velasquez, Bukowski, & Saldarriaga, 2013). In the first step of the procedure, the mean number of nominations received by each child across all items was calculated. In the second step, a multiple regression analysis was conducted with the group size (i.e., total number of nominators minus one) as the independent variable and the mean number of nominations received as the dependent variable. Both linear and quadratic effects were calculated to account for plateau effects. In the final step, peer nominated raw score for each item was corrected using the estimated unstandardized β of group size from the second step : $y' = y - [(cs * B_1) + (cs^2 * B_2)]$, where y' is the adjusted score, y is the raw score, cs is the centered class size, B_1 is the linear coefficient of class size, and B_2 is the quadratic coefficient of class size (Velasquez, Bukowski, & Saldarriaga, 2013).

Peer preference: Sociometric status was assessed with a roster and rating measure (Singleton & Asher, 1977) (Appendix B). Participants were given a list of same-sex classmates or grademates (6th grade) and were instructed, “Check the box that shows how much you like each person” (1= *do not like this person*; 5=*like this person very much*). *Preference* represented the mean of the ratings received from all responding same-sex classmates.

Procedure

Parents were contacted by a letter sent from the school, describing the study and requesting consent for participation. Both parental consent and student assent were necessary for participation. Valid sociometric data requires participation rates of at least 60% of potential same-sex participants within class (Grades 4 and 5) or within (Grade 6) (Cillessen, 2009). Only classrooms and grades that fit this criterion were selected for inclusion in the study. 5 classes and 1 grade failed to meet participation rate criteria. Of those that did, participation rates averaged 76.40 % (range= 60%-100%).

Researchers and trained research assistants administered questionnaires. Students were assessed at two time points, 8 ($n = 124$) or 12 ($n = 304$) weeks apart depending on the school. In School 1, data were collected in November and January. In School 2, data were collected in February and May. Questionnaires were completed in class during regular school hours and took approximately 45 minutes to complete. Students completed questionnaires in their classrooms with testing shields for privacy. Students who were absent on the day of data collection completed the questionnaire a week later.

Plan of Analyses

Two sets of preliminary analyses were conducted. Repeated measures ANOVAs examined change in the main variables over time. Concurrent and over-time correlations were conducted between all study variables.

To test the hypothesis that fun predicts preference, hierarchical regression analyses were conducted describing unique concurrent associations between peer perceptions of fun and preference after removing the variance arising from potentially similar variables, such as academic achievement, prosocial behavior, physical aggression,

and relational aggression. To test the hypothesis that fun predicts popularity, a similar regression analysis was conducted describing unique concurrent associations between peer perceptions of fun and popularity after removing the variance arising from potentially similar variables, such as academic achievement, prosocial behavior, physical aggression, and relational aggression. In each regression, sex and grade in school were entered as control variables in the first step. In the second step, fun, academic achievement, prosocial behavior, physical aggression, and relational aggression were entered. Concurrent regression analyses were conducted at both time points. Additional regression analyses were conducted to verify the unique contributions of fun, over and above potential confounding variables. In these analyses, fun was entered as a predictor on the third step. Predictor variables entered on the first or second steps did not otherwise change.

To test the hypotheses that perceptions of fun predict changes the preference and popularity over time, a series of autoregressive cross-lagged panel analyses were conducted within a structural equation modeling framework using Mplus v7.11 (Muthén & Muthén, 2012; Los Angeles, CA, USA) with ML estimation. These analyses utilized a residual change score model, wherein change in variables across consecutive times points can be examined (Selig & Little, 2012). The Time 2 score is predicted by the Time 1 score, controlling for (or partialling out) the variance attributed to the Time 1 score. In so doing, the Time 2 dependent variable is converted into a residual change variable which stands for the change in the score between Time 1 and Time 2.

Figure 1 depicts the full measurement model. In a residual change model, the autoregressive effects are defined as the stability of a variable from one time point to the

next (Selig & Little, 2012). Accordingly, the model also estimated the stability of peer perceptions of fun (see path *f1-f2*), the stability of peer preference (see paths *pr1-pr2*), and the stability of peer perceptions of popularity (see path *po1-po2*) over time. Longitudinal associations between peer perceptions of fun, preference, and popularity were modeled from Time 1 to 2. These analyses were designed to test whether peer perceptions of fun at Time 1 predicted subsequent changes in preference and popularity (see paths *f1pr2* and *f1po2*), whether preference at Time 1 predicted subsequent changes in peer perceptions of fun and popularity (see paths *pr1f2* and *pr1po2*), and whether popularity at Time 1 predicted subsequent changes in peer perceptions of fun and preference (see paths *po1f2* and *po1pr2*). Support for the hypothesis that fun at Time 1 predicted subsequent increases in preference would be found if path *f1pr2* is positive and statistically significant. Support for the hypothesis that fun at Time 1 predicted subsequent increases in popularity would be found if path *f1po2* is positive and statistically significant. Support for the hypothesis that preference at Time 1 predicted subsequent increases in fun would be found if path *pr1f2* is positive and statistically significant. Support for the hypothesis that popularity at Time 1 predicts subsequent increases in fun will be found if path *po1f2* is positive and statistically significant.

To improve power, non-significant paths were trimmed. Standard model fit indices were used such that the smallest possible chi-square indices, the root mean square error of approximation (RMSEA) of less than .08, and the comparative fit index (CFI) exceeding .90 were considered acceptable.

In follow-up analyses, multiple group model comparisons were used to test if the patterns of associations between peer perceptions of fun, preference and popularity

identified in the final model differ as a function of grade. A progressive model fitting approach was used, adding constraints to the multiple-group model in a step-wise manner. In the initial model, all paths for each age group were freely estimated and χ^2 difference tests were used to compare the strength of each association across the fourth, fifth, and sixth grade groups. Associations that were not significantly different from one another ($p > 0.05$) were constrained to be equal. Constraints were placed on correlation, stabilities, and influence paths in that order. Beta weights for associations that were constrained equal were averaged across grade groups. Support for the hypothesis that the association between fun at Time 1 and subsequent changes in preference differed as a function of grade would be found in a significant χ^2 difference between grade groups on path *flpr2*, indicating that pattern of associations between differed across the grades. Similarly, support for the hypothesis that the association between fun at Time 1 and subsequent changes in popularity differed as a function of grade would be found in a significant χ^2 difference between grade groups on path *flpo2*, indicating that pattern of associations between differed across the grades.

Additional follow-up multiple groups models examined gender and school separately as potential moderators of the associations between peer perceptions of fun, preference, and popularity that were identified in the final model. In each case, support for moderation would be found if patterns of associations varied across gender and school groups. A final set of supplemental analyses were conducted to test whether the same pattern of overtime associations between fun, preference, and popularity emerged after controlling for potential confounding variables. Four potential confounders are examined: i) academic achievement; ii) prosocial behavior; iii) relational aggression; and iv)

physical aggression. In separate models, each control variable was entered as a correlate of fun, preference, and popularity at Time 1. Support for the hypotheses that the association between fun at Time 1 and subsequent changes in preference and popularity, the association between preference at Time 1 and subsequent changes in popularity, and the association between popularity at Time 1 and subsequent changes in fun remain significant after controlling for confounding variables would be found if the same pattern of results emerged in the models with and without control variables.

There were minimal levels of data missing (less than 1%). Little's test indicated data were missing completely at random, $\chi^2(18)=18.21$, $p=.44$. Missing reports were imputed using an EM algorithm with 25 iterations.

RESULTS

Preliminary Analyses

A 3 (grade) X 2 (sex) repeated measures ANOVA was conducted, with preference as the dependent variable, and time as the repeated measure. There was a significant main effect of time $F(1, 422) = 7.27$, $p = .006$, $\eta p_2 = .02$. Preference scores declined between Time 1 ($M=3.76$, $SD=0.66$) and Time 2 ($M=3.70$, $SD=0.69$). There was also a main effect of grade, $F(2, 422) = 10.51$, $p < 0.001$, $\eta p_2 = .05$. A post hoc Tukey test showed that Grade 4 ($M=3.89$, $SD=0.69$) reported significantly higher preference scores than Grade 6 ($M=3.54$, $SD=0.59$), $p < 0.001$ and Grade 5 ($M=3.77$, $SD=0.68$) reported significantly higher preference scores than Grade 6 ($M=3.54$, $SD=0.59$), $p=0.004$; there were no significant differences between Grade 4 and Grade 5 on preference scores. There were neither main effects nor interactions involving gender.

