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Children's Cognitions, Behavioral Intent, and Affect Toward Girls and Boys of Lower or Higher Learning Ability

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Research is clear about children's negative biases toward the opposite gender, toward peers of lower learning ability, and toward out-group members in general, especially among younger children. In adulthood, the magnitude and valence of attitudes may be dependent on cognitive, behavioral, or affective response classes, but little is known of how these classes interact during childhood with age or gender of participant and target child. Attitude measures tapping into the three response classes were administered to 105 participants across four target conditions: girl who finds learning easy, girl who finds learning difficult, boy who finds learning easy, and boy who finds learning difficult. Attitudes addressing beliefs (cognitions) revealed preferences for same-gender target children of higher ability and less positive evaluations for boys and girls of lower ability. Younger children were more negatively biased toward all target children than were older children. Attitudes addressing behavioral intent indicated that older children preferred same-gender target children regardless of ability, although younger children demonstrated the most positive behavioral intent toward the higher-ability male and the least toward the lower ability female. Attitudes tapping into affect showed that girls had more positive affect toward all target children whereas boys preferred their own gender. Children's attitudes are multifaceted and complex. Focusing on multiple dependent and independent variables provides a wider perspective of children's attitudes that may be missed when variables are examined in isolation.

Key Words: Children, Attitudes, Cogntive Ability, Gender, Age Difference.

Studies have shown that children have more positive evaluations of peers who do well in school compared to children who do not (Heyman, Gee, & Giles, 2003). Indeed, the literature focusing on children's attitudes toward children with learning difficulties or of lower academic ability has provided robust results, but associations of these attitudes with gender and age are inconsistent (e.g., Colwell, 1998; Nabuzoka & Ronning, 1997; Townsend, Wilton, & Vakilirad, 1993). In particular, little is known of how younger and older girls and boys compare in their evaluations of same- and opposite-gender peers who are lower or higher in academic ability. Recently, Nowicki (2006a) found that that the magnitude and direction of children's

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attitudes toward same-gender peers with or without intellectual or physical disabilities were partially dependent on the nature of the attitude measure and participants' age. Because that study matched gender of participant and target child, potential interactions between gender of target child and participant with age, learning ability, and attitude measures, were not addressed.

The purpose of the present study was to seek answers to the following questions: (a) What are girls' and boys' attitudes toward peers of the same and opposite gender who are lower or higher in learning ability? (b) Do these attitudes differ between younger and older children? and (c) Are these attitudes consistent across different attitude measures?

Children's Attitudes Toward Peers of Lower or Higher Learning Ability

Children's bias against peers who do not do well in school is a common finding in the literature (e.g., Heyman et al., 2003; Norwich & Kelly, 2004; Ring & Travers, 2005). For example, children with learning difficulties or of lower academic achievement receive fewer positive peer nominations than children who do well in school (Nabuzoka, 2003). They are also more likely to be rejected or neglected by their classmates (Vaughn, Elbaum, & Broadman, 2001). These findings have emerged across a variety of measures and methods of portraying target children (e.g., Gash & Coffey, 1995; Laws & Kelly, 2005; Nabors & Larson, 2002; Nabuzoka & Ronning, 1997; van Nieuwenhuijzen et al., 2005). Regardless of differences in study design or conceptualization of learning ability, findings agree that children's evaluations of peers who are lower in ability at school are less positive than those of peers of average or higher academic ability.

While these findings typically speak of children in general, the situation is less straightforward when age and gender are considered. Positive, negative, or no associations of attitudes toward children of lower ability with gender or age have been reported (e.g., Colwell, 1998; Nabors & Larson, 2002; Nabors, Lehmkuhl, & Warm, 2004; Tamm & Prellwitz, 2001; Woodard, 1995). Research has shown that children's evaluations of their peers, in general, are influenced by in-group and out-group processes that are linked to both age and gender (Aboud, 2003; Nesdale, Maass, Griffiths, & Durkin, 2003; Powlishta, 1995; Underwood, 2004). Children tend to evaluate peers belonging to their own social group more favorably than peers who do not have in-group membership status. Further, in-group favoritism and out-group prejudice have been found to be based on gender, race, ethnicity, body size, and social status, with some studies reporting that younger children show more pronounced biases than older children (Aboud; Black-Gutman & Hickson, 1996; Doyle & Aboud, 1995; Nesdale et al.). The developmental literature describes children's awareness of categorical distinctions among people. Gender may be the first social category that children form (Powlishta, Serbin, Doyle, & White, 1994), and it is intimately intertwined with children's peer relationships (Underwood, 2004). Around 3 years of age, children have a marked preference to interact with peers of their own gender that continues throughout the elementary school years. Indeed, during middle childhood, contact with the opposite gender is at times strenuously avoided (Maccoby, 1998).

