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Hazel Marie B. Doctor April 8, 2014

Popularity Perception and Favoritism

by 3- to 7-Year-Old Children

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Abstract

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What does it mean to be *popular*? The purposes, dynamics, and effects of popularity have been explored since the 1930s through teachers' reports and sociometric models. More recently, studies on popularity have focused on differences between implicit and explicit views of higher status peers among older children (8 to 12 years old) and adolescents. The current study examined the implicit views from children from ages 3 to 7 ($N = 57$) through an Implicit Association Task (IAT) and the explicit tendencies of favoritism in moral decision-making tasks. In the IAT, participants matched popular or unpopular figures to positive or negative qualities. Results show differences among age groups in response times for selections, but did not show differences in response rates for choices that were either congruent or incongruent with popularity (i.e., having more or less friends). Furthermore, implicit and explicit views of popularity differed. In the moral decision-making tasks, three-year-olds displayed greater favoritism towards the popular figure, while five to seven-year-olds did so for the unpopular figure. These findings suggest that beyond three years, children do not prioritize higher peer status in moral decision-making. Overall, the findings shed a novel light on the early perceptions of popularity and its development.

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A thirteen-year old girl sulks in the corner because the popular girl Jessica and her group of friends did not invite her to their party; the next day, the same girl asks if she could invite Jessica and her friends for a sleepover. A plump boy tries to play with a group of boys in a sandbox, but is rejected because he is "too big"; he later receives pats on his back for helping the same group of boys win a game of kickball. A preschool-aged girl presents a shiny, new toy for show and tell and is immediately met with smiles, applause and compliments from other girls in class; they later ask her to play with them.

These situations depict the eccentric dynamics of popularity in children and adolescents. Yet what does it mean to be *popular*? How are some children more popular than others? Since the beginning of the 20th century, teachers, parents and researchers on peer relations have studied the purposes, dynamics and effects of popularity. Throughout their developmental stages, children seek opportunities to gain admiration, establish friendships, and even become visible among their peers. Neo-Freudian psychoanalyst Harry Stack Sullivan theorized that children begin to seek playmates to fulfill the nurturing nature of their mothers; the need to cooperate, compete and compromise with peers thus becomes more prominent as children enter the juvenile stage that precedes early adolescence (Sullivan, 1953). The contexts of popularity also become more complex as children strive to fulfill a new set of needs. For example, a study by Cillessen and Mayeux (2004) examined factors of popularity for adolescents and found that relational aggression was strongly related to popularity. In contrast to older peers, preschool aged children did not generally view popular peers as aggressive or manipulative (Nelson et al., 2010).

Most research on popularity has focused on students in early to late adolescence, and only a limited scope of literature has examined the factors and dynamics of peer status in preschool to early elementary-aged children (Koch, 1933; Lippitt, 1941; Krantz, 1982; Walker,

2009). While it has been argued that younger children may not possess clear, concrete views of popularity, studies on social acceptance have shown that children are aware of qualities that make someone popular and demonstrate this awareness by interacting with popular peers more often than their unpopular counterparts (Krantz, 1982). In addition to peer dynamics, a few studies have explored the effects of popularity in behavioral tendencies of preschool children. A report by Koch (1933) discussed situations where a rejected peer and a popular peer attempted to play with others. Unlike the popular peer, the rejected peer became a victim of physical and verbal aggression from other children (Ttofi & Farrington, 2008; Laine et al., 2010; Vlachou et al., 2011). Situations like these have sparked interest from researchers due to the emerging need to resolve problematic peer relations and poor school adjustment. It has thus been imperative for researchers to study popularity at earlier ages.

The current study examines younger children's perceptions of popularity and how these views affect their behavioral tendencies of favoritism. While most studies have found that popular peers receive reciprocated friendliness and prosocial acts from others, no study has evaluated favoritism as a possible response to popularity (Walker, 2009). Before discussing the literature on popularity in early childhood, it is imperative to first understand the conceptualization and measurement of popularity. A review of the common characteristics in popular children will then be explained based on studies on preschool to elementary-aged children. The final portion of this section will then discuss the significance of understanding the dynamics and long-term effects of popularity in early childhood and will discuss the current study's new paradigm of assessing children's perspectives of popular peers and their tendencies of favoritism.

Popularity as an Evolving Construct: Definition and Conceptualization

The concept of popularity is considered to be universal, yet ambiguous. The term "popularity" is referred to widely accepted entities in areas such as music, art, dance, consumer products, and social media trends. According to the Oxford English Dictionary, popularity is defined as "the fact or condition of being liked, admired or supported by many people or by a particular group of people" (*OED*; Simpson & Weiner, 1989). The vast number of billboards, posters and window displays featuring top-selling icons demonstrate specific preferences of a general population. The "trending" features of Twitter, Facebook and YouTube display top stories and ideas, which were previously disseminated and promoted by thousands of Internet users. Rating systems such as box office charts, top 40 music lists and American Idol voting trends indicate the most preferred figures in the program. The meaning of popularity is also rooted in political ideologies such as "populism", which appeals to the common person or the majority of the people. Despite its vagueness, the term popularity appears to be a flexible concept that encompasses a wide range of fields.

In traditional domains of research, popularity is a frequently studied construct in peer relations among children and adolescents (Cillessen, Schwartz & Mayeux, 2011). However, its definition has shifted over the years. The concept of popularity was first examined in the late 1920s, but was initially referred to as "sociability". Similar to the current definition of popularity, sociability defined well-admired individuals in a group (Hsia, 1928). It was not until a decade later that the term "popularity" became a universal concept not only for highly preferred individuals, but also for visible and influential ones. One of the first empirical studies on popularity was published in the psychological journal *Child Development* in the 1930s. Koch (1933) coined the term popularity as an indicator of "social effectiveness", in which a popular

individual not only responded to group attitudes and needs, but also maintained individuality. To study this dynamic of popularity in children, Koch utilized a ranking system, in which participants selected classmates they preferred the most. Names with the highest number of nominations were assumed to be the most favorable and were subject to further study. An additional component of this experiment was the close observation of behaviors exhibited by unpopular and popular children and how these recorded behaviors correlated with overall prestige in the group. Contrary to the initial belief that sociable children held greater visibility and impact in the classroom, it was found that the most sociable figure in the group was also the least popular; moreover, no positive correlations were found between popularity scores and the frequency of group play. Koch's findings thus presented differences between the definitions of "sociability" and "popularity". Cillessen, Schwartz and Mayeux (2011) argued that Koch's study actually measured acceptance instead of popularity. This was a common misinterpretation; the use of the words "popularity" and "acceptance" were used interchangeably during in the first half of the 20th century. During the 1950s, the term popularity was still equated to acceptance and continued to be associated with highly accepted individuals until the 1980s (Lippitt, 1970).

Coie, Dodge and Coppotelli (1982) introduced four dimensions of popularity: acceptance, rejection, social preference and social impact. Their study implemented sociometric assessments, in which children were asked to nominate the most liked and least liked students in the class. Using a classification system consisting of scores on the four dimensions, the results demonstrated that acceptance alone was not indicative of popularity; popularity seemed to be highly correlated with prestige and visibility in the group. This encouraged developmental psychologists and researchers to view the definition of popularity differently.

In the late 1990s, Parkhurst and Hopmeyer (1998) introduced the terms "sociometric" or "perceived" popularity to resolve terminological confusion. After investigating on the views of 727 middle school students on sociometric and perceived popularity among their classmates, the differences between the two types of popularity became evident. Perceived popularity was associated with dominance and aggression, while sociometric popularity was correlated with being kind and trustworthy. Students who were sociometrically popular and scored high on the perceived popularity scale were thought to be kind, trustworthy and dominant, but not as aggressive or stuck-up. On the other hand, students who scored low on the socioemetric scale but high on the perceived popularity ratings were considered aggressive, dominant and untrustworthy (Parkhurst & Hopmeyer, 1998).