A 3 (grade) X 2 (sex) repeated measures ANOVA was conducted, with popularity as the dependent variable, and time as the repeated measure. There was a significant main effect of time $F(1, 422) = 8.92, p = .003, \eta p_2 = .02$. Popularity scores increased between Time 1 ($M=2.67, SD=2.34$) and Time 2 ($M=2.87, SD=2.47$). There was also a main effect of grade, $F(2, 422) = 16.45, p < 0.001, \eta p_2 = .07$. A post hoc Tukey test showed that Grade 4 ($M=2.21, SD=1.77$) reported significantly lower popularity scores than Grade 6 ($M=3.66, SD=3.04$), $p < 0.001$ and Grade 5 ($M=2.43, SD=2.09$) reported significantly lower popularity scores than Grade 6 ($M=3.66, SD=3.04$), $p < 0.001$; there were no significant differences between Grade 4 and Grade 5 on popularity scores. There were neither main effects nor interactions involving gender. Table 1 and Table 2 present descriptive statistics of variables. Table 3 presents intercorrelations between study variables. At both time points, statistically significant positive associations were found between peer perceptions of fun and preference, popularity, academic achievement, and prosocial behavior. At both time points, relational aggression and physical aggression were positively correlated with one another and physical aggression was negatively correlated with fun, popularity, preference, academic achievement, and prosocial behavior. At both time points, relational aggression was negatively correlated with fun, preference, academic achievement, and prosocial behavior. As see in Table 4, correlations between peer perceptions of fun, preference, and popularity were significant, as were over-time inter-correlations between the variables.

Concurrent associations between peer perceptions of Fun and Preference

Time 1. A regression analysis was conducted to test the hypothesis that peer perceptions of fun are uniquely associated with concurrent Time 1 preference. In this

analysis, preference was the dependent variable. Sex and grade in school were included as control variables in the first step. In the second step, peer perceptions of fun, academic achievement, prosocial behavior, relational aggression, and physical aggression were included as predictor variables.

Table 5 presents the results. Among the control variables, grade in school negatively predicted concurrent peer preference, such that preference scores declined with increases in grade level at school. Peer perceptions of fun positively predicted concurrent peer preference, such that children who were viewed as more fun were also better liked. Among the confounding variables, peer perceptions of prosocial behavior positively predicted concurrent peer preference and perceptions of physical and relational aggression negatively predicted concurrent preference. Children who were high on prosocial behaviors were better liked, whereas children who were high on physical and those who were high on relational aggression were less liked.

In order to test whether fun uniquely accounts for a significant portion of the variance in preference, the regression analysis was repeated with fun entered at step 3, after academic achievement, prosocial behavior, relational aggression, and physical aggression were added at step 2. Table 6 presents the results. Like in the previous analysis, among the confounding variables added at step 2, peer perceptions of prosocial behavior positively predicted concurrent peer preference and perceptions of physical and relational aggression negatively predicted concurrent preference. Children who were high on prosocial behaviors were better liked, whereas children who were high on physical and those who were high on relational aggression were less liked. With fun moved to step 3, peer perceptions of academic achievement also positively predicted concurrent peer

preference, such that children who were high on academic achievement were also better liked. On step 3, peer perceptions of fun positively predicted concurrent peer preference, such that children who were viewed as more fun were also better liked. On this final step, fun accounted for 24% of the r^2 .

Time 2. A regression analysis was conducted to test the hypothesis that peer perceptions of fun are uniquely associated with concurrent Time 2 preference. In this analysis, preference was the dependent variable. Sex and grade in school were included as control variables in the first step. In the second step, peer perceptions of fun, academic achievement, prosocial behavior, relational aggression, and physical aggression were included as predictor variables.

Table 7 presents the results. The same pattern of results emerged as at Time 1. Among the control variables, grade in school negatively predicted concurrent peer preference, such that preference scores declined with increases in grade level at school. Peer perceptions of fun positively predicted concurrent peer preference, such that children who were viewed as more fun were also better liked. Among the confounding variables, peer perceptions of prosocial behavior positively predicted concurrent peer preference and perceptions of physical and relational aggression negatively predicted concurrent preference. Children who were high on prosocial behaviors were better liked, whereas children who were high on physical and those who were high on relational aggression were less liked.

In order to test whether fun uniquely accounts for a significant portion of the variance in preference, the regression analysis was repeated with fun entered at step 3,

after academic achievement, prosocial behavior, relational aggression, and physical aggression were added at step 2. Table 8 presents the results. Among the confounding variables added at step 2, peer perceptions of prosocial behavior positively predicted concurrent peer preference and perceptions of physical and relational aggression negatively predicted concurrent preference. Children who were high on prosocial behaviors were better liked, whereas children who were high on physical aggression and those who were high on relational aggression were less liked. Like at Time 1, with fun moved to step 3, peer perceptions of academic achievement also positively predicted concurrent peer preference. Children who were high on academic achievement were also better liked. On step 3, peer perceptions of fun positively predicted concurrent peer preference, such that children who were viewed as more fun were also better liked. On this final step, fun accounted for 21% of the r^2 .

Concurrent associations between peer perceptions of Fun and Popularity

Time 1. A regression analysis was conducted to test the hypothesis that peer perceptions of fun are uniquely associated with concurrent Time 1 popularity. In this analysis, popularity was the dependent variable. Sex and grade in school were included as control variables in the first step. In the second step, peer perceptions of fun, academic achievement, prosocial behavior, relational aggression, and physical aggression were included as predictor variables.

Table 9 presents the results. Among the control variables, grade in school positively predicted concurrent popularity, such that popularity scores increased with increases in grade level at school. Peer perceptions of fun positively predicted concurrent

popularity, such that children who were viewed as more fun were also more popular. Among the confounding variables, peer perceptions of academic achievement and relational aggression positively predicted concurrent popularity, and perceptions of physical aggression negatively predicted concurrent popularity. Children who were high on academic achievement and those who were high on relational aggression were more popular, whereas children who were high on physical aggression were less popular.

In order to test whether fun uniquely accounts for a significant portion of the variance in popularity, the regression analysis was repeated with fun entered at step 3, after academic achievement, prosocial behavior, relational aggression, and physical aggression were added at step 2. Table 10 presents the results. Among the confounding variables, peer perceptions of academic achievement and relational aggression positively predicted concurrent popularity, and perceptions of physical aggression negatively predicted concurrent popularity. Children who were high on academic achievement and those who were high on relational aggression were more popular, whereas children who were high on physical aggression were less popular.

On step 3, peer perceptions of fun positively predicted concurrent popularity, such that children who were viewed as more fun were more popular. On this final step, fun accounted for 53% of the r^2 .

Time 2. A regression analysis was conducted to test the hypothesis that peer perceptions of fun are uniquely associated with concurrent Time 2 popularity. In this analysis, popularity was the dependent variable. Sex and grade in school were included as control variables in the first step. In the second step, peer perceptions of fun, academic

achievement, prosocial behavior, relational aggression, and physical aggression were included as predictor variables.

Table 11 presents the results. Among the control variables, grade in school positively predicted concurrent popularity, such that popularity scores increased with increases in grade level at school. Peer perceptions of fun positively predicted concurrent popularity, such that children who were viewed as more fun were also more popular. Among the confounding variables, peer perceptions of academic achievement and relational aggression positively predicted concurrent popularity. Children who were high on academic achievement and those who were high on relational aggression were more popular.

In order to test whether fun uniquely accounts for a significant portion of the variance in popularity, the regression analysis was repeated with fun entered at step 3, after academic achievement, prosocial behavior, relational aggression, and physical aggression were added at step 2. Table 12 presents the results. Among the confounding variables, peer perceptions of academic achievement and relational aggression positively predicted concurrent popularity such that children who were high on academic achievement and those who were high on relational aggression were more popular. With fun moved to step 3, perceptions of prosocial behavior positively predicted concurrent popularity such that children who were high on prosocial behaviors were more popular. Additionally, with fun moved to step 3, physical aggression negatively predicted concurrent popularity such that children who were high on physical aggression were less popular. On step 3, peer perceptions of fun positively predicted concurrent popularity,

such that children who were viewed as more fun were more popular. On this final step, fun accounted for 60% of the r^2 .

Longitudinal associations between peer perceptions of Fun, Preference, and Popularity

Main model. Autoregressive cross-lagged panel analyses were conducted to test the hypothesis that Time 1 fun predicts subsequent increases in preference and popularity and to test the hypotheses that preference and popularity predict subsequent increases in fun. Figure 2 depicts the final model after trimming non-significant paths. Model fit was good, $\chi^2(2, N = 428) = 3.12, p = 0.21, CFI = 0.99, RMSEA = 0.03$. The omission of non-significant paths did not worsen model fit compared to the model with all paths.