Inconsistent findings about the roles of age and gender in children's attitudes toward peers of lower academic ability may be due, in part, to sample and target

characteristics. For example, young children may be more biased against out-group members, and children, in general, tend to avoid the opposite gender. There may also be potential interactions in children's attitudes toward peers of lower ability with age, gender of target child, and gender of participant. No studies to date have examined these variables in combination with one another. Thus, the goal of the current study was to determine if such interactions exist.

Inconsistent outcomes across studies may also be linked to the nature of the dependent variable. Few studies focusing on children's attitudes towards peers of lower ability have used the same measures of attitudes (Nowicki, 2006a). Eagly and Chaiken (1993) suggested that attitudes may consist of beliefs or cognitions, affect, and behavioral intent or overt actions. In adults, the cognitive, affective and behavioral aspects of attitudes are distinct, although little is known of how the various components of attitudes are attended to in childhood. The second goal of the study, then, was to determine if attitude response classes interact with age, gender of target child, and gender of participant.

To summarize, the results of several studies agree on peer preferences during childhood: Children's attitudes are more positive toward peers of higher ability than toward peers of lower ability. Their attitudes are also more positive toward peers of their own gender than toward peers of the opposite gender. Studies focusing on age differences toward peers with disabilities have not provided conclusive outcomes; however, research addressing children's attitudes toward peer group characteristics other than disabilities has shown that younger children are more prejudiced against out-group members and have a marked preference for their own in-group. Age and gender of the participant and target child have not been systematically examined in association with attitudes toward peers of lower or higher ability, and their interactions are not known. Nor is it known how these variables are related to the various aspects of attitudes. If children's attitudes vary according to participant and target variables as well as attitudinal components, a complex picture may evolve.

Three main questions were formulated for this study: (a) are gender of participant and gender of target child related to attitudes toward children who are lower or higher in learning ability? and (b) Do younger children's attitudes differ from those of older children, and do these attitudes interact with gender of participant and target child? Answers to the first two questions were based on children's responses to different measures of attitudes, specifically, measures tapping into the cognitive, behavioral, and affective response classes. The third question was: Are children's attitudes toward peers of the same and opposite gender who are lower or higher academic ability consistent across attitude response classes?

Method

Participants

Participants were 105 children attending schools in a large urban and rural school district in a medium-sized city in central Canada. The subsample of younger participants consisted of 24 girls and 21 boys with a mean age of 5.8 years ($SD = 0.9$). The older subsample consisted of 29 girls and 22 boys with a mean age of 9.7 years ($SD = 1.2$). Although the school district promoted inclusion of children with disabilities, none of the

participants had classmates with moderate to severe intellectual disabilities (i.e., mental retardation), hearing loss, visual impairments, or orthopedic disabilities. However, older participants had classmates with individualized education programs (IEPs) for learning disabilities, low academic achievement or ability, attention deficit, or behavioral concerns. The school district did not assess children for IEPs prior to grade 3, but teachers of the younger participants reported that they had candidates for future identification. Thus, all participants had classmates of lower and higher academic ability.

Procedures

Ethics approval was obtained from the University of Western Ontario Ethics Review Board and from the participants' school board. Schools were visited on a professional development day in order to describe the study to teachers. Interested teachers were given letters of information and consent forms to distribute to their students. Teachers were asked to inform their students that a project would be conducted at their school by researchers from the university "to find out what you think about children the same age as you who find learning easy or difficult." Children were also told that they did not have to be part of the study if they did not want to; if they wanted to participate, they had to ask their parents to sign a permission form. One hundred and sixty-eight letters of information and consent forms were distributed with an affirmative response rate of 62.5%. Children who returned a signed parental consent form were invited to participate.

Measures were administered by one of three research assistants in a quiet room in the school during two one-on-one sessions held during the regular school day. Sessions took place a week apart, each lasting 10-20 minutes. In the first session participants were reminded that they could leave the study at any time and that they did not have to answer any question they did not want to. The presentation and description of the four target children followed. Participants' recall of the conditions was then assessed. Students were asked to point to (a) the target boy or girl who found learning new things easy and to describe some things the target children could do, and (b) the target girl and boy who found learning new things difficult and to describe some things the target children could not do. If a participant did not respond accurately, the research assistant provided the necessary information and repeated the questions. All participants gave accurate responses prior to the administration of the dependent measures.