It has then been established that the concept of popularity could have two different meanings. It could be attributed to being admired or accepted ("sociometric" popularity), or it could refer to someone of high status and visibility as being the dominant one ("perceived" popularity) (Cillessen & Marks, 2011). Sociometric popularity scores are derived from personal judgments and sentiments of attraction or repulsion towards individuals (Moreno, 1934). For instance, if numerous individuals in a class nominate a person they admire, this person is considered to be well accepted and preferred because of the personal opinion of each voting individual. For perceived popularity, there is an emphasis on reputation; instead of relying on an individual sentiment, perceived popularity scores based on views of a general consensus. Cillessen and Marks (2011), however, noted the confusion behind the term "sociometric" popularity because both forms of high status in groups were assessed by peer nominations; it was therefore recommended that the terms "sociometric" and "perceived" popularity be changed to "acceptance" and "popularity", respectively.

The varied definitions of popularity have greater impact on studies on adolescent peer relations than for studies on children because the distinction between likeability (acceptance) and visibility (popularity) is not as defined in childhood (Cillessen & Borch, 2006). For this reason, the current study defines "popularity" as an indicator of acceptance and likeability.

Methods of Studying Popularity

The methods of studying popularity have alternated from the utilization of qualitative reports to the application of quantitative assessments. Since the beginning of the 20th century, researchers depended on personal accounts from teachers, parents and students on peer status and dynamics between social groups in class (Koch, 1933). Although ethnographic reports are not as prominent in popularity literature as quantitative assessments, these qualitative accounts offer in-depth descriptions of the characteristics, intentions and actions of popular students (Merten, 2011). In the late 1960s, there was a greater emphasis on assessing popularity through sociometric tests. The latter half of this section will further explain the types of sociometric assessments.

Qualitative Methods

Most qualitative studies on popularity are based on ethnographic accounts. Although ethnographic studies are not as prominent in popularity literature, much of its work and results are substantial. Since the beginning of the 20th century, ethnographers have studied customs, beliefs and attitudes of specific groups of people through observations, conversations and interviews (Merten, 2011). Their findings provide extensive perspectives on the lives of children and adolescents, especially when their goals include an attainment of popularity and prestige. A report from Merten (2004) showed the extent that adolescents would go to achieve popularity by telling Nicole's story: as a high school student on the rise to popularity, Nicole reported that she

"felt the pressure to change herself to become popular despite her discomfort." It was also reported that she had to "concentrate on looking attractive" and "perfect her image according to standards of popularity". Accounts such as these provide meaning in cultural constructs, which would allow researchers to further study how these constructs influence students' actions and attitudes. Ethnographic accounts are therefore useful components in studies on popularity.

The most notable ethnographic studies on popularity were conducted by Adler and Adler (1998) and Eder (1985). After years of observation and interviews with grade school students, both studies have compiled lists of characteristics that make an individual popular. Adler and Adler (1998) found that preferred characteristics of popularity differed between genders: boys believed that athleticism, toughness, academic performance and coolness were essential, while girls found physical appearance, academic performance, family background, wealth and social skills to be important factors. However, the report noted that the possession of these characteristics is not sufficient in achieving popularity. Gaining visibility meant participation in certain activities such as cheerleading or football, as these require proper applications of athleticism, superior social skills and maintenance of physical appearance. Deviating from group perspectives on the promotion of such characteristics may result in losing one's status. For example, if a well-known football player in high school "loses his touch" and plays poorly in a game, there is a great chance he might lose his peer status as the star athlete. The collection of peer cultural contexts such as these may be difficult to do in quantitative studies; thus the contributions of ethnographic accounts should not be underestimated.

Quantitative Methods

One of the most common methods of measuring popularity is a popularity nomination. Coie et al. (1982) first introduced categorization procedures and sociometric scoring through

nominations; these methodologies became commonly used in the following decades because researchers were allowed to control for statistical similarities between various meanings of popularity. Students in a classroom are asked to nominate peers who are most and least popular by listing names or selecting photographs of students. The nature of the assessments vary between studies, as some researchers use positive and negative questions (e.g. "Do you think she is a nice girl?") or ask open-ended questions (e.g. "List down as many names of popular students as you can.") (Black & Hazen, 1990). Nominations are then calculated according to their classifications into categories (e.g. most popular, least popular, most liked and least liked). In the study by Black and Hazen (1990), each student received a like (L) or dislike (D) score based on the number of positive and negative nominations they received. The scores were then standardized (or altered into *z* scores) according to the mean and standard deviation and categorized into four groups based on their *z* scores: liked (L score higher than 0, D score lower than 0), disliked (L score lower than 0, D score higher than 0), low-impact (both scores less than 0) and mixed (both scores greater than 0). The use of statistical applications such as Pearson correlations verified the reliability of these sociometric assessments.

Another widely applied method is a series of popularity ratings, which gained prominence in the 1970s and 1980s. Often implemented with nominations, popularity ratings were reported to be more beneficial because nominated peers are explicitly assessed through rating scales. Van den Berg (2009) implemented a system of popularity ratings among students from grades 5 and 6 at three different occasions in the school year; it was found that these ratings were stable through time and positively correlated with nomination results. Through popularity ratings, one can examine the overall peer judgments on popular individuals based on specificity (e.g. relationships, perceived impact in the classroom). A disadvantage of this method, however,

is that collections of popularity ratings could be time-consuming (Cillessen & Marks, 2011). Nevertheless, they are still useful components of measuring popularity.

Other alternatives to measuring popularity include self-ratings and teacher ratings. In self-rating procedures, students are asked to assess their degree of popularity in a peer group by answering multiple-item scales (Cillessen & Bellmore, 1999). Other variations also ask students to name others who they believe likes or dislikes them; these self-perceived rating scores are then compared to the larger pool of nominations to determine accuracy. Although not as prominent as peer nominations, self-ratings are advantageous components of popularity studies because researchers can assess how an individual's self-perception among his peers influences his behavior and actions.

Teacher ratings have been important components of studying popularity since the 1930s. The most common procedure required that teachers observe students' behavior and record their actions in written reports or scales; these scores were then compared to overall peer nomination scores from the class. Teacher assessments, however, were shown to be ineffective in determining students' statuses in the classroom due to minimal accuracy from a single perspective. Analyses conducted in the early 1990s found that teachers' classification of students into status types were not correlated with classification scores from the class. Teachers also varied in their viewpoints as evidenced by differences in accuracy between full-time and part-time teachers (Cillessen, Terry, Coie & Lochman, 1992). These results reflect some truth behind consistent findings in popularity studies: peers possess a better idea of each other's social capabilities and relationships.

Because quantitative measures on popularity are fairly new and transient, there is little information about the reliability of popularity studies. Only one method has measured reliability

through test-retest reliability. Van den Berg (2009) conducted test-retest correlations of popularity measures in intervals less than three months and found greater test-retest reliability in adolescents. On the other hand, records on stability of popularity studies were frequently reported. Cillessen and Marks (2011) noted in their literature review that an average stability correlation of .60 was found for acceptance and preferences, and posited that it could be higher for popularity. The higher correlation of stability in popularity supported the longstanding notion that popularity is built upon reputation and perspectives of a greater peer group.

