Theory of Mind and Self-Concept in Preadolescents: Links With Gender and Language

Sandra Leanne Bosacki
Brock University

The investigation of the ability to attribute mental states to others and to see them as the basis for people's actions has been referred to as "theory of mind" (ToM) research. This study assessed ToM, or social understanding, in preadolescents and examined individual differences in the relations among social understanding, self-concept, and language competence. One hundred twenty-eight preadolescents (64 girls, 64 boys; mean age = 11 years, 9 months) completed tasks concerning self-concept and vocabulary and participated in a story-telling interview that assessed social and self-understanding. There were positive associations between children's social understanding and (a) self-understanding, (b) self-perceptions of behavioral conduct, and (c) general vocabulary ability. Independent of vocabulary ability, girls scored higher than boys on both social and self-understanding tasks.

Although the investigation of self-concept and social understanding in preadolescents began over 40 years ago (Bruce, 1958; Flapan, 1968), researchers remain puzzled as to how preadolescents learn to make meaning from their social experiences. Over the past decade, developmental psychology has attempted to answer this question by envisioning the child as an interpretative psychologist who depends on a mentalistic construal of reality to make sense of the social world (Bennett, 1993). Often referred to as "theory of mind" (ToM) or "social understanding," this way of viewing sociocognitive development provides a new framework to explore how psychological understanding of self and others develops (Aston, 1993; Harter, 1999; Wellman, 1990). In brief, the ToM approach to social cognition claims that a largely implicit conceptual framework allows children to understand, explain, and predict their own and other people's behavior and mental states (Barresi & Moore, 1996).

The most studied aspect of children's ToM development is their recognition of false belief (Wimmer & Pemper, 1983). At approximately 4 years of age, children understand that people act on their representation of the world, even in situations where it misrepresents the real situation. That is, at this age, children can represent and reason from people's first-order beliefs: X believes P. From as young as age 5 or 6, children are able to represent and reason from second-order beliefs: X believes that Y believes P. In contrast, the development of this ability to interpret embedded representations or recursive statements such as "She thinks that he thinks that..." has received little attention in the literature. This is surprising given that much of people's social interaction depends on what they believe about other people's beliefs (Aston, 1993). The importance of higher order or recursive reasoning has been shown in relation to children's ability to understand speech acts such as lies and jokes (Leekam, 1993) and in their ability to understand self-representational display rules (Banerjee & Yuill, 1999). This mentalizing ability, beginning in early childhood, to recognize, represent, and understand others' thoughts and emotions provides the sociocognitive foundation for the later development of socio-emotional competency (Dunn, 1995). Even so, there exists very little research to date on how preadolescents' knowledge of the mental world is linked to their self-perceptions and self-knowledge (Flavell, 2000).

Self-Concept

Similar to ToM research, research on the self has been riddled with theoretical and methodological conflict since the field's conception (Bruner, 1996). Given the various conceptual and methodological issues surrounding self-concept (Harter, 1999), for the purposes of this study, the "theory" view of self-concept was chosen. This theory of self-concept assumes that the conceptual self is a multidimensional cognitive representation or theory that is based on an understanding of one's own beliefs, desires, and intentions (Epstein, 1973). Although the notion of self-theories is not new (see Epstein, 1973), most research on self- and person perception has been conducted by personality and social psychologists, whose main interests often are trait characterizations and how they relate to psychosocial variables such as temperament, social competence, and so on. (Flavell & Miller, 1998; Wellman, 1990). Thus, the question of how children's developing ToM provides the infrastructure for self-conception has not been addressed.
ToM and Self-Concept

According to ToM, people's understanding of themselves takes of, and is limited by, their knowledge and beliefs about the mental world (Wellman, 1990), although there is little research relating self-concept to ToM understanding. Although the domain of self-research shares many conceptual similarities to that of ToM, self-concept has been studied mainly within the domain of social-cognitive psychology (Flavell & Miller, 1998). The few ToM studies that have explored the self-other differentiation and social emotional development have largely dealt with preschool children or young school-aged children (e.g., Astington & Jenkins, 1999; Homer & Astington, 1995; Hughes & Dunn, 1999). When this article was written, there existed only one study of links between aspects of self-understanding and ToM (Banerjee & Yuill, 1999). In that study, a positive link was found between young children's understanding of self-presentation display rules and second-order representation (Banerjee & Yuill, 1999).