Perceived fun predicted increases in both preference and popularity. Specifically, there was a statistically significant association between Time 1 perceptions of fun and Time 2 preference such that higher initial levels of fun predicted greater increases (or lesser decreases) in preference over time. There was also a statistically significant association between Time 1 perceptions of fun and Time 2 popularity, such that higher initial levels of fun predicted greater increases in popularity over time.

Preference and popularity also predicted increases in perceived fun. Specifically, there was a statistically significant association between Time 1 preference and Time 2 peer perceptions of fun, such that higher initial levels of preference predicted greater increases in being seen as fun over time. The association between Time 1 popularity and Time 2 fun was also statistically significant, such that higher levels of initial popularity predicted greater increases in being perceived as fun over time.

Multiple groups models. Three sets of multiple groups analyses were conducted. The first multiple groups model tested the hypothesis that patterns of associations between peer perceptions of fun, preference and popularity differed as a function of grade. Figure 3 depicts the results of the final multiple group model. Model fit was acceptable, $\chi^2(26, N = 428) = 33.30, p = 0.15, CFI = .99, RMSEA = 0.04$. The fit for the multiple group model did not significantly worsen when constraints were added.

Results are presented in Figure 3. Results indicated that the statistically significant association between Time 1 perceptions of fun and Time 2 preference was moderated by grade. Higher initial levels of fun predicted greater increases (or lesser decreases) in preference for fourth and fifth grade students over time, but not for sixth grade students. Follow-up χ^2 tests revealed no differences between the strength of the association for fourth and fifth grade students, so these paths were combined. The association was stronger for fourth and fifth grade students (combined) than for sixth grade students ($\Delta\chi^2(1) = 13.38, p < 0.001$). Grade did not moderate the statistically significant association between Time 1 perceptions of fun and Time 2 popularity, higher initial levels of fun predicted greater increases in popularity for students of all three grades.

Preference and popularity also predicted increases in fun. There was a statistically significant association between Time 1 preference and Time 2 perceptions of fun, such that higher initial levels of preference predicted greater increases in being fun. There was a statistically significant association between Time 1 popularity and Time 2 perceptions of fun, such that higher initial levels of popularity predicted greater increases in being fun. Results also indicated that the statistically significant association between Time 1

popularity and Time 2 fun was moderated by grade. Higher initial levels of fun predicted greater increases in preference for sixth grade students over time than for fourth and fifth grade students. Follow-up χ^2 tests revealed no differences between the strength of the association for fourth and fifth grade students, so these paths were combined. The association was weaker for fourth and fifth grade students (combined) than for sixth grade students ($\Delta\chi^2(1) = 14.63, p < 0.001$).

Additional multiple groups analyses examined sex and school separately as potential moderators of the associations between fun, preference and popularity. There was no significant effect of either moderator. The results suggest similar patterns of associations for boys and girls, and for students attending the two schools.

Supplemental analysis

Additional analyses were conducted to determine whether the associations between fun, preference, and popularity held after controlling for the effect of confounding variables. In separate models, academic achievement, prosocial behavior, relational aggression and physical aggression were entered as control variables. In each case, the same pattern of statistically significant results emerged.

DISCUSSION

The present study examines the role of fun in peer preference and popularity. As hypothesized, being fun was positively associated with preference and popularity, concurrently and over time. The longitudinal association between peer perceptions of being fun and preference was qualified by grade in school, such that being fun predicted increases in preference for fourth and fifth grade students but not for sixth grade students.

No similar age-differences were found for the longitudinal association between peer perceptions of being fun and popularity. Fun emerged as a significant predictor of preference and popularity, even after accounting for the contribution of variables potentially confounded with perceptions of being fun, such as prosocial behavior, academic achievement, relational aggression, and physical aggression. Finally, bidirectional associations between peer status and fun were confirmed; fun predicted increases in peer preference and popularity, but peer preference and popularity also predicted later increases in fun.

The present study is unique because it is one of few longitudinal studies assessing the role of a positive behavioral characteristic on children's peer status. Despite the recommendations of prominent scholars (Fabes, Carlo, Kupanoff, Laible, 1999; Zimmer-Gembeck, Geiger, & Crick, 2005), we know very little about the positive predictors of preference, aside from the well-established finding that prosocial behaviors are tied to peer status. Some studies have assessed links between status and prosocial behaviors such as cooperation, helpfulness, leadership, kindness and trustworthiness (de Bruyn & Cillessen, 2006; Gorman et al., 2002; LaFontana & Cillessen, 2000; Parkhurst & Hopmeyer, 1998). Other studies have assessed links between status and peer valued characteristics such as athleticism, sports involvement, affluence, humor and physical appearance (Lease et al., 2002; Rodkin et al., 2000; Vaillancourt & Hymel, 2006). Although the psychological characteristics of a fun person are yet to be defined, we know from the everyday usage of the term that "fun" is not the same as kindness or cooperation, and being fun is more than just being funny. Fun is unique because it captures feelings of pleasure, delight and playfulness, which have been overlooked in previous

examinations of peer status. Hence, it was important to examine the role of fun on peer status.

Fun is concurrently associated with preference and status.

Concurrent associations indicated that being fun is positively linked to preference and that being fun is positively linked to popularity. The concurrent analyses provide descriptive information about the nature of associations between being fun and peer status, accounting for the role of other known predictors of preference and popularity. Thus, for each dependent measure, separate regression analyses were conducted at both time points. In each case, the same results emerged: being fun predicted concurrent preference and concurrent popularity after accounting for the contribution of prosocial behaviors, academic achievement, physical aggression and relational aggression. Replication of results across time points lends credibility to the finding that being fun is linked to peer status.

Peer preference. Fun concurrently predicted preference even after controlling for prosocial behavior, academic achievement, relational aggression and physical aggression. In fact, fun was the most robust predictor of preference at both time points, accounting for more variance than prosocial behavior, academic achievement, relational aggression or physical aggression, when all predictors were entered together at the same step. At both time points, when fun and academic achievement were added to the model at the same step, fun predicted preference but academic achievement did not. Although replication is necessary, these results suggest that fun maybe responsible for some of the

associations between academic achievement and preference in previous research (e.g., Rodkin, Farmer, Pearl, & Van Acker, 2000).

In additional analyses, fun was added to the model on the final step, after potential confounding variables, in order to assess if being fun predicted preference after removing the variance accounted for by other related variables. At both time points, when fun was moved to a later step, academic achievement was now a statistically significant predictor of concurrent preference. The findings suggest that there is considerable overlap between fun and academic achievement. Fun, however, turns out to be the better predictor of preference than academic achievement. It is possible that some predictors of preference, like academic achievement, may have been over estimated previously (e.g., Asher & McDonald, 2009) because studies failed to account for the contribution of fun.

The fact that fun remained associated with concurrent preference, even after removing its overlap with prosocial behavior, academic achievement, relational aggression and physical aggression confirms that fun is an important, unique determinant of preference. Taken together, these results show that being fun describes a novel aspect of the individual in peer relations, one that is distinctive from other related predictors. The finding that being fun predicts preference even after accounting for the impact of prosocial behaviors on preference is particularly important, because it illustrates that being fun plays a distinctive role in determining preference than being prosocial- perhaps due to distinctive reasons. Although prosocial behaviors are rewarding because they serve to maintain the groups' functioning, fun proves to be an equally strong reinforcer. Children are sensitive to positive behaviors like fun, which although not tied directly to the promotion of group functioning, just as powerful for shaping peer interactions.

Popularity. Fun concurrently predicted popularity after controlling for prosocial behavior, academic achievement, relational aggression and physical aggression. In fact, fun was the strongest predictor of popularity at both time points, accounting for more variance than prosocial behavior, academic achievement, relational aggression, and physical aggression when all predictors were entered together at the same step. Consistent with prior studies showing that popularity is associated with dominance and power (Hawley, 2003; Vaillancourt & Hymel, 2006), popularity was positively predicted by relational aggression. The finding that popularity was positively predicted by academic achievement was consistent with prior findings linking popularity to the peer valued characteristic of academic competence (e.g., Vaillancourt & Hymel, 2006).

In additional analyses, fun was added to the model on the final step, after potential confounding variables, in order to assess if being fun predicted popularity after removing the variance accounted for by other related variables. At time two, when fun was moved to a later step, prosocial behavior was now a statistically significant positive predictor of concurrent popularity. This finding indicates that there may be considerable overlap between fun and prosocial behavior. Fun, however, turns out to be a better predictor of popularity than prosocial behavior. Hence, previous studies linking prosocial behaviors to popularity may have overestimated these effects (e.g., Gorman, Kim, Schimmelbusch, 2002; LaFontana & Cillessen, 1998), because they failed to account for the contribution of fun. Similarly, at time two, when fun was moved to a later step, physical aggression was now a statistically significant negative predictor of concurrent popularity suggesting that fun is better predictor popularity than physical aggression. Since both of these trends were seen only at one time point, further replication is necessary for greater confidence.