Hypothetical Target Children

Four hypothetical target children (two identical girls and two identical boys) were represented by dolls. The dolls are commercially available in Canada under the *Groovy Girls* label and include boys and girls of different racial and ethnic groups. They are cloth covered, wear trendy clothing, and are approximately 30 cm tall. Because the majority of the participants were Caucasian (95.2%), dolls chosen had light-colored skin tone. Female dolls were dressed in identical dresses, and male dolls wore identical jeans and t-shirts.

Two dolls, one male and one female, were described as children who find learning new things easy (higher ability). The following short verbal description from Nowicki (2006a) accompanied each doll: "This girl/boy learns new things easily. S/he knows how to do the things that someone of your age can do such as: _____." The

blank was filled in with three grade-specific exemplars of learning objectives from the elementary school curriculum of the province in which the study took place. One exemplar was drawn from the mathematics curriculum (e.g., can count to 10, can add, can multiply or divide, or can multiply decimal numbers), another from the reading curriculum (e.g., can describe a story that has been read aloud by a teacher, can read, can read a chapter book or a novel), and the third came from the writing curriculum (e.g., can write some letters of the alphabet, can write some words, or can write a story).

The other dolls, one male and one female, were described as children who find learning new things difficult (lower ability). The accompanying verbal description was: "This girl/boy finds learning new things difficult. S/he cannot do some of the things that someone of your age can do such as: _____." The blank was filled in with the same grade-specific exemplars as above.

Measures

Participants completed three attitude scales corresponding to the cognitive, behavioral, and affective response classes of attitudes.

Multi-Response Attitude Scale. The cognitive response class of attitudes was assessed with the Multi-Response Attitude Scale (Doyle, Beaudet, & Aboud, 1988). The original scale depicts target children of different racial and ethnic groups in colored drawings, but in the current study the drawings were replaced with the dolls described above. The scale consists of 10 positive adjectives (clean, wonderful, healthy, good, nice, happy, friendly, kind, helpful, and smart) and 10 negative adjectives (bad, unfriendly, mean, dirty, cruel, stupid, selfish, sick, naughty, and sad). A research assistant read aloud each item and a behavioral example, and then showed the participant four identical cards labeled with the appropriate item.

The participant was then asked to place the card(s) in one or more of four small boxes, each described as belonging to one of the dolls. Each doll was placed beside its own box. Four catch trial items were also included: (a) Which girl finds learning easy? (b) Which girl finds learning difficult? (c) Which boy finds learning easy? and (d) Which boy finds learning difficult? Catch trial items were not used to calculate scale scores; all participants responded correctly to them.

Four separate scores, one for each target child, were calculated by subtracting the number of negative descriptors from the number of positive descriptors. Scores can range from -10 denoting very negative attitudes, to +10 for very positive attitudes. Scores closer to zero indicate neutral attitudes. In the current study, internal consistency coefficients for the positive and negative items were .88 and .93, respectively. The scale is not correlated with social desirability and demonstrates both convergent and predictive validity (Doyle et al., 1988; Doyle & Aboud, 1995).

Participants' understanding of the task was assessed prior to administration of the scale items. The following practice items were used: (a) Which child is wearing a dress? (b) Which child is wearing a t-shirt? and (c) Which child has light-colored hair? For each practice item, the participant was given four cards, each with a photograph of the relevant item, and was asked to place the card in the appropriate box. The practice items were not used to calculate scores; all participants responded appropriately.

Behavioral Intent Scale. The behavioral response class of attitudes was assessed with the Behavioral Intent Scale (Roberts & Lindsell, 1997). The scale consists of 10 items ranging from relatively non-intimate aspects of childhood friendship (e.g., I would go up to [target child] and say hello) to more intimate intent (e.g., I would share a secret with [target child]). The original scale, a paper-and-pencil measure, was adapted for the current study to accommodate preliterate participants. Rather than using the original Likert-scale format, the adapted measure required participants to select one of the following four cards for each item and each target condition: (a) a card with upper-case letters followed by an exclamation point (i.e., YES!) for a response of "definitely yes," (b) a card with "yes" written in lower-case letters for a response of "maybe yes," (c) a card with a lower-case "no" for "maybe no," or (d) an upper-case "no" followed by an exclamation point (i.e., NO!) for a "definitely no" response. Participants were asked to select the card that indicated their choice for each doll and to place it in the doll's box, as described above. Items and response cards were read aloud to preliterate participants.