Preadolescent ToM: A Case for Complexity

Research on preadolescent social cognition includes studies on attribution and perspective or role taking (both of self and other; e.g., Damon & Hart, 1988; Selman, 1980), person perception (e.g., Yuill, 1992), and empathetic sensitivity (e.g., Ferguson, Stegge, & Damhus, 1991). There are some conflicting findings and links between sociocognitive ability and self-concept. Some studies report positive links between psychological understanding of self and others (Hatcher, Hatcher, Berlin, Okla, & Richards, 1990), whereas others report negative relations between mentalizing abilities and self-esteem (Veith, 1980). In some studies, sociocognitive abilities and self-worth have been found to be independent (Matthews & Keating, 1995; Schultz & Selman, 1989), whereas other studies have found a positive link between cognitive abilities and self-concept. For instance, positive associations have been found between attentional resources and self-complexity (Conway & Bunting, 1997).

Gender Issues

The process of learning to understand self and other within a social context may be contingent on how a child's gender interacts with his or her environment (Edwards, 1993; Maccoby, 1998). According to the gender intensification hypothesis (Hill & Lynch, 1983), during preadolescence, gender differences increase among girls and boys as a result of the increased pressure to conform to traditional gender role stereotypes. For example, during preadolescence, traditional gender role behavior and ascription (i.e., femininity = sociality, submissiveness; masculinity = autonomy, aggression) becomes intensified (Hill & Lynch, 1983; Tavris, 1992).

At approximately age 11, some girls (in comparison with boys) experience the following shifts in social cognition: a significant drop in feelings and thoughts of self-worth (e.g., Edwards, 1993; Silverstein & Perlick, 1995), an increase in self-consciousness (e.g., Eder, 1989; Simmons, Rosenberg, & Rosenberg, 1973), and an increasingly negative sense of self-worth despite high academic achievement (particularly among "gifted girls"; e.g., Matthews & Smyth, 1997). Boys score higher than girls on nonsocial spatial perspective-taking tasks (Coe & Dorval, 1973), whereas girls score higher than boys on social perspective taking, empathy, and person perception (Cutting & Dunn, 1999; Honess, 1981). Similarly, there are gender-related differences between sociomoral reasoning and classroom behavior. In middle-school-aged children, there are relations between sociomoral reasoning and classroom behavioral conduct among boys only (Bear, 1989; Bear & Rys, 1994). More specifically, Bear (1989) found a positive link between boys' social moral reasoning and conventional classroom behavior. That is, compared with girls, boys who displayed relatively sophisticated sociomoral reasoning were rated by their teachers as more well-behaved.

Despite the conceptual similarities between sociocognitive reasoning and ToM abilities, the exploration of gender-related differences in ToM understanding has just begun. Of the few ToM studies that test for gender effects, most report nonsignificant results (e.g., Jenkins & Astington, 1996), although in two more recent investigations, girls and women scored significantly higher on ToM-type tasks compared with boys and men (Baron-Cohen, Jolliffe, Mortimore, & Robertson, 1997; Hughes & Dunn, 1999).

The Present Study

On the basis of the possibility that ToM provides the infrastructure for self-concept (Wellman, 1990), I explored whether preadolescents' ToM may promote a better understanding of the two main tasks of early adolescence: (a) the intrapersonal task of constructing a coherent sense of self (Damon & Hart, 1988) and (b) the interpersonal task of understanding multiple and contradictory intentions of others (Chandler, 1987). Thus, the present study explores the links among three constructs important to ultra- and interpersonal competence: (a) self-concept as defined as the ability to judge one's competence in various domains (physical appearance, academics, athletics, sociability, and behavioral conduct) as well as to describe and justify one's perceived worth as a person (global self-worth); (b) social understanding or ToM as defined by the ability to understand multiple perspectives (conceptual role taking or perspective taking), recognize and understand emotional states (empathetic sensitivity) and understand the concept of a person as a psychological being with stable personality characteristics (person perception; see Chandler, 1987, for further discussion of this framework for a preadolescent ToM); and (c) general language competence as defined by receptive vocabulary ability.