The fact that fun remained associated with concurrent popularity even after removing the contribution of potential confounds indicates that fun is an important, unique determinant of popularity. Fun describes an aspect of the individual that is separate from other predictors like academic achievement, prosocial behaviors, and physical and relational aggression.

Fun is longitudinally associated with changes in Preference and Popularity

In the current study, cross-lag autoregressive analyses were used to examine longitudinal associations between being fun and changes in peer preference and popularity. The analyses are analogous to latent change analyses, where initial fun predicts changes in preference and changes in popularity simultaneously. Although preference and popularity are distinct constructs, there is considerable overlap between the two, even into the adolescence years (Mayeux, Houser, & Dyches, 2011). Consistent with previous findings (Parkhurst & Hopmeyer, 1998), preference and popularity were moderately correlated in the present study. The analyses predict changes in the unique properties of each with the other and with fun.

Fun as a predictor of preference. As expected, being fun predicted greater increases in preference over time (and lesser decreases in preference over time); the more fun children were at time one, the more they were liked at time two (and the lesser declines there were in how much they were liked at time two). These findings are in line with previous findings that have linked preference to behaviors that are rewarding to other children (e.g., Gottman, Gonso, & Rasmussen, 1975) as well as socially skilled behaviors (Rubin, Bukowski, & Parker, 1998). Sociometric measures are based on assumption of that peer

acceptance originates from socially rewarding behaviors and interactions (Hartup, Glazer, & Charlesworth, 1967). Fun children provide companionship (Asher & McDonald, 2011), and invoke feelings of happiness in peers, making them rewarding to be around. Additionally, the predictive association between fun and preference further supports the premise that social preference derives from behaviors that reflect social competence (e.g., Cillessen, 2011; Ladd, 2005). A fun peer likely provides opportunities for entertainment or recreation which rely on important skills such as appraising social cues, gauging others' and one's own emotions, as well as communicating effectively while regulating one's internal emotional states (Aikins & Litwack, 2011).

As predicted, developmental differences were found in the association between fun and preference. Fun predicted increases in preference for fourth and fifth grade students but not for the sixth grade students. These findings add to a growing body of literature suggesting that there are changes in the social behaviors that children value in others during the transition into adolescence (e.g., Cillessen & Mayeux, 2004; Zeller, Vannatta, Schafer, & Noll, 2003). Age group differences may be driven by shifts in the underlying expectations that children have for relationship partners. As children grow older, they begin to form same-sex and perhaps cross- sex friendships, wherein skills such as reciprocity and intimacy gain precedence over companionship (Laursen & Hartup, 2002; Berndt & Perry, 1990; Sullivan, 1953). In the face of the increasing demands for interpersonal closeness, the ties between liking and fun appear to loosen.

The divergent role of fun in predicting preference for children at different ages may also be tied to the cognitive advancements that accompany the onset of adolescence. Scholars have noted that improvements in children's social perspective taking skills

across development results in changes in their understanding about friendships (Selman, 1980). Based on their egocentric and concrete views of social interactions, young children's definitions of friendship tend to focus on individual benefits. With the development of mutual perspective taking during preadolescence, conceptions of friendship are revised. Affection, security, intimate disclosure, guidance and nurturance become important provisions of friendships (Laursen & Hartup, 2002). Similar changes have been noted in other peer interactions as well. Across early adolescence, perceptions of peers become less tied to overt behaviors and more tied to personality traits or psychological characteristics (Livesley & Bromley, 1973). Preadolescent descriptions of peer groups are focused on concrete shared activities that imply shared enjoyment (e.g., riding bikes together), but adolescent descriptions of peer groups focus on group values and attitudes (O'Brien & Bierman, 1988). In a similar vein, we find that fun, which is likely tied to specific activities, is more valuable to preadolescents for determining liking, than adolescents.

Adolescents offer a more nuanced assessment of status than younger children. Younger children tend to focus on the acceptability of behaviors, tying most positive behaviors to liking; older youth are less likely to indiscriminately tie liking to socially acceptable behaviors (Zeller, Vannatta, Schafer, & Noll, 2003). Thus, prosocial behavior and politeness were more important factors in peer preference among elementary school students than among older students. Much the same appears to be true for fun, which may become a necessary but not sufficient condition for liking.

Fun as a predictor of popularity. As expected, being fun predicted increases in popularity over time; the more fun children were at time one, the more popular they were

at time two. These results are in line with previous findings that characteristics that are coveted by other members of a group lead to popularity (LaFontana & Cillessen, 2002). Being fun is similar to other desirable qualities that make youth popular- such as being perceived as cool (Rodkin et al., 2000), being socially well connected, having many friends (de Bruyn & Cillessen, 2006), and not being boring (de Bruyn & van den Boom, 2005). Additionally, being fun is rewarding, a resource desired by many. Popular children are adept at controlling resources and may leverage their rewarding behavior into control over others (Hawley, 2003; Pellegrini, Roseth, Van Ryzin, & Solberg, 2011).

Prior findings have shown that popularity becomes less related to positive behaviors such as prosociality during early adolescence, due to the role that aggressive or deviant behaviors play in social dominance, (Bukowski, Sippola, & Newcombe, 2000). Based on these trends, I expected that fun would become less important in predicting popularity with age. Findings from the current study did not support this hypothesis: fun was an equally strong predictor of popularity for younger children and older children alike. One reason for the failure to find age as a moderator of the association between fun and popularity may be because the importance of fun for popularity may change later in middle school. Several studies have found that the link between socially dominant behaviors and popularity stabilize by the late-middle school years (e.g., Cillessen and Mayeux, 2004; Rose, Swensen, & Waller, 2004; Xie, Li, Boucher, Hutchins & Cairns, 2006). Scholars have suggested that the complex skills necessary to use dominant behaviors to maintain status continue to develop until late adolescence (Cillessen & Rose, 2005). Although fun continues to be an important source of popularity for sixth grade students in the current study, it is likely that the association between fun and popularity

will decline as dominant behaviors become stronger predictors of popularity in later adolescence.

Fun predicted both popularity and preference for younger children- but only popularity for older children. This finding is consistent with previous findings showing greater specialization of peer interactions and evaluations across adolescence. Although preference and popularity are based on similar social competencies at an early age, the social and cognitive changes accompanying adolescence create a distinction between the two constructs (Aikins, & Litwack, 2011). Associations between preference and popularity are found to diminish with age (Mayeux, Houser, & Dyches, 2011), such that by adolescence the two constructs have different behavioral predictors and are motivated by different social goals (Aikins & Litwack, 2011; LaFontana & Cillessen, 2010). Transition to middle school further widens the distinction between preference and popularity (LaFontana & Cillessen, 1999). Since younger children tend to have a simpler and undifferentiated view of peers, they associate acceptable behaviors with both preference and popularity (Zeller, Vannatta, Shaefer, & Noll, 2003). In contrast, adolescents, use many categories of behaviors or characteristics when evaluating peers, leading to nuanced perceptions of status (Barenboim, 1981; Zeller, Vannatta, Shaefer, & Noll, 2003).

Preference and popularity are longitudinally associated with changes in fun

The current analyses are unique in that they encompass a transactional model of causality, wherein associations between initial levels of fun predict changes in status but also initial levels of status predict later changes in fun. Most previous studies of social

status have been guided by the notion of unidirectional causal associations, typically considering only how behavioral characteristics impact later peer status. However, in doing so, these studies have failed to consider how peer status simultaneously shapes behaviors. High social status youth have many positive experiences that strengthen the behaviors that make them well liked and popular. Hence, examinations of reciprocal relations between status and behavioral characteristics that lead to high status are warranted (Aikins & Litwack, 2011). In the current examination, fun both predicted to and was predicted by peer status. Similar effects emerged for preference and popularity.