Characteristics of Popularity

Although popularity in early childhood is not explicitly manifested in behaviors as complex and strategic as those of adolescents, previous literature has compiled lists of characteristics that younger children expect to see from a popular individual. Active participation in school routines and adaptability were reported to be strong indicators of popularity (Lippitt, 1941; Krantz, 1982). According to Walker (2009), preschool aged children who were willing to play with others were more likely to maintain higher statuses than other children who lacked positive interactional behavior. Moreover, Lippitt (1941) discussed the tendencies of popular children who displayed sufficient adjustment once they entered a situation. Her report described an event in which Child X was excluded from a group for being disruptive, while Child A was accepted for being cooperative; this implied that children of high status seem to possess a keen awareness of others' emotions in the context of the situation. Slaughter, Dennis and Pritchard (2010) described a child's ability to predict and explain the feelings of others based on mental states (e.g. desire, precepts and beliefs) as a theory of mind. Previous literature suggested that peer acceptance was positively correlated to the theory of mind ability. It has been hypothesized that popular children were more likely to possess advanced theory of mind abilities, as they were

able to recognize and understand the emotions, desires and perspectives of others. As a result, popular children were more likely to interact with their peers and gain admiration (Coie & Cillessen, 1993). However, the theory of mind ability was not a strong of a predictor of popularity for children under age five because younger children preferred active participation during playtime as a strong criterion of peer acceptance (Slaughter et al., 2010). Due to evolving perspectives on social preference, it was reported that children over age five found theory of mind abilities to be more indicative of popularity (Slaughter et al., 2010). The age differences in perspectives supported previous literature about the socio-cognitive development in younger children: complex abilities such as theory of mind become more pronounced in older children than in younger children (Badenes, Estevan, & Bacete, 2000). Nevertheless, it has been found that younger children still possessed some degree of theory of mind abilities such as perspective taking, in addition to sufficient adaptability in social situations (Flavell et al., 1981; Denham, 1986). In this case, children around age three were able to understand others' emotions, yet may not always act upon their beliefs (O'Brien et al., 2011).

The question of whether personality traits contributed to effective adaptability in social situations was then raised. A general interest towards personality traits prompted researchers to determine correlations between characteristics and peer acceptance through teacher ratings and playtime observations. A comprehensive study by Bonney (1943) examined personality traits of socially successful (and unsuccessful) children. Based on results from sociometric assessments by teachers and peers, the following traits were found to be important in garnering social acceptance: 'leadership', 'enthusiasm', 'friendly', 'welcomed', 'active in recitations', 'good looking', 'laughter', 'happy', 'at ease with adults', 'grown up', 'tidy', 'talkative' and 'daring'. The traits with the least value were 'quiet', 'bossy', 'fights', and 'sense of humor'. The

collection of highly preferred traits could be summed into possessing a strong, positive and cheerful persona. Later studies reported similar results and concluded that popular children have positive, prosocial temperaments (Krantz, 1982; Mendelson, Aboud & Lanthier, 1994; Walker, 2009).

In addition to positive personality traits, another strong factor of popularity is communication skills. Children who are able to listen and respond appropriately tend to garner greater preference than children who struggle with communicating (Galejs, Dhawan & King, 1983; Black & Hazen, 1990; Walker, 2009). A study by Black and Hazen (1990) examined communication patterns among children of one of three sociometrically scaled statuses: liked, dislike, or low impact. Over sixty preschool students were observed in one of two conditions: entry as the host child into a group of people they did not know, and entry as a host child into a group of people they did know. It was found that children of lower status were less responsive and made irrelevant comments when they entered a group of unacquainted peers. When disliked children entered a group of acquainted peers, they were not only less responsive, but were also unclear in direct speech patterns to specific peers. Disliked children thus acquired a negative reputation among the peer group. Liked children exhibited clear, responsive and relevant speech, which suggested that liked children were able to create conversations that allowed cohesive social interactions to occur.

Additional characteristics such appearance, affluence, athleticism and academic competence were also considered factors of popularity, but were more or less prominent in preferences of younger children. Rose, Glick and Smith (2011) compiled available findings on the correlates between these characteristics and popularity. They found that physical appearance appeared to be more relevant to older girls, but were equally relevant to both genders according

to quantitative studies. For younger children, cleanliness and physical attractiveness were key factors of popularity (Bonney, 1943). There were no reports of varied preferences between males and females. Affluence, athleticism, strength and academic competence had modest positive correlations with popularity. According to Vaillancourt and Hymel (2006), affluence played a major role in determining an older child's social status; this was due to the spending power and potential availability of resources. In a younger child's perspective, having access to resources (e.g. toys) could affect social interaction and peer status (Obanawa & Joh, 1995). Athleticism and strength were correlated with popularity for both genders, but were more relevant for boys (LaFontana & Cillessen, 2002). In terms of academic competence, there were more positive correlations for popularity among older children than younger children (Bonney, 1943; LaFontana & Cillessen, 2002).

Although most quantitative research has not found different perspectives between genders in preschool children, an ethnographic report by a teacher noted distinct characteristics between preschool aged boys and girls. Tatsch (2001) found that girls had strong verbal skills, controlled their behavior, and were more concerned with their outward appearance. Younger girls reported that popular girls were well dressed and attractive. Girls were also reported to be more creative and comfortable to work with. For popular boys, it was observed that they were not as verbally skilled as girls, and thus resorted to other means of displaying concern (e.g. putting their arm around their friend) towards his buddies. It was also noted that boys had a strong sense of humor, which helped him avoid conflict. Moreover, athleticism was more pronounced, as boys possessed greater energy and strength.

Although varied and extensive, the determinants of popularity in younger children have an emphasis on prosocial behaviors, superior social skills, and participation in activities. The

presentation of these characteristics gives popular children greater visibility and social impact within peer groups. As a result, it is implied that other children have expectations on how popular children should behave. Shaw, Li and Olson (2013) refer to this phenomenon as the preservation of *reputation*.

Effects of Popularity

Maintaining one's popularity requires a great deal of effort. In a review by Merten (2011) on dynamics of popularity, early adolescent females were more concerned about fitting into the narrow expectations of popularity. In the last example about Nicole and her pursuit of popularity, girls were expected to look attractive and perfect their images. While this is not typical of preschool aged children, it has been suggested that younger popular children are also expected to uphold positive characteristics. Doing so allows peers to develop beliefs about positive and negative evaluations of a person, based on the direct or indirect collection of social information (De Cremer & Sedikides, 2008; Shaw et al., 2013). This is considered as the maintenance of reputation, which is supported by visibility and influence in a peer group. In this context, visibility is attributed to high numbers of positive perspectives from admirers. In an interview by Tatsch (2011) with the most popular children, a popular boy noted his visibility by claiming that everyone loved him since he was nice to everyone. When others were asked about the visibility and reputation of popular children, some children said: "Because a lot of people play with him, not just his friends." Strong visibility also suggests that popular children are influential among their peers. This was supported by children's accounts in Tatsch's interviews: "He teaches us to learn and run faster", "I like to play with him/her", and "She always comes up with good games to play". These reports suggest that greater visibility, influence and reputation garner more playmates, friends, and acceptance from the peer group.

There are benefits to gaining social acceptance in preschool. Johnson, Ironsmith, Snow and Poteat (2000) reported that children's social behavior and peer relationships have lasting effects on their social development as they transition to elementary school. Social competence, stable peer relations and general social acceptance were found to be predictors of successful adjustment in school. Maintaining peer relations were found to give preschool children a sense of security while exploring new settings in kindergarten (Johnson et al., 2000). Children with numerous peer relationships were also found to have greater adjustment in elementary school because they felt less anxious at the beginning of the school year and were reported to have higher levels of satisfaction (Ladd, 1990). These factors are essential in shaping good social development. Studies by Holder and Coleman (2007) supported these findings, as their results suggested that popularity is associated with happiness not only in adolescents and adults, but also for younger children.