To do so, I developed a task to assess ToM or mental-state understanding in preadolescence and used the task to examine the relations among ToM, self-concept, and vocabulary ability, and whether relations varied with gender.

Method

Participants

One hundred twenty-eight 6th-grade children, drawn from six elementary schools in a mainly middle-class area, participated in this study (mean age = 11 years, 9 months; range = 10 years, 9 months to 13 years, 2 months). There were 64 girls (mean age = 11, 9; range = 10, 9 to 12, 5) and 64 boys (mean age = 11, 9; range = 11, 3 to 13, 2). The ethnic
composition of the sample was 98% white Euro-Canadian, with 97% of the participating sample reporting English as their first language.

**Procedures**

The study consisted of two parts. The first stage consisted of an in-class group administration of two standardized measures (a self-concept questionnaire and a vocabulary task). The second stage took place during the same week as group administration and included the withdrawal of individual children from their classrooms to participate in a 20- to 30-min interview. The first part of the interview consisted of two brief vignettes that were read to the participants (order of stories was counterbalanced). To assess understanding of the story characters’ mental states and feelings, each vignette was followed by a combination of forced-choice and open-ended questions (see Bosacki & Astington, 1999, for examples). The second part of the interview assessed participants’ understanding of their answers on the previously completed Self-Perception Profile for Children (SPPC; Harter, 1985). Thus, on the basis of their answers on the SPPC, the participants were asked six questions, each pertaining to a specific domain of the SPPC (see the Appendix). On average, the interview lasted 20 to 25 min. The entire interview was recorded on audiotape for subsequent transcriptions and analyses consisting of two ambiguous social narratives followed by questions to assess social and self-understanding. Thus, children completed the following measures (each measure is described in detail in the following section): (a) group-administered SPPC (Harter, 1985); (b) group-administered Gates–MacGinitie Vocabulary Test (MacGinitie & MacGinitie, 1994); (c) individually administered Social Understanding–Social Narratives (developed for this study by Bosacki, 1998); (d) individually administered Self-Understanding Interview (questions based on responses to Harter’s SPPC).

**Measures**

**Social understanding or ToM.** To assess a preadolescent’s ToM (his or her understanding of mental states and emotions), two brief vignettes consisting of an ambiguous social situation (one story involves three boys—the Kenny/Mark/Tom story—and one involves three girls—the Nancy/Margie/new girl story) were created. Borrowing from (a) theoretical work that views ToM as a vehicle or instrument that is used to coconstruct or narrate one’s social reality (Astoning, 1993; Bruner, 1996) and (b) the few studies that have attempted to investigate an advanced ToM through the use of narratives (Charman & Shmueli-Goetz, 1998; Fox, 1991; Happe, 1994), this task aimed to assess the ToM or mentalizing ability involved in interpreting social meaning from ambiguous stories. The stories were socially ambiguous on the basis of past research claims that interpretations of ambiguous social situations are an effective method of eliciting children’s ToM (Levinson, 1995). Each story was followed by four groups of questions (sections A–D) that represent the concepts of conceptual perspective taking or the understanding of higher order mental states, empathetic sensitivity, person perception, and alternative thinking (see Bosacki, 1998, for complete protocol; see Chandler, 1987, for an analysis of perspective taking in these terms). Two comprehension questions were asked before the main questions to control for memory and comprehension effects. If the comprehension questions were answered incorrectly, the researcher reread the story to the child.