With a few exceptions (e.g., Zimmer-Gembeck et al, 2005), most studies assessing the role of status in predicting future behavioral outcomes have focused on antisocial behaviors or externalizing behaviors (e.g., Dishion, Patterson, Stoolmiller, & Skinner, 1991; Kupersmidt & Coie, 1990; Cillessen & Mayeux, 2004). For instance, there is evidence that aggressive behaviors and smoking behaviors are both antecedents and products of popularity (Cillessen & Mayeux, 2004; Mayeux, Sandstorm, & Cillessen, 2008). Peer rejection has also been conceptualized as a stressor that leads to negative behavioral outcomes, as well as a product of the same negative behaviors (Parker & Asher, 1987). Although similar bidirectional effects are expected between status and positive behaviors, very few studies have investigated these effects. Zimmer-Gembeck and colleagues (2005) found transactional positive associations between peer preference in elementary school and prosocial behaviors in middle school; children who enjoyed high preference showed subsequent increases in prosocial behaviors over time. In a similar vein, the current study finds positive bidirectional associations between peer preference and fun. In addition to fun behaviors predicting increases in preference over

time, preference also predicted subsequent increases in being fun over time. Well liked children have many positive peer experiences that provide important avenues for practicing social skills and positive behaviors. Based on such experiences, children who are preferred are able to build their social competencies, adaptive cognitions as well as emotional regulations skills (Aikins & Litwack, 2011), all of which would likely support the development of fun behaviors.

From early adolescence, popularity drives the organizational structure of peer systems, arranging individuals into status hierarchies (Brown, 2011). As a result, youth who enjoy high social status have many social advantages over their low social status peers. Popular youth associate with other socially skilled peers, who model and reinforce their skilled behaviors (e.g., Schwarz & Gorman, 2011). Hence, in the current examination, popular youth may have benefited from interacting with popular peers, who modeled fun behaviors. Popular youth may also increase fun behaviors in order to maintain their coveted social position given they have more at stake than low status children.

Taken together, the current findings support the notion that positive peer experiences such preference and popularity provide important contexts for strengthening future skilled behaviors of high status youth. Based on their high peer status, children become more socially skilled and fun to be around over time, in turn serving to maintain, and bolster their high peer status. When it comes to reaping the benefits of positive peer status for strengthening future fun behaviors, it seems that the rich get richer.

Implications

The results of the current study have important implications for scholars, teachers, practitioners and parents. For scholars, the finding that being fun is an important predictor of peer status during early adolescence suggests the need to re-conceptualize the antecedents of preference and popularity. In assessing the antecedents of peer status, scholars have tended to emphasize the role of behaviors that promote or impede group functioning (Bukowski & Sippola, 2001), reflect socio- cognitive abilities such as social information processing skills (Crick & Dodge, 1994) and adaptive problem solving skills (Renshaw & Asher, 1983), and “peer valued attributes” such as having wealth, being a good dresser, being good looking (Vaillancourt & Hymel, 2006). Although being fun likely fits all of these descriptions, it also relies on additional noncognitive skills such as playfulness, enthusiasm, vitality, and related interpersonal skills that have been largely overlooked in previous research on peer status. The results show that fun and play remain important even beyond the kindergarten years, urging scholars to assess similar behaviors for their import on peer relationships. Scholars recognize that the role of noncognitive skills, such as being vivacious and fun (which have been collectively termed “psychological capital”) can be just as important in predicting long term adjustment outcomes as social and cultural capital (Steinberg, 2014). However, the mechanisms whereby psychological capital influences adjustment, are not fully understood. The finding that being fun predicts increments in peer status may address this point: peer status may play a mediating role between psychological capital and future success.

The finding on the importance of fun should inform how academics view the foundations of peer status. New social competencies have to be assessed that extend beyond prosocial behaviors and effective problem solving. Research with adults shows

stable individual differences in the emotional states that adults elicit in others, a construct called affective presence (Eisenkraft & Elfenbein, 2010). Perhaps similar processes are at play for children who are fun. By eliciting feelings such as enthusiasm or happiness in interaction partners, fun children become liked and popular over time. Future researchers will do well to assess additional social competencies and constructs to better understand the antecedents of peer status.

For teachers, educators and practitioners who work in elementary school and middle school settings, the findings may inform the development of social skills training programs. Little attention has been given to the possibility that fun behaviors can bolster a child's social status. Given what we know about the unique role of fun in improving peer status, greater emphasis must be placed on developing skills that promote fun activities, especially among elementary school aged children. Supportive opportunities for fun behaviors with peers may be particularly beneficial for children who are at high risk of low acceptance. Although future work is necessary to ascertain how children can be taught to be more fun, role taking exercises with fun classmates may be a starting point. In the present study, fun behaviors improved peer status over a short period of time (two to three months), suggesting that having fun can be incorporated into existing social and emotional learning programs (SEL). Improvements in peer status outcomes may become evident within the same school semester.

For parents, these results indicate the importance of providing children with ample opportunities to have fun with other children, as these experiences provide rich contexts for practicing and bolstering valuable social skills. Given the many benefits of positive peer status for children's academic and interpersonal adjustment, parents should

make efforts for strengthening behaviors that make one a fun companion. Based on these results, pairing with fun play dates may be prioritized, even for elementary school aged children.

Limitations

The current study was not without limitations. First, although the current examination provides evidence about the importance of being fun, further research is needed to ascertain what exactly makes a peer fun. Future assessments that incorporate self report measures as well as observational methods to assess the characteristics and behaviors that make someone fun to be around are warranted. Second, although the current study reveals developmental differences in the salience of being fun for peer status across the transition into middle school, further work remains to be done to confirm underlying reasons for the emergence of age differences. Based on observations that by preadolescence, peer interactions become lesser reliant on fun and companionship and more reliant on intimacy, trust and commitment (Laursen & Hartup, 2002), we think these developmental trends reflect the diminishing value of fun in the face of incremental value for disclosure, affection and emotional support (Furman & Buhrmester, 1992). These claims however, remain to be corroborated by empirical evidence from future assessments. Third, as is the case with any correlational study, causality is far from certain. Although, the same results were obtained even after controlling for several important confounding factors, better evidence of causality is needed, beyond antecedent ordering (Rutter & Pickles, 1990). Interventions could be devised whereby children are given specific social skills training emphasizing fun behaviors, and increments in their peer status could be compared with peer status of children in a control condition. Fourth,

the current study assessed longitudinal associations between fun and status across a relatively short period of time and the credibility of these findings will be bolstered with replications across longer periods of time. Finally, although the replication of findings at multiple time points was a strength of the current study, caution must be exercised in interpreting the longitudinal models since no competing alternate models were tested.

Conclusions

From an early age, children approach peer interactions with certain implicit expectations for relationship partners, evaluating peers based on their ability to meet such expectations. A fun peer fulfills one's need for companionship (Asher & Williams, 1987). Hence, children who are fun to be around are well liked. A fun peer also controls an important rewarding resource. Hence, children who are fun to be around are also popular. The importance of companionship, however, declines with age, replaced by constructs such as trust, closeness and reciprocity. By adolescence, emotional support and mutual self-disclosure exceed play in importance; making fun less salient in preference but not less salient in popularity. Together, these findings speak to the shifting landscape of social needs that make certain characteristics more salient and perhaps desirable at different developmental points.

Table 1.

Means and SD of variables for Boys and Girls at Time 1 and Time 2

Variables		Time 1 M (SD)	Time 1 M (SD)	Time 2 M (SD)	Time 2 M (SD)
		Boys	Girls	Boys	Girls
1	Academic Achievement	3.88 (2.16)	4.19 (1.99)	4.03 (2.19)	4.13 (2.07)
2	Fun	3.99 (1.92)	4.03 (1.96)	4.33 (1.97)	3.97 (2.14)
3	Physical Aggression	.27 (.57)	.11 (.41)	0.35 (.81)	.17 (.46)
54	4 Popularity	2.75 (2.37)	2.50 (2.32)	2.91 (2.41)	2.77 (2.54)
5	Preference	3.74 (.68)	3.80 (0.64)	3.66 (3.71)	3.76 (.69)
6	Prosocial Behavior	2.38 (1.72)	3.22 (1.92)	2.61 (1.90)	3.97 (1.98)
7	Relational Aggression	.47 (.72)	.75 (1.18)	.51 (.82)	.79 (1.25)

Note. N=428

Table 2.