A score for each target condition was determined by assigning weights to the responses (i.e., YES! = 4 points, yes = 3 points, no = 2 points, NO! = 1 point) and summing. Scores can range between 10 (indicating very low behavioral intent) to 40 (for very high behavioral intent). The internal consistency coefficient for the scale in this study was .89. It has also been found to be uncorrelated with social desirability (Nowicki, 2002). Construct validity for the scale was demonstrated in a principal-components analysis (Nowicki, 2006b). Responses directed at target children with learning difficulties formed a component distinct from one describing responses directed at target children without learning difficulties.

To assess participants' understanding of the task, the following practice questions were administered prior to the scale items: (a) Would you wear your pajamas at night? At breakfast? At school? (b) Would you go swimming on a very hot day? A warm day? A very snowy day? All participants' responses reflected comprehension.

Pictographic Scale. The affective response class of attitudes was assessed with the Pictographic Scale (Nowicki, 2002). This five-item scale focuses on feelings directed at each target child (e.g., How do you feel about the girl who finds learning easy?). Responses are selected from a set of five simple line drawings of faces ranging from happy to sad. Scores for each target condition were calculated by summing assigned weights to each face selected, ranging from 5 for the very positive affect to 1 for very negative affect. Lowest and highest scores possible for each subscale are 5-25, respectively. In the current study, the internal consistency coefficient of the scale was .83; in an earlier study, it was found to be uncorrelated with social desirability (Nowicki, 2002). Construct validity for the scale was demonstrated in a principal-components analysis that delineated responses directed at target children with learning difficulties from those directed at target children without learning difficulties (Nowicki, 2006b).

Practice items required participants to point to the face that showed how they felt about pizza, oatmeal, and broccoli, going to a birthday party, watching TV, and spiders. Unanticipated responses were queried. Practice items were not used to calculate scores, and all participants provided appropriate responses.

Results

Age and Gender Differences in Children's Attitudes

The first question asked if gender of participant and gender of target child are related to attitudes toward children described as lower or higher in learning ability. The second question asked if young children's attitudes differ from those of older children. These questions were answered for each of the attitude scales addressing the cognitive aspect of attitudes (Multi-Response Attitudes Scale), the behavioral aspect of attitudes (Behavioral Intent Scale), and the affective aspect of attitudes (Pictographic Scale). For each attitude measure, means were compared with a three-factor, split-plot analysis of variance design. Target condition was the within-subjects factor (i.e., girl or boy of higher learning ability, girl or boy of lower learning ability). Age (younger or older children) and gender of participant were between-subjects factors. Significant main effects and interactions for each attitude scale are reported below.

The Multi-Response Attitude Scale. The upper panel of Figure 1 illustrates mean attitude scores for the Multi-Response Attitude Scale by each of the four target conditions, age and gender. These scores suggest that the cognitive aspect of attitudes was related to (a) age, (b) gender of participant, and (c) characteristics of the target child. The first set of findings, that age and attitudes were related, was articulated in a significant main effect of age, $F(1, 101) = 10.12$, $p < .002$, $\eta^2 = .09$. Regardless of gender or target condition, younger children's attitudes ($M = 3.0$) were less positive than those of older children ($M = 5.2$). (It should be noted that η^2 refers to effect size. Whereas statistical significance attests to the reliability of the strength of association between the dependent and independent variables, effect size tells of the magnitude of the association. In the current analysis, η^2 assesses the proportion of variance in the attitude measure that is associated with gender. A value of .01 refers to a small strength of association, or effect size, a value of .06 represents a medium effect size, and .14 or more is a large effect size [Tabachnik & Fidell, 1996]. Thus, an effect size of .09 indicates that a good proportion of the variance in the attitude measure is attributed to gender.)