Current Study and Hypotheses

Explicit and Implicit Views of Popularity

In psychological research, two types of perception processes are measured: the explicit and implicit processes (Strack & Deutsch, 2004). Explicit perceptions are deliberate and controlled, while implicit perceptions are non-deliberate, automatic and typically without awareness (Lansu, Cillessen & Karremans, 2012). Although the scope of literature on children's implicit perceptions is limited, existing research has examined children's implicit views and associative attitudes regarding gender, ethnic groups, and aversive stimuli (i.e. the sight of snakes and spiders) (Baron & Banaji, 2006; Cvencek, Greenwald & Meltzoff, 2011). Most literature of popularity studies has examined the explicit properties of popularity through direct perceptions measured in sociometric assessments and ethnographic reports, but only a few

studies have measured implicit associations in peer relations. A study by Nummenmaa, Peets, and Salmivalli (2008) examined the effects of priming elementary-aged children with pictures of liked and disliked peers on emotion recognition and social information processing. In the vignette task that followed the priming procedure, children were more likely to attribute hostility towards the disliked peer, and even displayed anger and retaliation. This shows the powerful influence of implicit perceptions on behavioral tendencies. Lansu et al. (2012) also argued that perception of peers could be highly implicit, as social interactions could be complex. Decisions on what to do or how to behave at the presence of a popular person are often made quickly based on subtle information. For example, a girl might feel the need to appear confident and "cool", once she hears the popular crowd of girls approach the hallway. Lansu et al. (2012) examined older children's implicit and explicit perspectives on popular children and found that while explicit perceptions were generally positive, implicit views towards popular children were negative. Using a type of measure called the Approach-Avoidance Task (AAT), it was found that avoidance reactions to popular peers were faster than approach reactions. This suggests that the social status of a peer could be an important cue for specific responses.

Although it is known that implicit perceptions on popularity elicits negative responses in elementary-aged children, very few studies have focused on younger children. Cvencek et al. (2011) noted two reasons for the usefulness of implicit measures of attitudes for young children: first, implicit measures assess spontaneous aspects of social cognition that lie beneath children's awareness; and second, explicit measures may not always assess children's attitudes accurately due to children's tendencies of responding in socially desirable ways (Brody, Rozek & Mutten, 1985). A child's responses to popular peers at implicit levels could tell us that popularity has meaning not only in conscious reflection, but also at automatic levels. In explicit levels,

popularity is positively correlated with positive characteristics such as prosocial behavior (Krantz, 1982; Mendelson et al., 1994). It is important to determine whether children's implicit perceptions of popularity are also positive. Thus the first objective of this study is to determine if implicit responses to popularity differ from explicit responses in young children. Based on the literature on popularity, the common characteristics of socially accepted students fall under four main dimensions: excellence (athleticism, attractiveness, academics), wealth (having resources), power (strength) and temperament (friendliness, prosocial behaviors) (Mendelson et al., 1994; McHale et al., 2003). Are children more inclined to attribute positive characteristics to popular figures at implicit levels? Do older children have quicker responses than younger children? It is hypothesized that younger children's implicit perceptions of popularity may be similar to explicit responses found in popularity literature. The second objective is to examine these trends across age. This is an important factor, as previous literature has shown varying perceptions of social acceptance between preschool-aged children and early elementary-aged children (Badenes et al., 2000). It is hypothesized that older children will be quicker to respond and will be more likely to attribute positive characteristics to popular figures because of their developed views on popularity.

Popularity Perception and Favoritism

In line with the study on behavioral effects of popularity by Nummenmaa et al. (2008), the current study examines the effects of popularity perception on favoritism. In the current study, the term "popularity" is defined by the number of peer connections based on different reasons; this operationalized definition originated from a study by Cillessen and Borch (2006), which noted that younger children construe popularity as being well-liked by many peers. Often at times, the perception of popularity influences one's beliefs about popular (or unpopular)

individuals. For instance, most children would view popular children to be kind, well accepted, and favored by many people (Krantz, 1982). On the other hand, children would perceive unpopular children to be aggressive, mean, and lonely. As a result, the perception of popularity becomes the basis of inferring who is most likely to do something right, or who is likely to do something wrong. Favoritism in this context is defined as positive, moral bias towards certain individuals over others, especially towards a peer of higher status; it also entails making inferences that the favored individual is worthy of special treatment (Shaw, DeScioli & Olson, 2012). Additionally, one could view another dimension of favoritism through a transgression. The Oxford English Dictionary defines a transgression as "an act that goes against a law, rule, or code of conduct" (*OED*; Simpson & Weiner, 1989). In a situation where a transgression is committed, children would most likely hold a "presumption of innocence" for the popular individual. On the other hand, the unpopular individual would receive greater culpability.

The current study examines children's displays of favoritism through three moral decision-making tasks: (1) the Ball Task, in which children award a "sense of entitlement" to either the popular or unpopular figure; (2) the Transgression Task, in which children deem either the popular or unpopular figure culpable; and (3) the Coin Distribution Task, in which children decide how they should share monies between the popular and unpopular figure. Previous literature has shown that children tend to favor socially accepted peers, but their tendency to attribute entitlement (or blame) and distribute resources based on peer status has not been studied (Krantz, 1982; Mendelson et al., 1994; Tatsch, 2011).

While peer status was not a factor, a study by Shaw et al. (2012) examined five to eight-year-old children's responses to distributors who favored them and to distributors who were fair. When participants were asked to choose which distributor they liked better, they were split in

their decision. When the distributor who favored the participant gave more rewards than the fair distributor, children preferred the fair distributor. Older children seem to prioritize fairness over "special treatment". In the context of the current study, fairness could be an opposing factor to favoritism towards the popular individual, as it could relate to compensating the lonely, unpopular individual with rewards. Fairness could also mean punishing the popular figure for rule transgressions. Because older children are found to prioritize fairness, it is predicted that older children will issue rewards to the unpopular figure, while younger children will show greater favoritism towards the popular figure. Examining this dynamic is essential in helping us explore parallels in real-life situations, where favoritism sometimes precedes fairness (Shaw et al., 2012).

Significance

Capturing implicit notions of what it means to be popular in children could help explain how and why certain children gain greater peer acceptance than others. Is it due to prosocial behaviors? Or is it due to possessions or physical strength? Understanding popularity in younger children is essential for identifying and addressing problematic peer relations early on. Doing so would allow children to become better adjusted in school settings and in transitions in elementary school (Johnson et al., 2000).

These studies also explore how perceptions of peer status affect moral decision-making in children, as they decide whether to reward individuals for simply being popular, or to blame unpopular individuals because they are likely to commit transgressions. These studies would help us further understand the influence of popularity in behavioral tendencies, especially when dealing with fairness versus favoritism.

Method

Participants

A total of 57 child participants (29 boys, 28 girls) participated in the study. Children ranged in age from 36 to 98 months ($M = 68.07$, $SD = 19.26$) and were divided into three age groups: 16 for three-year-olds (8 boys and 8 girls; $M = 43.31$, $SD = 4.72$), 21 for five-year-olds (12 boys and 9 girls; $M = 66.07$, $SD = 5.52$), and 20 for seven-year-olds (9 boys and 11 girls; $M = 89.99$, $SD = 4.05$). Participants were predominantly Caucasian/European American and came from middle-class families in the greater Atlanta area.

Participants were recruited from an online database of the Child Studies Center at Emory University. Parents were informed of the study and asked permission for their child's participation; none have denied participation. All studies were conducted in the Child Studies Center with adherence to Institutional Review Board (IRB) regulations. Both participants and their parents were compensated with small toy prizes and parking passes for the child's participation in the study.

Procedure

Implicit Association Task (IAT). In the control condition, participants were told a story about three characters depicted as cartoon tigers. The three characters were identical and did not have friends or "admirers" surrounding them. Each figure was placed on markers or "houses" that were located at the leftmost, middle and rightmost areas of the table; all figures faced the participant. To ensure that the distances between figures were equal, measurements between "houses" were set before the start of the experiments. The experimenter then introduced the participant to the first task called the "Who Is?" game. The objective of the game was to listen to the following questions and determine which of the three figures best matched the question.