Means and SD of variables for Fourth, Fifth, and Sixth Grade students at Time 1 and Time 2

Note. N=428

	Variables	Time 1 M (SD) Grade 4	Time 1 M(SD) Grade 5	Time 1 M (SD) Grade 6	Time 2 M (SD) Grade 4	Time 2 M (SD) Grade 5	Time 2 M (SD) Grade 6
1	Academic Achievement	4.00 (1.81)	3.70 (1.97)	4.45 (2.39)	4.01 (1.98)	3.68 (2.06)	4.61 (2.25)
2	Fun	3.65 (1.84)	3.50 (1.58)	4.97 (2.33)	3.80 (1.70)	3.69 (1.79)	4.98 (2. 49)
3	Physical Aggression	.23 (.58)	.23 (.51)	0.07 (.31)	.31 (.65)	.34 (.70)	.09 (.53)
5	4 Popularity	2.06 (1.73)	2.33 (1.99)	3.52 (2.97)	2.36 (1.82)	2.51 (2.22)	3.69 (3.11)
5	5 Preference	3.90 (.68)	3.81 (0.67)	3.60 (.57)	3.88 (.71)	3.74 (.71)	3.52 (.62)
6	6 Prosocial Behavior	3.13 (1.63)	2.91 (1.74)	2.49 (2.22)	3.32 (1.91)	3.04 (1.79)	2.37 (2.08)
7	7 Relational Aggression	.62 (.92)	.74 (.82)	.52 (1.26)	.79 (1.10)	.70 (.91)	.51 (1.25)

Table 3

Bivariate Correlations, Means and Standard Deviations of Variables at Time 1 and Time 2

Time 2 Variables	1 [95% CI]	2 [95% CI]	3 [95% CI]	4 [95% CI]	5 [95% CI]	6 [95% CI]	7 [95% CI]	Time 2 M(<i>SD</i>) Min-Max
Time 1 Variables								
1. Academic Achievement		.49*** [.41,.56]	-.32*** [-.41,-.24]	.35*** [.26,.43]	.49*** [.43,.57]	.66*** [.61,.71]	-.37*** [-.46,-.30]	4.01(2.12) 0.00-7.00
2. Fun	.46*** [.39,.54]		-.32*** [-.40,-.23]	.67*** [.62,.72]	.61*** [.55,.67]	.43*** [.36,.51]	-.32*** [-.40,-.23]	4.11 (2.07) 0.00-7.00
3. Physical Aggression	-.26*** [-.35,-.17]	-.25*** [-.35,-.17]		-.19*** [-.28,-.10]	-.42*** [-.49,-.34]	-.29*** [-.38,-.21]	.47*** [.40,.55]	0.25(0.64) 0.00-4.73
4. Popularity	.32*** [.23,.40]	.59*** [.53,.65]	-.18*** [-.27,-.09]		.39*** [.31,.47]	.25*** [.16,.34]	-.08 [-.18,.01]	2.87(2.47) 0.00-7.00
5. Preference	.49*** [.42,.56]	.57*** [.51,.63]	-.32*** [-.41,-.24]	.37*** [.29,.45]		.63*** [.57,.68]	-.47*** [-.54,-.39]	3.70(0.69) 1.62-5.00
6. Prosocial Behavior	.64*** [.59,.69]	.38*** [.31,.46]	-.29*** [-.37,-.20]	.16*** [.07,.26]	.59*** [.53,.65]		-.32*** [-.41,-.24]	2.92(1.96) 0.00-7.00
7. Relational Aggression	-.32*** [-.38,-.21]	-.30*** [-.39,-.21]	.39** [.31,.47]	-.03 [-.12,.07]	-.39*** [-.47,-.31]	-.36*** [-.44,-.28]		0.67(1.09) 0.00-6.21
Time 1 M (<i>SD</i>)	4.03 (2.07)	4.01 (1.97)	0.18(0.49)	2.67(2.34)	3.76 (0.66)	2.82 (1.88)	.63 (1.01)	
Min-Max	0.00-7.00	0.00-7.00	0.00-3.48	0.00-7.00	1.50-5.00	0.00-7.00	0.00-6.19	

Note. $N=428$. * $p<.05$, ** $p<.01$, *** $p<.001$

Table 4.

Bivariate Correlations between Fun, Preference and Popularity, Time 1 and Time 2

		Time 2 Variables	Fun [95% CI]	Preference [95% CI]	Popularity [95% CI]
Time 1 Variables					
1	Fun		.78*** [.75,.82]	0.51*** [.44,.58]	0.56*** [.50,.62]
2	Preference		0.56*** [.49,.62]	0.81*** [.77,.83]	0.38*** [.30,.46]
3	Popularity		0.62*** [.56,.67]	0.34*** [.25,.42]	0.84*** [.81,.86]

Note. N=428. * $p < .05$, ** $p < .01$, *** $p < .001$.

Table 5.

Summary of Concurrent Regression Analysis predicting Time 1 Preference from Fun, Academic achievement, Prosocial Behaviors, Physical Aggression, and Relational Aggression.

		Time 1 Preference			
Time 1 Predictor	β	t	R^2	ΔR^2	
Step 1					
Sex	-0.06	-1.12	0.04		
Grade	-0.19	-3.93***			
58 Step 2					
Fun	0.45	11.77***	0.58	0.54***	
Academic Achievement	0.08	1.90			
Prosocial Behavior	0.25	5.35***			
Physical Aggression	-0.11	-2.91**			
Relational Aggression	-0.10	-2.65**			

Note N=428. * $p < .05$, ** $p < .01$, *** $p < 0.001$

Table 6.

Summary of Concurrent Regression Analysis Predicting Time 1 Preference from Fun, after removing the contribution of Academic achievement, Prosocial Behaviors, Physical Aggression, and Relational Aggression.

		Time 1 Preference			
Time 1 Predictor	β	t	R^2	ΔR^2	
Step 1					
Sex	-0.06	-1.27	0.04		
Grade	-0.19	-3.93***			
Step 2					
Academic Achievement	0.20	4.09***	0.44	0.40***	
Prosocial Behavior	0.35	6.61***			
Physical Aggression	-0.14	-3.33**			
Relational Aggression	-0.15	-3.53**			
Step 3					
Fun	0.45	11.77***	.58	0.14***	

Note N=428. * $p < .05$, ** $p < .01$, *** $p < 0.001$

Table 7.

Summary of Concurrent Regression Analysis predicting Time 2 Preference from Fun, Academic achievement, Prosocial Behaviors, Physical Aggression, and Relational Aggression.

Time 2 Preference				
Time 2 Predictor	β	t	R^2	ΔR^2
Step 1				
Sex	-0.09	-1.81	0.05	
Grade	-0.21	-4.53***		
Step 2				
Fun	0.48	13.77***	0.67	0.62***
Academic Achievement	0.04	0.99		
Prosocial Behavior	0.21	4.78***		
Physical Aggression	-0.11	-3.39***		
Relational Aggression	-0.23	-6.72***		

Note N=428. * $p < .05$, ** $p < .01$, *** $p < 0.001$

Table 8.

Summary of Concurrent Regression Analysis Predicting Time 2 Preference from Fun, after removing the contribution of Academic achievement, Prosocial Behaviors, Physical Aggression, and Relational Aggression.

		Time 2 Preference			
Time 2 Predictor	β	t	R^2	ΔR^2	
Step 1					
Sex	-0.08	-1.81	0.05		
Grade	-0.21	-4.53***			
Step 2					
Academic Achievement	0.19	2.63**	0.53	0.48***	
Prosocial Behavior	0.37	7.41***			
Physical Aggression	-0.17	-4.36**			
Relational Aggression	-0.24	-5.93**			
Step 3					
Fun	0.48	13.77***	0.67	0.14***	

Note N=428. * $p < .05$, ** $p < .01$, *** $p < 0.001$

Table 9.

Summary of Concurrent Regression Analysis predicting Time 1 Popularity from Fun, Academic Achievement, Prosocial Behaviors, Physical Aggression and Relational Aggression.

		Time 1 Popularity			
Time 1 Predictor	β	t	R^2	ΔR^2	
Step 1					
Sex	0.07	1.57	0.07		
Grade	0.25	5.43**			
Step 2					
Fun	0.57	12.44***	0.41	0.34***	
Academic Achievement	0.13	2.47*			
Prosocial Behavior	-0.06	-0.99			
Physical Aggression	-0.11	-2.61**			
Relational Aggression	0.23	5.06***			

Note. $N=428$ * $p < .05$, ** $p < .01$, *** $p < 0.001$.

Table 10.

Summary of Concurrent Regression Analysis Predicting Time 1 Popularity from Fun, after removing the contribution of Academic achievement, Prosocial Behaviors, Physical Aggression, and Relational Aggression.

		Time 1 Popularity			
Time 1 Predictor	β	t	R^2	ΔR^2	
Step 1					
Sex	0.07	1.57	0.07		
Grade	0.26	5.43***			
Step 2					
Academic Achievement	0.28	4.65**	0.19	0.12***	
Prosocial Behavior	0.07	1.01			
Physical Aggression	-0.15	-2.95**			
Relational Aggression	0.17	3.26***			
Step 3					
Fun	0.57	12.44***	0.41	0.22***	

Note. $N=428$ * $p < .05$, ** $p < .01$, *** $p < 0.001$.

Table 11.