The second finding was that the cognitive aspect of attitudes was related to gender of the participant and characteristics of the target child. A significant target condition by gender interaction was found, $F(3, 303) = 2.88$, $p < .05$, with a modest $\eta^2 = .028$. Tukey HSD post hoc analysis of cell means was used to determine which pairs of means were significantly different. Girls had more positive attitudes toward the higher ability female target child ($M = 6.9$) compared to the lower ability male target child ($M = 2.4$), and the lower ability female target child ($M = 4.5$). Boys had more positive attitudes toward the higher ability male target child ($M = 5.4$) than the lower ability male ($M = 1.1$) and lower ability female ($M = 2.0$) target children. Boys also had more positive attitudes toward the higher ability female target child ($M = 5.7$) than the lower ability male and lower ability female target children. Further, boys had significantly more positive attitudes ($M = 5.4$) than girls ($M = 4.6$) toward the higher ability male target child, but significantly less positive attitudes ($M = 2.0$) than girls ($M = 4.6$) toward the lower ability female target child.

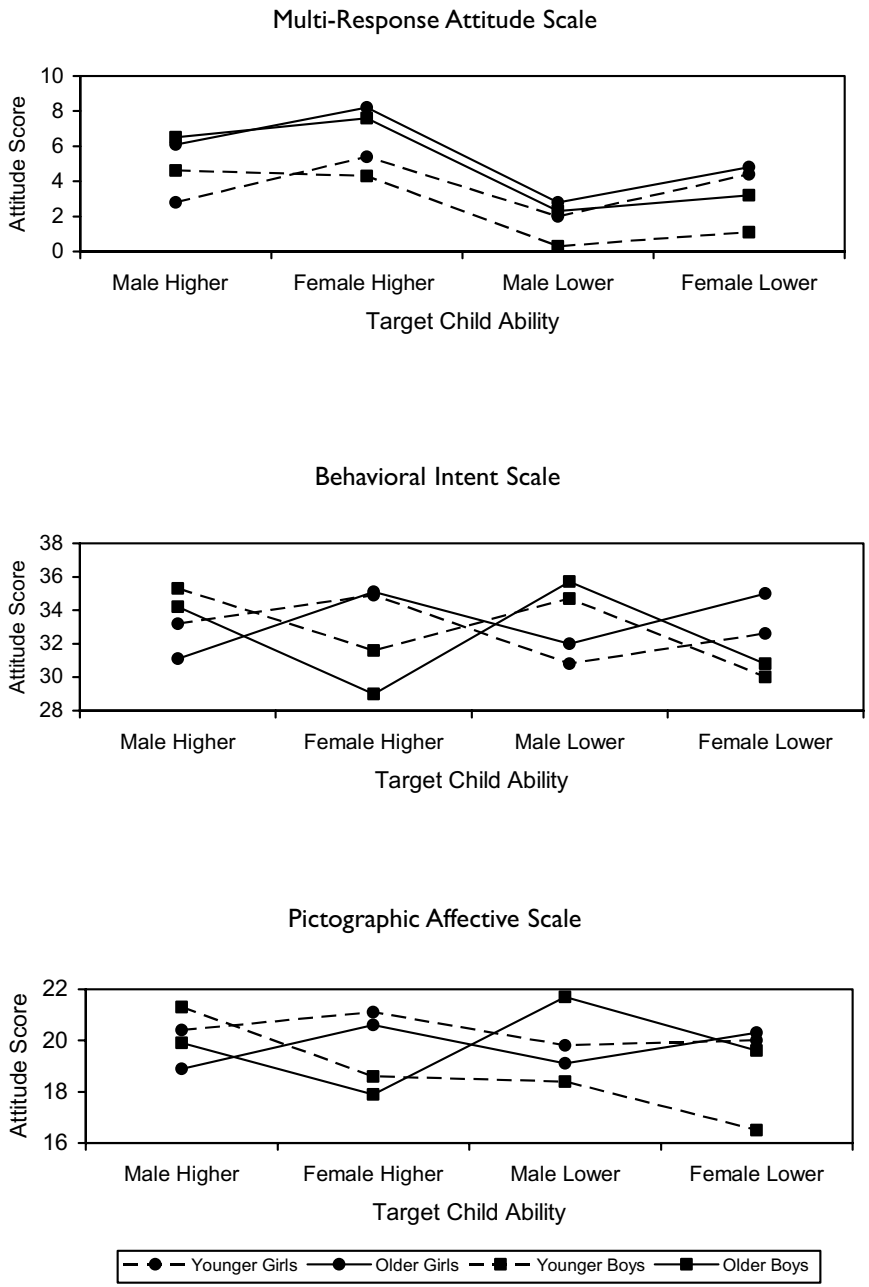

Figure 1. Attitude scores for younger and older girls and boys by target child condition. The upper panel shows scores for the Multi-Response Attitude Scale (beliefs), the middle panel shows scores for the Behavioral Intent Scale (behavior), and the lower panel shows scores for the Pictographic Scale (affect).