Participants were given a coin and were asked to slide the coin as quickly as they could from the "starting point" to any of the figures' "houses", if the question matched the figure. The starting point was closest to the participant and was shaped as a "goal" to fit the coin correctly and maintain a consistent place. Questions based on dimensions of popularity as well as negative ("Who is mean?") and neutral ("Who drank juice?") questions were asked; these questions represented common characteristics of popularity and unpopularity (Mendelson et al., 1994; Adler & Adler, 1998; McHale et al., 2003). Questions were followed by a ring of a bell, which served as a signal for participants to slide the coin as quickly as possible to their best guess. A practice trial was first initiated to ensure participants understood the task. Once participants passed the practice trial, they were allowed to proceed to the game. The response times were measured and derived from video records.

Ball Task, Transgression Tasks, Coin Distribution Task. Following the "Who Is?" game were two stories that measured participants' tendencies to reward and blame the popular or unpopular figure. The first story was about two characters fighting over the ball; participants were asked to select which character deserved to keep the ball and were briefly asked about their decision. The second story presented a negative situation (e.g. scribble on someone else's drawing) without explicitly mentioning who was at fault. Participants were asked to select which character was at fault and was briefly asked about their decisions. The final task asked participants to share eight white coins and one gold coin by moving the coins between two characters. The coins were organized in a circular manner to extinguish spatial bias.

The experimental component of the study included similar studies from the control component. Participants were first introduced to a set of new figures depicted as circles, triangles or squares with "googly" eyes. The three figures were surrounded by other admirers according to

their degrees of popularity: the "popular" figure had the most admirers, the "neutral" figure had one admirer, and the "unpopular" figure did not have any. Participants were told they would play the "Who Is?" game with their set of friends. Participants were told to slide the coin as fast as they could to any of the figures' houses, if the figure best matched the question. To verify that participants recognized distinctive characteristics among the figures, practice trials with questions such as "Who has the most friends?" were run. The experimenter did not mention the words "popular" or "unpopular" in the duration of the studies. Once the participants successfully completed the practice trials, they were allowed to proceed to the game. Unlike the control component, this portion of the study recorded the Level of Congruence due to the presence of three distinct figures.

After the "Who Is?" game, the two stories about the ball and drawing were told. In the first story, both the popular and unpopular characters were fighting over the ball. The second story presented a story about a scribbled drawing. Participants were asked to select between the popular and unpopular figures according to the situations and were briefly questioned about their decisions. In the Coin Distribution Task, participants were asked to share the regular coins and gold coin between the popular and unpopular figures. To examine their views on notable characteristics of popular individuals, children were asked to list down ways an unpopular child can make friends. To wash out any negative feelings towards the unpopular figure, participants were told that their advice helped the unpopular figure gain new friends at the conclusion of the study.

Measures

In the control component of the study, three identical figures were used. The experimental component of the study used three distinct figures of varying shapes and colors.

Each figure represented a specific level of popularity: the "popular" figure had the most admirers, the "neutral" figure had one admirer, and the "unpopular" one had none. These distinct figures were used as stimuli throughout the experimental component of the study. The following dependent variables were measured under this study component:

Reaction Time. The "Who Is?" game was essentially an Implicit Association Task (IAT) equipped to fit children's preferences for games. Basic implicit associations tasks with extremes (e.g. positivity versus negativity, popular versus unpopular) were found to be successful measures in children (Thomas et al., 2007). A measure of reaction time in milliseconds was obtained by recording start and stop times from computer programs. The start times depended on the ring of the bell and the stop times referred to the successful placement of the coin in a "house". Reaction times were calculated and entered in an SPSS Statistics datasheet. The current study compared mean response times from congruent and incongruent choices for all age groups.

Level of Congruence. Under the experimental condition, participants were asked to match certain questions to particular figures. Levels of congruence were based on the number of times a participant attributed positive characteristics to the popular figure and negative characteristics to the unpopular figure. If a popular figure was matched to a positive quality (e.g. friendly), a congruent choice was made. If a popular figure was selected in response to a negative quality (e.g. alone), an incongruent choice was made. The similar case applies to negative qualities. If an unpopular figure was matched with a negative quality, a congruent choice was made. If participants attribute positive qualities to unpopular figures, an incongruent choice is made. Scores were averaged and divided into the following levels of congruence: incongruent, somewhat incongruent, somewhat congruent, and congruent.

Examining the levels of congruence for both positive and negative qualities would allow us to compare attributes that are typically perceived in popular and unpopular individuals; these perceptions could also be compared throughout age groups. A corresponding question could be: "Do children across the three age groups collectively assume the popular figure is friendly, or could they have varying views on what truly makes an individual popular?" Exploring children's levels of congruence would also allow us to examine the differences between explicit and implicit perceptions. For instance, a participant who attributed the quality of being friendly to an unpopular figure at an implicit viewpoint in the IAT could later describe the unpopular figure as "mean" or "lonely" at an explicit viewpoint.

Perceptions of Popularity. A descriptive analysis was run to examine specific data points from the IAT and Level of Congruence task. The analysis presented the selection trends of participants across all ages. For each question, a participant selected one of three figures (popular, neutral, or unpopular) in response to one of three questions (positive, neutral, and negative). Percentages were calculated by dividing frequencies of selections by the total number of participants in each age group. To examine how fast participants made their decision, average reaction times for congruent and incongruent selections were also calculated from descriptive analyses. Tables of percentages and reaction times between the figures and qualities are found under the Results and Appendix section.

Design

The study was composed of four tasks: the Implicit Association Task (IAT), the Ball Task, Transgression Task, and the Coin Distribution Task. The experimental component featured figures in the form of puppets with friends, while the control component did not. In the IAT, reaction time in milliseconds served as the dependent variables, while levels of congruence

(incongruent, somewhat incongruent, somewhat congruent, and congruent) were the independent variables. Levels of congruence refer to attributing certain qualities to characters that were more or less popular. For example, matching the quality of "friendliness" to the popular figure was considered to be congruent. To examine differences on how quickly participants responded to the questions across all age groups, a 3 (age group) x 3 (question type) repeated measures analysis of variance (ANOVA) was initially conducted. To determine if there were associations between reaction times and trends in congruent (or incongruent) choices, Spearman's correlations were run. Follow-ups of a descriptive analysis on children's perception of popularity and a chi-square test of association for levels of congruence were also conducted.

In the Ball and Transgression Tasks, the dependent variable was the selection of the figure (popular or unpopular) and the independent variable was the type of figure (popular or unpopular). The Coin Distribution Task asked participants to share eight regular coins and one gold coin between the popular and unpopular figures; each regular coin was worth one point, while the gold coin was worth two. The dependent variable was the number of points collected and the independent variable was the type of figure.

Results

Implicit Association Task (IAT)[1]

A 3 (age group) x 3 (question type) repeated measures ANOVA was initially run to determine if there were statistically significant differences in reaction times among the three age groups when responding to types of questions. Log transformations were utilized to normalize data distribution because they were initially skewed; there were no outliers and the data was

[1] A 2 (condition) x 3 (question type) repeated measures ANOVA was run to determine differences in reaction time between control and experimental conditions. Conditions and question types produced statistically significant changes in reaction times, $F(2.000, 108.000) = 18.343$, $p < .001$, partial $\eta^2 = .254$.

normally distributed for each group, according to the Shapiro-Wilk test ($p > .05$). The assumption of sphericity for the interaction between age groups and question type was not determined because age groups served as between-subject effects; the Greenhouse-Geisser correction was applied ($\varepsilon = .978$) instead.