Summary of Concurrent Regression Analysis predicting Time 2 Popularity from Fun, Academic Achievement, Prosocial Behaviors, Physical Aggression and Relational Aggression.

		Time 2 Popularity			
Time 2 Predictor	β	t	R^2	ΔR^2	
Step 1					
Sex	0.05	0.97	0.05		
Grade	0.22	4.60***			
64 Step 2					
Fun	0.67	15.39***	0.48	0.43***	
Academic Achievement	0.11	2.14*			
Prosocial Behavior	-0.06	-1.14			
Physical Aggression	-0.04	-0.94			
Relational Aggression	0.18	4.14***			

Note. $N=428$ * $p < .05$, ** $p < .01$, *** $p < 0.001$.

Table 12.

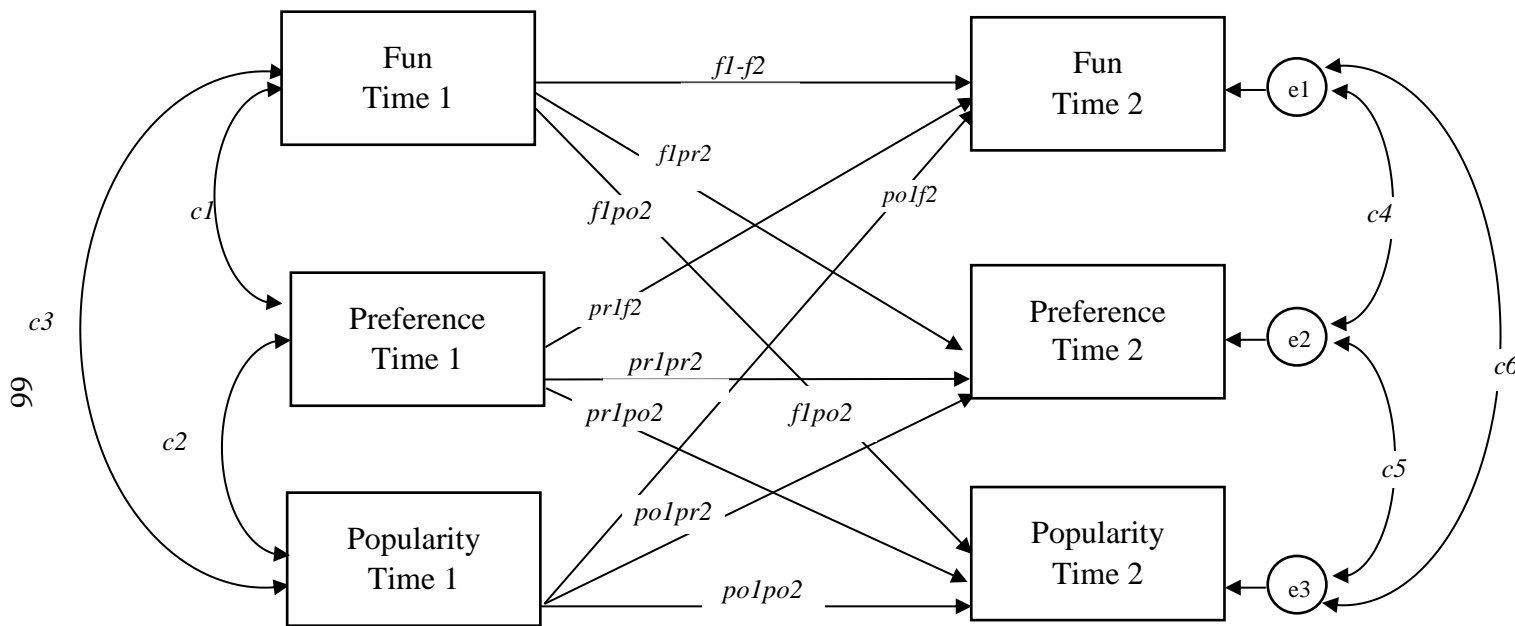
Summary of Concurrent Regression Analysis Predicting Time 2 Popularity from Fun, after removing the contribution of Academic achievement, Prosocial Behaviors, Physical Aggression, and Relational Aggression.

		Time 2 Popularity			
Time 2 Predictor	β	t	R^2	ΔR^2	
Step 1					
Sex	0.05	0.97	0.05		
Grade	0.22	4.60***			
Step 2					
Academic Achievement	0.23	3.67***	0.19	0.14***	
Prosocial Behavior	0.17	2.57*			
Physical Aggression	-0.12	-2.38*			
Relational Aggression	0.16	2.94**			
Step 3					
Fun	0.67	15.39***	0.48	0.29***	

Note. N=428 * $p < .05$, ** $p < .01$, *** $p < 0.001$.

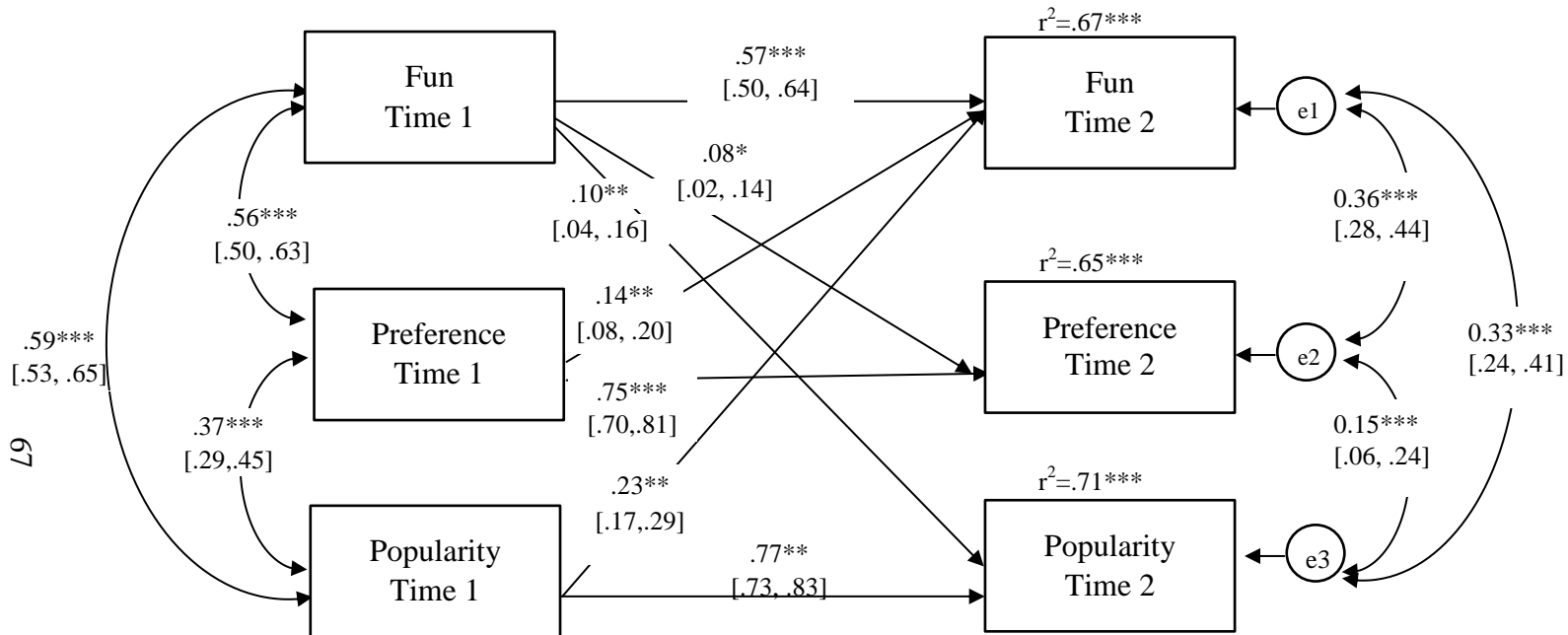
Figure 1.

Measurement model of autoregressive cross-lagged panel analysis describing associations over time between peer perception of fun, preference and popularity.



Note. $f1-f2$ = stability of peer perceptions of fun from Time 1 to Time 2; $pr1-pr2$ = stability of preference from Time 1 to Time 2; $po1-po2$ = stability of popularity from Time 1 to Time 2; $flpr2$ = influence of Time 1 peer perceptions of fun on Time 2 preference; $flpo2$ = influence of Time 1 peer perceptions of fun on Time 2 peer perceptions of popularity; $prlf2$ = influence of Time 1 preference on Time 2 peer perceptions of fun; $prlpo2$ = influence of Time 1 preference on Time 2 peer perceptions of popularity; $polpr2$ = influence of Time 1 peer perceptions of popularity on Time 2 preference; $polf2$ = influence of Time 1 popularity on Time 2 peer perceptions of fun; $c1, c2, c3$ = Time 1 correlations; $c4, c5, c6$ = Time 2 residual correlations.