There was also a significant main effect for target condition, $F(3, 303) = 20.02$, $p < .001$, with a large effect size, $\eta^2 = .17$. Higher scores were given to opposite and same-gender target children of higher ability ($M = 5.1$, and $M = 6.2$, respectively). Lower scores were given to opposite and same-gender children of lower ability ($M = 2.2$, and $M = 2.9$, respectively). Given the aforementioned significant interaction, post hoc analysis was not conducted.

In summary, scores on the cognitive response class of attitudes revealed that younger children had less positive attitudes than older children regardless of the target child's gender or learning ability. Also, boys and girls had less positive cognitive responses toward the lower ability target children of either gender. However, girls preferred higher ability females over higher ability males, and boys preferred higher ability males over lower ability females.

The Behavioral Intent Scale. The middle panel of Figure 1 shows that behavioral intentions are somewhat more complex than the cognitive aspect of attitudes. Specifically, behavioral intentions interacted with the characteristics of the target child and (a) the age of the participant, $F(3, 300) = 3.57$, $p < .015$, with a modest effect size, $\eta^2 = .03$; and (b) the gender of the participant, $F(3, 300) = 24.84$, $p < .001$, with a substantial effect size, $\eta^2 = .20$.

Tukey post hoc analysis for the first interaction, target child by age, showed several significant differences between paired means. Younger children had less positive behavioral intentions toward the lower ability female ($M = 31.2$) than toward the higher ability male ($M = 34.4$). Further, younger and older children differed in their behavioral intentions toward higher ability males, with the younger children having more positive scores ($M = 34.4$) than the older children ($M = 32.5$). Age differences were also found in the lower ability female condition with younger children having significantly less positive scores ($M = 31.2$) than the older children ($M = 33.2$).

The target condition by gender interaction was also due to a number of significant differences in paired means. First of all, girls were more likely to want to interact with a higher ability female ($M = 35.0$) than with a higher ability male ($M = 32.5$) or with a lower ability male ($M = 31.5$). Girls also preferred to interact with a lower ability female ($M = 33.9$) than with a lower ability male. Boys showed a similar preference toward their own gender. They, too, preferred to interact with a higher ability member of their own gender ($M = 34.9$) than with a higher ability female ($M = 30.5$) or a lower ability female ($M = 30.4$). Boys also said they preferred to interact with a lower ability male ($M = 35.1$) than with either of the female target children.

Significant differences between girls and boys were also found within each of the target conditions. In the higher ability male condition, boys had more positive behavioral intent ($M = 34.9$) than girls ($M = 32.1$). The higher ability female condition resulted in girls having more positive intent ($M = 35.0$) than boys ($M = 30.5$). Same gender preferences were also apparent in the two lower ability conditions. That is, boys had more positive intent ($M = 35.1$) than girls ($M = 31.5$) for the lower ability male condition, and girls had more positive intent ($M = 33.9$) than boys ($M = 30.4$) for the lower ability female condition.

Therefore, behavioral intentions toward the target children involved both age and gender. Younger children, more so than older children, wanted to interact with higher ability males, yet were less inclined to want to interact with lower ability females. When

the focus was on participants' gender, girls and boys preferred their own gender. That is, they preferred to interact with lower- or higher-ability same-gender target children than with lower or higher ability opposite-gender target children.

The Pictographic Scale. The lower panel of Figure 1 indicates that affective responses are delineated by age, gender, and characteristics of the target child. In particular, significant interactions were found for (a) target condition and age group, $F(3, 303) = 5.22$, $p < .002$, with a medium effect size, $\eta^2 = .05$, and (b) target condition and participants' gender, $F(3, 303) = 7.41$, $p < .001$, also with a medium effect size, $\eta^2 = .07$.

Post hoc analysis for the target condition-by-age interaction revealed that young children had more positive affective scores for the higher ability male target child ($M = 20.9$) than for the lower ability male ($M = 19.0$) and lower ability female target children ($M = 18.1$). Older children had a consistent level of affective response across all four target conditions, with an overall mean of 19.7. However, younger and older children differed in the affective aspect of attitudes in the higher ability male condition and the lower ability female condition. That is, younger children's score for the higher ability male was more positive ($M = 20.9$) than the older children's score ($M = 19.3$). For the lower ability female target child, younger children had a less positive score ($M = 18.1$) than the older children ($M = 20.0$).