There was a significant interaction between question type and age groups for reaction times, Wilk's Lambda = .83, $F(4.00, 106.00) = 2.868$, $p = .045$. For tests of between-subject effects, age groups also yielded statistically significant differences, $F(2, 54) = 4.161$, $p = .021$. Three-year-old children had longer response times ($M = 3.093$, $SD = .293$) for positive questions than older children ($M = 2.962$, $SD = .234$ for five-year-olds; $M = 2.974$, $SD = .213$ for seven-year-olds). Five-year-olds ($M = 2.995$, $SD = .309$) and seven-year-olds ($M = 3.000$, $SD = .236$) had shorter response times for negative questions than three-year-olds ($M = 3.107$, $SD = .226$). Post hoc analysis with a Bonferroni adjustment revealed that overall reaction times were significantly faster for five-year-olds ($M = .198$, 95% CI [.03 to .37], $p = .019$) compared to three-year-olds, but reaction times were not significantly different for three-year-olds and seven-year-olds ($M = .139$, 95% CI [.03 to .31], $p = .161$), as well as five-year-olds and seven-year-olds ($M = .054$, 95% CI [.10 to .22], $p > .05$).

Level of Congruence[2]

To examine associations between levels of congruence and age groups, a chi-square test for association was conducted based on positive and negative questions. All expected frequencies were greater than five. The association between age groups and levels of congruence for positive questions was not significant, $\chi^2(2) = 3.814$, $p = .148$. Eighty percent of seven-year-

[2] 2 (condition) x 3 (question type) chi-square tests were conducted to determine if there were relationships in selections between the control and experimental groups. There are no relationships between factors for all questions ($p > .05$).

olds and 75% of three-year-olds agreed that positive characteristics best described the popular figure, both greater than the proportion of five-year-olds (56.1%). While views on popularity were mixed for five-year-olds, the perspectives of popularity for three-year-olds and seven-year-olds were more similar.

For negative questions, there was a statistically significant association between age groups and levels of congruence, $\chi^2(2) = 16.042, p < .05$. This suggests that there were differences in congruent selection trends among the age groups. To measure the strength of association, a Spearman correlation between age groups and levels of congruence was conducted; there was a moderately strong positive association between age groups and levels of congruence, $r_s = .529, p < .05$. The majority of seven-year-olds (91.2%) and five-year-olds (61.4%) agreed that negative characteristics were best attributed to the unpopular figure, while only 36.9% of three-year-olds agreed. Thus, we infer that an increase in age is associated to an increase in levels of congruence; in other words, older children are more likely to attribute negative characteristics to unpopular figures.

Perceptions of Popularity Across Ages

Participants were asked to match a list of characteristics to either the popular, neutral or unpopular figure as quickly as possible in the IAT. Proportions of selections in all age groups are outlined in Table 1. Average reaction times for congruent and incongruent selections are also presented in Table 2; a detailed table of average reaction times for all selections is found in the Appendix. To assess the relationship between reaction times and levels of congruence, Spearman's correlations were run for each age group. There were no statistically significant relationships for three-year-olds, $r_s(14) = -.037, p > .05$; five-year-olds, $r_s(19) = -.155, p > .05$; and seven-year-olds, $r_s(18) = -.007, p > .05$.

Table 1

Percentages of Selections between Status and Qualities

	3-Year-Olds (*n*=16)			5-Year-Olds (*n*=21)			7-Year-Olds (*n*=20)		
	Popular	Neutral	Unpopular	Popular	Neutral	Unpopular	Popular	Neutral	Unpopular
Friendly	75.0%	12.5%	12.5%	57.1%	19.0%	23.8%	80.0%	20.0%	0.0%
Many toys	50.0%	31.3%	18.8%	57.1%	14.3%	28.6%	95.0%	5.0%	0.0%
Strongest	43.8%	31.3%	25.0%	38.1%	33.3%	28.6%	25.0%	55.0%	20.0%
Fights	25.0%	50.0%	25.0%	14.3%	42.9%	42.9%	15.0%	5.0%	80.0%
Mean	43.8%	18.8%	37.5%	33.3%	14.3%	52.4%	15.0%	0.0%	85.0%
Alone	12.5%	18.8%	68.8%	9.5%	19.0%	71.4%	0.0%	5.0%	95.0%

Note. Computation of percentages used the total for each group as the denominator.

Table 2

Means and SD of Reaction Times for Congruent and Incongruent Selections

	3-Year-Olds		5-Year-Olds		7-Year-Olds	
	Popular	Unpopular	Popular	Unpopular	Popular	Unpopular
Positive						
$\bar{x}$	3.11	3.08	2.91	2.93	2.98	2.96
SD	0.15	0.40	0.24	0.34	0.23	0.19
	Popular	Unpopular	Popular	Unpopular	Popular	Unpopular
Negative						
$\bar{x}$	2.96	3.17	2.96	3.04	3.01	2.73
SD	0.22	0.20	0.26	0.38	0.23	0.24

Note. Reaction times (ms) were log transformed.

Which qualities best describe popular children? Which characteristics best match unpopular ones? A closer look into some qualities could tell us more about children's implicit views:

Positive questions. Majority of children in each age group agreed that the popular figure was friendly and had many toys, but had mixed views on which figure was the strongest. Most three-year-olds believed that strength was indicative of popularity. Whereas 25% of seven-year-

olds selected the popular figure, five-year-olds were split among all figures. On average, three-year-olds were slower in making congruent selections (3.11) than five-year-olds and seven-year-olds (2.91, 2.98).

Negative questions. Of the three negative qualities, being alone was selected by majority of participants in each age group. For the question about who gets into fights, there was a steady increase in selections across age groups: only 25% of three-year-olds, 42.9% of five-year-olds, and 80% of seven-year-olds selected the unpopular figure. Most five to seven-year-olds ascribed the unpopular figure to being mean (52.4%, 85%), but three-year-olds appeared to be split between the popular and unpopular figure (43.8%, 37.5%). On average, seven-year-olds were quicker in making congruent choices (2.73) than three-year-olds (3.17) and seven-year-olds (3.04). However, three to five-year-olds were quicker in making incongruent choices than congruent choices (2.96, 2.96).

Ball Task, Transgression Task, Coin Distribution Task[3]

To examine trends of favoritism for the popular figure, a cross-tabulation analysis consisting of choices from the Rewards Task, Transgression Task, and Coin Distribution Task was run. In this context, favoritism was measured by the number of times participants distributed rewards to the popular figure and were converted into percentages.

Table 3
Percentages of Distributions in Ball Task

3-Year-Olds (*n*=16)		5-Year-Olds (*n*=21)		7-Year-Olds (*n*=20)	
Popular	Unpopular	Popular	Unpopular	Popular	Unpopular
56.3%	43.8%	42.9%	57.1%	55.0%	45.0%

[3] Spearman's correlations were conducted to determine if there are relationships in selections between the control and experimental groups. There are no relationships between factors for all questions ($p > .05$).

Table 4
Percentages of Distributions in Transgression Task

3-Year-Olds (*n*=16)		5-Year-Olds (*n*=21)		7-Year-Olds (*n*=20)	
Popular	Unpopular	Popular	Unpopular	Popular	Unpopular
31.3%	68.8%	38.1%	61.9%	25.0%	75.0%

In Table 3, a majority of three-year-olds and seven-year-olds believed the popular figure should receive the ball in the first task, while 57.1% of five-year-olds felt that the unpopular figure should receive it. When asked to select a figure at fault for a transgression, most participants across all age groups selected the unpopular figure (Table 4). Table 5 presents the means of distributed coins (eight regular coins plus one gold coin) between the popular and unpopular figure.

Table 5
*Means and SD of 10-Point Coin Distribution with Gold Coin**

	3-Year-Olds (*n*=16)		5-Year-Olds (*n*=21)		7-Year-Olds (*n*=20)	
	Popular	Unpopular	Popular	Unpopular	Popular	Unpopular
$\bar{x}$	5.06	4.94	4.62	5.38	4.95	5.05
SD	1.57	1.57	2.84	2.84	1.10	1.10

*Gold coin was worth 2 points, while a regular coin was worth 1 point.
Maximum possible amount is 10 points.