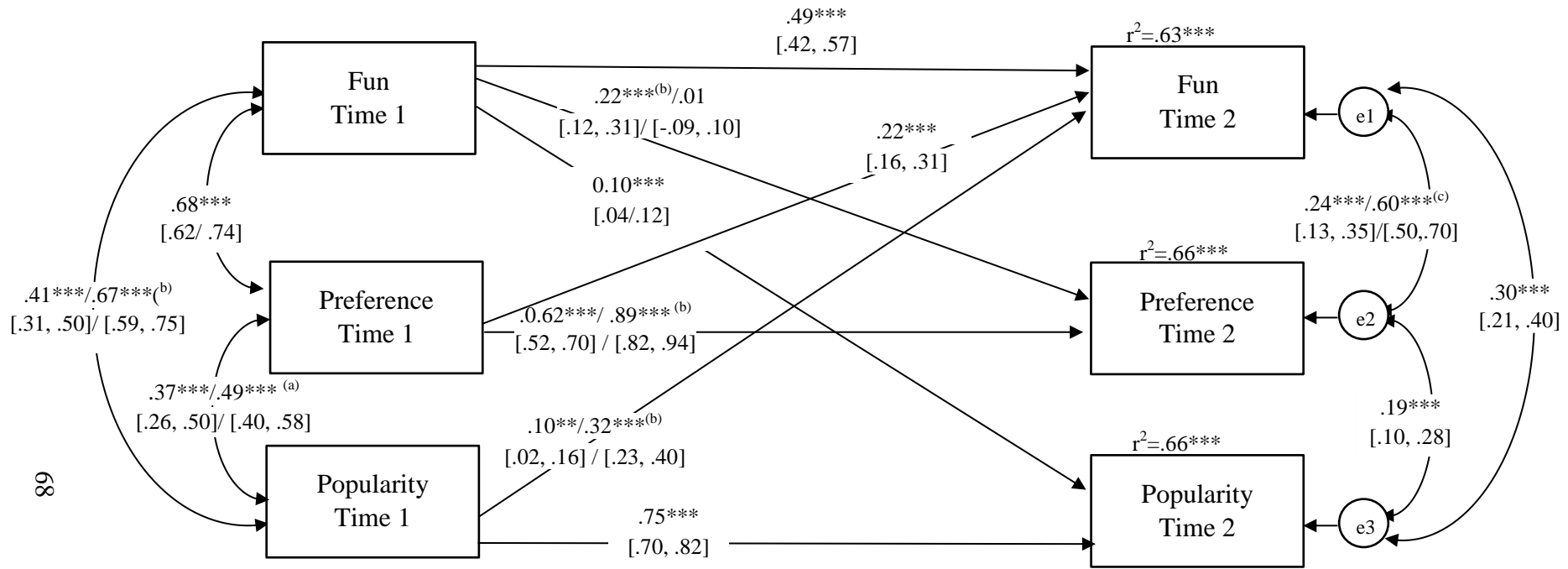
Figure 2. Longitudinal Associations between peer perception of fun, peer preference and peer perceptions of popularity



Note $N = 428$ * $p < .05$, ** $p < .01$, *** $p < 0.001$. For each path, 95% confidence intervals are

presented in brackets. Model fit- $\chi^2(2, N = 428) = 3.12, p = 0.21, CFI = 0.99, RMSEA = 0.03$

Figure 3. Longitudinal Associations between peer perceptions of fun, preference and popularity moderated by school grade



Note $N = 428$. For paths with one beta weight, results for fourth, fifth, and sixth grade students were constrained to be equal. For the path with two beta weights denoted by ^(a), results for fourth grade students are reported on the left of slash; results for fifth and sixth grade students were constrained to be equal and are reported on the right of the slash. For the paths with two beta weights denoted by ^(b), results for fourth and fifth grade students were constrained to be equal and are reported on the left of the slash; results for sixth grade students are reported on the right of slash. For the path with two beta weights denoted by ^(c), results for fourth and sixth grade students were constrained to be equal and are reported on the left of the slash; results for fifth grade students are reported on the right of slash. For each path, 95% confidence intervals are presented in brackets, * $p < .05$, ** $p < .01$, *** $p < 0.001$. Model fit- $\chi^2(26, N = 428) = 33.30, p = 0.15, CFI = .99, RMSEA = 0.04$.

APPENDICES

APPENDIX A- PEER REPUTATION ITEMS

Directions: Each statement describes your classmates. Check the box for all of the classmates that each statement describes. Pick your classmates that best fit each description. If no one fits the description, check the box that says NONE, and do not check any other box. Do not pick yourself for any of the descriptions. You can check as many names as you think fit

1. Someone who is fun to be around	2. Someone who helps others with their problems	3. Someone who does well in school	4. Someone who is popular	5. Someone who talks bad about others behind their backs to hurt them	6. Someone who hits, pushes or shoves people.
Nick <input type="checkbox"/>	Nick <input type="checkbox"/>	Nick <input type="checkbox"/>	Nick <input type="checkbox"/>	Nick <input type="checkbox"/>	Nick <input type="checkbox"/>
James <input type="checkbox"/>	James <input type="checkbox"/>	James <input type="checkbox"/>	James <input type="checkbox"/>	James <input type="checkbox"/>	James <input type="checkbox"/>
Will <input type="checkbox"/>	Will <input type="checkbox"/>	Will <input type="checkbox"/>	Will <input type="checkbox"/>	Will <input type="checkbox"/>	Will <input type="checkbox"/>
Elliott <input type="checkbox"/>	Elliott <input type="checkbox"/>	Elliott <input type="checkbox"/>	Elliott <input type="checkbox"/>	Elliott <input type="checkbox"/>	Elliott <input type="checkbox"/>
Josh <input type="checkbox"/>	Josh <input type="checkbox"/>	Josh <input type="checkbox"/>	Josh <input type="checkbox"/>	Josh <input type="checkbox"/>	Josh <input type="checkbox"/>
Sief <input type="checkbox"/>	Sief <input type="checkbox"/>	Sief <input type="checkbox"/>	Sief <input type="checkbox"/>	Sief <input type="checkbox"/>	Sief <input type="checkbox"/>
None <input type="checkbox"/>	None <input type="checkbox"/>	None <input type="checkbox"/>	None <input type="checkbox"/>	None <input type="checkbox"/>	None <input type="checkbox"/>

Directions: Each statement describes your classmates. Check the box for all of the classmates that each statement describes. Pick your classmates that best fit each description. If no one fits the description, check the box that says NONE, and do not check any other box. Do not pick yourself for any of the descriptions. You can check as many names as you think fit

7. Someone who is easy to joke around with	8. Someone who makes sure everyone is treated equally	9. Someone who knows the right answer	10. Someone who keeps others out of the group	11. Someone who hurts others physically
Nick <input type="checkbox"/>	Nick <input type="checkbox"/>	Nick <input type="checkbox"/>	Nick <input type="checkbox"/>	Nick <input type="checkbox"/>
James <input type="checkbox"/>	James <input type="checkbox"/>	James <input type="checkbox"/>	James <input type="checkbox"/>	James <input type="checkbox"/>
Will <input type="checkbox"/>	Will <input type="checkbox"/>	Will <input type="checkbox"/>	Will <input type="checkbox"/>	Will <input type="checkbox"/>
Elliott <input type="checkbox"/>	Elliott <input type="checkbox"/>	Elliott <input type="checkbox"/>	Elliott <input type="checkbox"/>	Elliott <input type="checkbox"/>
Josh <input type="checkbox"/>	Josh <input type="checkbox"/>	Josh <input type="checkbox"/>	Josh <input type="checkbox"/>	Josh <input type="checkbox"/>
Sief <input type="checkbox"/>	Sief <input type="checkbox"/>	Sief <input type="checkbox"/>	Sief <input type="checkbox"/>	Sief <input type="checkbox"/>
None <input type="checkbox"/>	None <input type="checkbox"/>	None <input type="checkbox"/>	None <input type="checkbox"/>	None <input type="checkbox"/>

APPENDIX B- MEASURE OF PEER PREFERENCE

Directions: We would like to know how much you like the other people in your grade. Check **only one** box that best shows how much you like each person. If you don't know or don't want to answer, then check only that box and not any other.

	Do not like this person	Usually do not like this person	Sort of like this person	Usually like this person	Like this person very much	Don't Know/ Don't want to answer
Nick	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
James	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Will	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Elliott	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Josh	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sief	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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