Comparisons of cell means for the significant target condition-by-gender interaction showed that girls had consistent levels of affect across all four target conditions, with an overall mean of 20.0. Boys demonstrated significant bias against the two female target children. They had less positive affective scores for the higher ability female ($M = 18.3$) and lower ability female ($M = 17.8$) than for the higher ability male ($M = 20.7$). They also had less positive affective scores for the lower ability female than for the lower ability male ($M = 20.0$). Differences between boys and girls were evident in both female target child conditions. Boys had less positive affective scores in the higher ability female target condition ($M = 18.3$) than the girls ($M = 20.8$), as well as in the lower ability female target condition ($M = 17.8$) compared to the girls ($M = 20.2$).

Thus, the affective aspect of attitudes indicated that younger children had more positive feelings than older children toward higher ability males and less positive feelings toward lower ability females. However, when the results were examined by gender, girls' affect did not differ across any of the four target conditions, but boys had less positive affect toward higher ability and lower ability female target children.

Overall, then, the attitude measures gave a varied picture of children's attitudes toward their peers. Gender-based responses depended on the measure and the target child's ability and gender. That is, the cognitive measure showed that both boys and girls preferred higher ability target children of their own gender, but boys were most biased against the lower ability female target child whereas girls were most biased against higher ability male target child. Further, boys and girls had more positive behavioral intent toward target children of their own gender, regardless of the target child's learning ability. The same pattern was found for boys on the affective measure, but girls demonstrated a consistent level of positive affect toward all four target children.

Age differences were straightforward. The cognitive evaluative responses revealed that, overall, younger children had more negative attitudes than older children.

Further, compared to older children, younger children had more positive behavioral intent and affect toward the higher ability male target child but they had the least positive behavioral intent and affect toward the lower ability female target child.

Discussion

Past research has found strong childhood preferences for peers of their own gender (Maccoby, 1998; Underwood, 2004) and for children who do well in school (Heyman et al., 2003; Nabors et al., 2004). However, results have been less conclusive about age differences in children's attitudes toward peers of lower learning ability, and has paid little attention to potential differences among the cognitive, affective, and behavioral response classes of attitudes. The purpose of the current study was to tease out the importance of these factors in attitude formation. Results suggest that gender of participant and target child is important, but so are age and the target child's learning ability. Moreover, response patterns were not consistent across measures tapping into the different evaluative classes.

Girls and boys had more positive behavioral intentions toward their own gender regardless of the target child's learning ability. Thus, children were more inclined to want to interact with members of their own gender, a finding that has been supported in the developmental literature (Maccoby, 1998). However, when the focus was on children's beliefs or cognitions, preferences were apparent for high ability same-gender peers. Thus, when cognitive responses were sought, both gender and ability came into play. These findings intersect the developmental literature about gender cleavage and the special education literature about biases against children with learning difficulties. In contrast, responses in the affective class of attitudes were different for girls and boys. Girls felt positive about all target children whereas boys had more positive feelings about boys than about girls. Thus, measures that tap into affect may elicit gender-based differences in attitudes that may not be apparent in cognitive and behavioral response classes.

Results addressing the role of age in attitudes were also varied. Research focusing on the development of ethnic and racial prejudice has revealed that young children are more biased against out-group peers than members of their own in-group (Aboud, 2003; Nedsdale et al., 2004; Powlishta et al., 1994). However, the literature is less certain about the relationship between age and attitudes toward peers of lower academic ability. The current study suggests that younger children are more biased than older children, but the extent of this bias varies across measures. Thus, attitudes tapping into the cognitive response class revealed that younger children were more biased against their peers, in general, than were older children. These results reflect the literature addressing racial and ethnic prejudice. However, ability and gender were important in explaining age differences in measures tapping into behavioral intent and affect. In both measures, younger children compared to older children were most positive about their intent to interact and their feelings toward the higher ability male target child and were least positive toward the lower ability female target child. Although positive evaluations of individuals higher in ability and negative evaluations of lower ability are in line with the literature (Gash & Coffey, 1995; Laws & Kelly, 2005; van Nieuwenhuijzen et al., 2005), it is not clear why young children have more positive biases toward boys of higher ability and more negative biases

toward girls of lower ability. These responses suggest a stereotype bias, and lead one to question if young children are exposed to gender stereotypes about learning ability at home or school. Further investigation in this area is needed.