Table 6
Percentages of Distributions of the Gold Coin

3-Year-Olds (*n*=16)		5-Year-Olds (*n*=21)		7-Year-Olds (*n*=20)	
Popular	Unpopular	Popular	Unpopular	Popular	Unpopular
56.3%	43.8%	47.6%	52.4%	50.0%	50.0%

Whereas three-year-old children issued more points to the popular figure (5.06), five to seven-year-old children offered more to the unpopular figure (5.38, 5.05). Table 6 presents a similar

trend with 56.3% of three-year-olds selecting the popular figure as the recipient of the gold coin, while five-year-olds believe the unpopular figure deserved it. Seven-year-olds were split in their decision about the gold coin, but ultimately issued more point values to the unpopular figure.

Discussion

Findings

The current study focused on two main objectives: to examine the implicit perceptions of popularity across age groups, and to determine if higher peer status elicits favoritism. The first study assessed children's implicit perceptions of popularity through measurements of reaction times, selection trends and levels of congruence based on qualities found in accepted and rejected peers. Although there were no statistically significant associations between reaction times and levels of congruence, it is important to note that five-year-old and seven-year-old children were generally faster than three-year-olds in attributing positive qualities to the popular figure and in selecting the unpopular figure for negative questions. In terms of their level of congruent choices, the majority of participants from all age groups believed that positive qualities of being friendly and having many toys were indicative of popularity; this supported the explicit findings of previous literature, in which prosocial behaviors and affluence were strong factors of peer acceptance (Bonney, 1943; Krantz, 1982; Mendelson et al., 1994). The quality of strength was viewed differently across age groups. While three-year-olds believed that being strong best described the popular figure, five to seven-year-old children displayed mixed views. This may be the case for younger children because they seek playmates that are physically competent, but it could also be applicable to children older than age five (Barbour, 1999; Tatsch, 2001). Contrary to Barbour's study on associations between physical competence and positive peer relations, older children do not seem to usually perceive the possession of strength as

something positive. In fact, older children may associate strength with aggression (Nelson et al., 2005). As children enter their late elementary years, they gain greater exposure to aggression as a characteristic of popularity and tend to avoid such peers (Cillessen et al., 2011).

For negative questions, most of the participants from all age groups agreed that the unpopular figure was alone. Unlike the seven-year-olds, the three to five-year-old participants did not always select the unpopular figure for tendencies of getting into fights or being mean. It was interesting to see how most three to five-year-old children believed that the popular figure could also be mean, while only a few seven-year-olds agreed. Thus the focal point of interest in this paradigm is that children as young as age three believed that popular peers also possessed negative qualities. At an explicit level, preschool children typically evaluate rejected peers as mean, disruptive or argumentative, but do not usually associate negative characteristics with popular peers (Krantz, 1982). In contrast to previous literature that showed how young children associated positive qualities with socially preferred peers, this study showed that young children may implicitly hold the same views as late elementary-aged children on the dual dimensions of popularity – that one could display prosocial behaviors or aggression, depending on the situation (Sebanc, 2003). Currently, this has only been demonstrated in children above age seven (Cillessen et al., 2011). If younger children are able to make this assessment, then why did most seven-year-olds select the unpopular figure? It may be due to the fact that such characteristics are more salient in seven-year-old children's perspectives of rejected peers, or it could be due to their tendencies of responding in socially desirable ways (Brody et al., 1985).

The results from the first part of the study did not support one of the hypotheses – that older children would be quick to make congruent selections, such as attributing positive qualities to the popular figure. Instead, it was found that response times for congruent and incongruent

choices varied across age groups and thus did not yield significant differences This may be due to the fact that children's views of popularity are not simply black and white, but are indeed complex. Not only do they associate positive qualities to popular figures, but children also attribute negative qualities to peers of higher status. Nonetheless, the new application of this implicit association paradigm is also one of the first to show how younger children's implicit views on qualities in popular peers differ from explicit views, especially in the case for three to five-year-old children's views on characterizing popular peers as being mean. This supports the study by Lansu et al. (2012), which also found contrasting views of popularity at implicit and explicit levels based on the Approach-Avoidance Task (AAT); results showed that at explicit levels, child participants evaluated popular peers in positive ways, but were quick to avoid popular peers in the implicit AAT.

The second study examined children's tendencies of favoritism towards the popular figure through three moral decision-making tasks: (1) the Ball Task, in which children award a "sense of entitlement" to either the popular or unpopular figure; (2) the Transgression Task, in which children deem either the popular or unpopular figure culpable; and (3) the Coin Distribution Task, in which children decide how they should share monies between the popular and unpopular figure. In the Ball Task, 56.3% of three-year-olds and 55% of seven-year-olds issued the ball to the popular figure, while 52.4% of five-year-olds were more inclined to give the ball to the unpopular figure. This suggests that three-year-olds display more favoritism towards the popular figure. When they were briefly asked about their decision, most of them were either unsure or referred to positive traits (e.g. "He is friendly.") of the popular figure. In contrast to the viewpoints of three-year-olds, five-year-olds appeared to be more concerned about the needs of the unpopular figure. When asked why they gave the ball to the unpopular

character, five-year-old participants believed that the unpopular individual needed something to help “gain more friends” or to use so “he won’t be lonely”. For seven-year-olds, it may appear as if they agree with the three-year-olds in issuing a sense of entitlement to the popular figure. However, their explanations were focused on practicality and egalitarianism. For instance, several seven-year-olds have expressed how the popular figure needed the ball to “share with his many friends”. The concepts of favoritism were therefore more pronounced in three-year-olds, while egalitarianism and practicality were the focal points of older children’s goals.

In the Transgression Task, more than sixty percent of participants in each age group blamed the unpopular figure for transgressing a rule. This supports previous literature on children’s negative perceptions of rejected peers; they believed that rejected peers were typically aggressive, difficult to play with, and did not follow rules (Koch, 1933; Krantz, 1982; Tatsch, 2011). On the other hand, participants were more likely to maintain a presumption of innocence for the popular figure because it is perceived to be good, friendly, and compliant with rules (Krantz, 1982).

In the Coin Distribution Task, it was observed that three-year-olds were consistent in distributing rewards to the popular figure. This suggests that younger children tend to display favoritism towards the popular figure more evidently than older children. Reasons for this could be explored further in subsequent studies, but it could be posited that younger children tend to favor the popular figure because they may expect reciprocations of resources and benefits. The results of a study on egalitarianism in young children suggested that most children from ages three to four behave selfishly (Fehr, Bernhard, & Rochenbach, 2008). When most three-year-olds selected the popular figure as the peer with most toys, it could be inferred that they were attempting to maximize their gains. This could not be achieved with the unpopular figure

because it lacked resources; thus, younger children were less willing to display favoritism towards them.

In comparison to three-year-olds, five to seven year-olds were more inclined to reward the unpopular figure, even when the unpopular figure was selected as the transgressor of rules. While the display of favoritism towards the popular figure was not apparent in older children, their willingness to issue more points to the unpopular figure suggests that lower peer status may have an impact on older children's judgments in fairness and justice distribution. There are several reasons for this phenomenon. One reason could be the older children's level of empathy and theory of mind, which are defined as the ability to understand others' emotions and perspectives in situations (Belacchi & Farina, 2012; Wang & Su, 2013). Another reason could be about five to seven-year-old children's views on fairness and distributive justice. Fairness is typically synonymous with equality in value, while distributive justice refers to the perceived fairness of allocated resources (Encyclopedia of Social Psychology, 2007; Wittig, Jensen, & Tomasello, 2013). Older children seemed to have recognized that the unpopular figure did not have as much power, resources or visibility as the popular figure, and were therefore more willing to give more points to the unpopular figure. When asked to elaborate on their decisions, one of the most common answers were: "He is lonely", "He doesn't have any friends", and "He can use the coin to get new friends". Older children's concerns of fairness and demonstration of empathy in this current study indicate that by age five, children prefer resource distributions that eliminate advantageous or disadvantageous inequality (Fehr et al., 2008; Rochat et al., 2009). In this case, older children were less likely to issue the popular figure more rewards, because popularity was translated as "having enough friends or resources". It seems that fairness and empathy take precedence over favoritism towards peers with higher status.