To illustrate, the following story (Kenny/Mark/Tom) was read to the child:

Kenny and Mark are co-captains of the soccer team. They have one person left to choose for the team. Without saying anything, Mark winks at Kenny and looks at Tom who is one of the remaining children left to be chosen for the team. Mark looks back at Kenny and smiles. Kenny nods and chooses Tom to be on their team. Tom sees Mark and Kenny winking and smiling at each other. Tom, who is usually one of the last to be picked for team sports, wonders why Kenny wants him to be on his team.

Following correct responses to the comprehension questions, children were asked the following questions to assess their ability to understand higher order mental states in others, including the ability to understand multiple perspectives (conceptual role taking): “Why did Mark smile at Kenny?" "Why did Kenny nod?" "Why did Kenny choose Tom to be on the team? How do you know this?" "Do you think that Tom has any idea of why Kenny chose him to be on the team? How do you know this?" To assess their ability to recognize and understand emotional states (empathetic sensitivity), children were asked, “How do you think Tom feels? Why?" To assess the ability to understand the concept of a person as a psychological being with stable personality characteristics (person perception), children were asked to choose a character in the story and describe him. They were asked, “What kinds of things can you think of to describe him? What kind of a person do you think he is?" Finally, to assess their ability to imagine multiple perspectives and alternatives, children were asked, "Is there another way that you can think about this story? If so, how?" Similar questions were asked for the Nancy/Margie/new girl story.

The stories were read to the children in counterbalanced order.

**Coding of social understanding stories.** A coding scheme based on interview transcripts was developed to obtain a total ToM score (see Bosacki & Astington, 1999, for further coding and psychometric details of this measure). Responses were coded on the basis of various coding schemes gleaned from both social–cognitive (e.g., Damon & Hart, 1988; Hatcher et al., 1990; Selman, 1980) and ToM literature (Happe, 1994; Yuill, 1992) and represented the level of ToM understanding based on the increasing conceptual complexity of the responses. Thus, the coding of the responses reflected the child’s ability to understand others’ psychological worlds, moving from simple, obvious (“surface”) characteristics to the integration of multiple and paradoxical perspectives. In particular, 0 points were given for “I don’t know” (or no answer) or tangential responses, 1 point for responses that included behavioral or situational descriptions, 2 points for responses that included mental states or acts of communication or perception, and 3 points for responses that included an integration of two or more mental states and related them to each other in a coherent manner (e.g., moral judgments or recursive psychological statements). Only one score was given per response so that participants were given credit for their best answer. Thus, the total score represented a best estimate of the participants’ ability to understand social situations. The items of each story were summed, resulting in the maximum total score of 21 for each story, with a high score representing a more sophisticated understanding of mental states and feelings (i.e., a more complex ToM). Interrater reliability (calculated with 38% of the transcripts) was high, with Cohen’s kappa at .98 (range = .90 to 1.00) for the Nancy/Margie/new girl story and .99 (range .95 to 1.00) for the Kenny/Mark/Tom story. Internal consistency was lower, with Cronbach’s alphas for the Nancy/Margie/new girl story and the Kenny/Mark/Tom story at .67 and .69, respectively. A total ToM score was calculated from the sum of the two story totals (maximum total score of 42).

**Self-concept.** On the basis of its conceptual similarity to ToM (i.e., cognitive representation of one’s mental states directed toward oneself), and drawing on Damon and Hart’s (1988) and Harter’s (1985) theory that self-concept consists of a cognitive component (self-understanding) and an affective component (self-esteem), the present study assessed both aspects of the self-concept. Self-esteem was measured with Harter’s (1985) SPPC. The SPPC is a 36-item self-report questionnaire divided into six subscales, including scholastic competence, social acceptance, athletic competence, physical appearance, behavioral conduct, and global self-worth. For example, to assess self-perceived scholastic competence, children were asked to first choose which of the following sentences sounded more like them: “Some kids feel that they are very good at their school work” or “Other kids worry about whether they can do the school work assigned to them.” After the children had decided which sentence sounded more like them.
selves, they were then asked to judge whether the statement was "really true for me" or "sort of true for me." All questions followed the same format. The SPPC is frequently used in social–cognitive research among preadolescents (e.g., Evans, Brody, & Noam, 1995), with internal consistency reliabilities (Cronbach’s alphas) for all subscales ranging between .71 and .86 (Harter, 1985); test–retest reliability ranges from .69 to .87, varying with subscale.