Consequently, as was the case for gender, age differences in attitudes appear to be associated with the nature of the attitude measure. Given that consistent results were not achieved across each evaluative class, future studies need to include measures that tap into each of the three evaluative dimensions in order to provide a clear picture of potential nuances in children's attitudes. Results of this study underscore the notion that in children, as in adults, attitudes are complex and are associated with a number of factors (Eagly & Chaiken, 1993).

Several points must be kept in mind when interpreting the results of this study. Participants did not have classmates with moderate or severe learning difficulties; therefore, caution must be exercised when generalizing to children who regularly interact with children who have more severe learning problems. The relatively modest sample size may also restrict generalizations, although some of the effect sizes were quite substantial. Another limitation is the fact that children did not have the opportunity to articulate their own thoughts about boys and girls of lower or higher ability. An interview format may have provided the opportunity to explore these ideas in a less formal manner. Also, attitudes during adolescence and adulthood need to be considered to provide a broad developmental understanding of how ability, gender, and attitude measures interact throughout the life course.

Results of this study may present some challenges in designing interventions to promote inclusion. Interventions may have to target specific characteristics of children with learning difficulties and their peers. Specific attitude change outcomes may also need to be articulated; namely, whether the goal is to enhance beliefs, behavioral intent, or feelings. Given that scores on attitude measures differed according to participants' age and gender, as well as the characteristics of the target child, attitude change interventions may need to be carefully constructed to meet these varying responses. For example, children had more positive beliefs about higher ability than lower ability children. Thus, interventions targeting beliefs should focus on ability and less on gender. On the other hand, if the goal is to address behavioral intent, negative biases directed at the opposite gender must receive more attention. Gender cleavage was clearly demonstrated with this measure. Inclusion interventions may be better served if the primary focus is on providing opportunities for girls and boys to interact rather than on encouraging interactions between children of lower and higher ability. However, interventions directed at improving affective responses to children of lower ability would need to differ for girls and boys. Girls' affect was consistent across conditions, whereas boys reacted to both gender and ability. It must also be kept in mind that regardless of measure, younger children were more biased than older children. Although these attitudes moderate with age, interventions may need to be implemented at the beginning of elementary school when biases are the most intense. Thus, successful inclusion may be more than a matter of encouraging children of lower and higher ability to accept one another. It may also hinge upon children's perceptions of gender and on developmental processes.

A necessary first step is to uncover such patterns so that programs can be developed on a foundation of evidence-based research. Assessing children's attitudes may require attitude instruments that address each of the response classes. A composite measure that

does not separate response classes may provide an overgeneralization, and measures that address only one or two classes will perhaps reveal only part of the picture.

Further research is needed to explore how attitudes differ across evaluative response classes, how these attitudes differ across various out-group characteristics, and the extent to which each of the response classes is associated with behavioral interactions. Given that there were differences in the magnitude of responses between younger and older children, it may be beneficial to explore how attitudes towards certain target groups develop and change from early childhood though to the adult years. It is also important to design interventions that are clearly articulated in terms of the targeted response class of attitudes, and the characteristics of the in-group and out-group. Interventions need to be piloted, implemented, and then evaluated using high quality evidence-based research practices.

Educators need to know how to effectively include children with special needs in the educational system, and both girls and boys require the opportunity to attend classrooms where gender and learning ability are respected. Researchers must be aware of how children's attitudes are influenced by their classmates' gender and ability, how these attitudes develop, and if different response classes of attitudes vary. Understanding the processes associated with attitude formation may provide a foundation for designing effective interventions to enhance inclusion for all children inclusion, regardless of gender, age, or ability.

This study showed that children's attitudes toward their peers are associated with (a) gender of participant and target child, (b) the target child's learning ability, and (c) the response class inherent within an attitude measure. Children demonstrated more favorable cognitive evaluations of their own gender and children higher in ability, indicating that lower ability opposite-gender target children may have more difficulties in attaining positive peer evaluations. The measures focusing on the affective and behavioral aspects of attitudes showed that young children most preferred the higher ability males and least preferred lower ability females. Further, the fact that girls had equally positive affect toward all target children, whereas boys did not, suggests gender differences may be most evident in the affective response class of attitudes. Thus, care is needed in separating the different response classes of attitudes in order to reveal a clearer picture of attitude formation during childhood.

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