The results of the second study also supported one of the hypotheses – that younger children will prefer to issue rewards to the popular figure, while older children will reward the unpopular figure due to insufficient resources. Supported by literature on children's perceptions of fairness and empathy, the current study's findings is one of the first to show that older children prioritize distributive justice in favor of disadvantaged peers over peers with privileged statuses (Belacchi & Farina, 2012; Wittig et al., 2013).

Limitations

The limitations for the current study merit some comments. Our new paradigm that measured reaction times in children's selections would have benefited greatly from having a larger sample size. Effective analysis of reaction time data has been difficult to achieve because reaction time distributions are not typically Gaussian or normalized (Whelan, 2008). It is expected that every individual's recorded reaction times will differ based on sequential effects, fatigue, and duration of decision-making. One way to resolve this is by running data transformations to reduce the impact of outliers or skews, and to achieve adequate power by normalizing the distribution. However, this could also be disadvantageous because transformations could eliminate significant effects. It is therefore suggested that the current study should include greater numbers of participants to gain power and robustness in performing statistical tests such as ANOVAs; these factors could yield greater statistical effects.

With regards to reaction time measurement in the current study's IAT, the rates at which participants make their selections depend on physical movement of the coin from the starting point to one of the end goals; thus, moving "as quickly as you can" may have differing durations across age groups as one group may generally move quicker than another age group. Future studies could collect reaction time data through computerized IATs. In comparison to sliding a

coin across the table, pressing keys of a keyboard to answer questions could capture more accurate reaction time data at implicit levels (Cvencek et al., 2011).

Capturing a general sense of popularity in children could be improved by also presenting more questions about other qualities that make someone more or less popular. Vignettes with characters that display certain characteristics (e.g. performing prosocial acts, being generous, etc.) could be used to assess children's multifaceted views on popularity. It would also be beneficial to examine views of popularity from children of various racial backgrounds. This would allow us to determine which qualities are universally accepted and which ones are more culturally preferred.

Future Research

The current study has explored trends in resource allocation based on peer status. It was found that while three-year-olds were more likely to offer rewards to the popular figure, most five to seven-year-olds believed the unpopular figure deserved more. Previous studies measured children's egalitarianism through resource allocation tasks between themselves and another recipient, but have not assessed these trends when recipients were either popular or unpopular (Tolan & Krantz, 1981; Fehr et al., 2008). It would be interesting to further explore the influence of peer status in children's distribution trends by introducing vignettes that "switch roles" between the popular and unpopular figure. If children are introduced to situations where the popular figure broke a rule, or if the unpopular figure performed altruistic acts, would their resource allocation decisions change? Would higher peer status make the popular figure immune to punishment for committing transgressions? Similarly, would altruistic acts make an unpopular figure more likeable?

Future studies could also examine children's resource allocation trends if they are included in the games. If children were faced with the decision to give rewards to the popular figure, the unpopular figure, or to themselves, how would they distribute them? Observing trends in resource allocations between a participant and other recipients of differing peer statuses would allow us to determine whether favoritism still plays a role, or whether participants would offer more resources to peers of disadvantaged statuses.

Conclusion

When asked about their opinions on popular children in the classroom, a preschool-aged girl from an ethnographic report by Tatsch (2001) claimed that she liked one popular girl, but believed the girl did not like her that much. Another child mentioned that a popular boy always brought "cool stuff". Another mentioned that a popular girl was sometimes mean to others. These instances depict the complexities of popularity. For almost a century, psychologists, researchers, teachers have observed and questioned the definitions, dynamics and short and long-term consequences of popularity. Using quantitative assessments and qualitative reports, the breadth of literature has shown that the concept of popularity evolves throughout age. Preschool children who once believed that having many toys was indicative of popularity will have complex views once they reach their late elementary years. Another common finding in popularity literature is the longstanding notion that prosocial behaviors, emotion regulation, and strong communication skills are one of the strongest predictors of peer acceptance throughout age. Studies have shown that when children possessed such qualities, they were more likely to become better-adjusted in school (Ladd, 1990; Johnson et al., 2000). Even more studies have focused on the negative impact of children's success in school, if they continue to display inappropriate behavior and if they consistently lack stable peer relations (Wood, Cowan, &

Baker, 2002). Thus, studies on popularity have consistently risen to further examine its complex systems and to assist children with problematic peer relations. More recently, a few studies have explored implicit views on peer relations.

The current study found that younger children predominantly associated popular figures with positive qualities (e.g. being friendly), but were also inclined to attribute negative qualities (e.g. being mean, getting into fights) to peers of higher status. This suggests that younger children have some implicit understanding about the dual meanings behind popularity – that one could be regarded as having either positive or negative qualities, depending on the situation. The current study also found that children as young as age three tend to show favoritism towards popular peers; by age five, however, this view begins to change as children develop a stronger sense of empathy and fairness towards a disadvantaged peer. This demonstrated in trends of resource allocation, in which older children issued more rewards to the unpopular peer than the popular peer. This suggests that older children prioritize equality over favoritism towards a popular figure.

The results of children's implicit views of popularity as well as their ethical stances in rewards distributions could be essential contributions to current literature that addresses problematic peer relations in preschool. By knowing which qualities are preferred in socially accepted children, intervention programs could assist children with behavioral problems by encouraging prosocial behavior, fostering communication skills, and promoting empathy. Doing so would allow children to become better adjusted in school settings and in transitions in elementary school (Johnson et al., 2000).

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Appendix

Means and SD of Reaction Times for Selections between Status and Qualities

	3-Year-Olds			5-Year-Olds			7-Year-Olds		
	Popular	Neutral	Unpopular	Popular	Neutral	Unpopular	Popular	Neutral	Unpopular
	$\bar{x}$ (*SD*)	$\bar{x}$ (*SD*)	$\bar{x}$ (*SD*)	$\bar{x}$ (*SD*)	$\bar{x}$ (*SD*)	$\bar{x}$ (*SD*)	$\bar{x}$ (*SD*)	$\bar{x}$ (*SD*)	$\bar{x}$ (*SD*)
Friendly	3.06 (.31)	2.84 (.22)	3.55 (.97)	3.03 (.42)	2.95 (.24)	2.79 (.15)	2.92 (.27)	3.06 (.41)	N/A*
Many toys	3.03 (.24)	3.01 (.29)	3.05 (.68)	2.88 (.17)	2.93 (.56)	2.92 (.31)	2.96 (.20)	2.98 (.22)	N/A*
Strongest	3.05 (.09)	2.86 (.25)	3.12 (.31)	2.78 (.23)	2.75 (.18)	2.83 (.28)	2.86 (.20)	2.93 (.30)	2.98 (.09)
Fights	3.26 (.38)	3.06 (.26)	2.98 (.25)	2.82 (.37)	2.91 (.49)	2.88 (.50)	2.79 (.12)	2.94 (.22)	2.96 (.23)
Mean	2.97 (.31)	2.95 (.35)	3.00 (.28)	3.10 (.35)	3.10 (.71)	2.91 (.28)	3.18 (.26)	N/A*	2.89 (.27)
Alone	3.41 (.37)	3.29 (.04)	3.05 (.26)	3.21 (.22)	2.72 (.27)	2.93 (.22)	N/A*	2.96 (.35)	2.98 (.35)

Note. Reaction times (ms) were log transformed.

* These figures were not chosen for certain questions.