**Self-understanding.** To assess the children’s particular theories or understanding of competence in a given domain, children were given a brief, six-question semistructured interview (one question per domain). That is, children were asked to provide a justification for six of their SPPC self-statements. The six items were chosen by Harter (1985) to each best represent one of the self-concept domains from the SPPC. Thus, for each of the six SPPC items, the participants were asked the following key question: "What is the main reason for why it’s really true/sort of true that [item content]?” For example, to assess one’s understanding of his or her academic competence, if the participant chose that the statement “Some kids feel that they are very good at their school work” is really true for him or her, the researcher asked, “What is the main reason for why it is really true that you do very well in your school work” (see the Appendix)? Thus, these justifications of self-beliefs may provide a more accurate picture of how children understand their own theories about their social selves, academic selves, physical selves, and so on. (Harter, 1985; 1999).

**Coding of Self-Understanding Interview**

Similar to the social understanding stories, the coding of the self-understanding responses also reflected the child’s ability to understand people’s psychological worlds, moving from simple, obvious (“surface”) characterizations to the interaction of several different abstract psychological concepts and the integration of multiple and paradoxical perspectives. To assess the complexity of a child’s understanding of his or her self-theory (Harter, 1985), each of the six self-understanding statements were scored (on the basis of past research; e.g., Hatcher et al., 1990; Selman, 1980) on a scale ranging from 0 to 3. A score of zero was given if the child was unable to answer or replied “I don’t know.” Responses were scored as 1 if they contained a self-description such as “I have lots of friends” or “I do what the teacher says.” A total score was obtained (6 items × 3 responses), resulting in the maximum total score of 18 for each interview, with a high score representing a more sophisticated self-understanding (i.e., a more complex theory of self). Thirty-eight percent of the transcripts were coded by a second, independent coder. Interrater reliability was high, with an average Cohen’s kappa of .96 (range = .91 to 1.00 for the six individual items). All discrepancies were resolved by consultation between the coders. Internal consistency was acceptable, with an alpha of .72.

**Language**

ToM and self-concept measures are linked to both receptive and expressive language ability (e.g., Astington & Jenkins, 1999; Happé, 1994; Jenkins & Astington, 1996; Matthews & Keating, 1995). Hence, the Gates–MacGinitie Vocabulary Test, Level D 5/6 (MacGinitie & MacGinitie, 1994) was used to assess general receptive vocabulary competency. This test is a valid and reliable measure of language proficiency, with a Kuder–Richardson Formula 20 reliability coefficient of .91 and strong correlations with other reading tests such as the Iowa Tests of Basic Skills, r = .80, and the Comprehensive Tests of Basic Skills, r = .73 (MacGinitie & MacGinitie, 1994).

**Results**

**Gender-Related Differences**

There was a significant multivariate main effect for gender on the SPPC scales (Wilks’s λ = .88), F(1, 127) = 2.80, p < .001. In follow-up univariate analysis of variance for each of the self-concept subscales, there were significant main effects for gender for behavioral conduct only (see Table 1), F(1, 127) = 5.49, p < .05. Compared with boys, girls scored significantly higher on behavioral conduct. That is, girls perceived themselves as more well-behaved. Boys scored higher than girls on physical appearance, F(1, 127) = 4.24, p < .05. Such results are congruent with Harter’s (1985) original findings. However, my results are not consistent with Harter’s previous finding that boys scored significantly higher than girls on athletic competence and global self-worth. Finally, girls and boys did not differ in their scores on the Gates–MacGinitie Vocabulary Test (see Table 1), F(1, 127) = 0.66, ns.

With respect to the social stories, there was a main effect for gender in a multivariate analysis of variance (Wilks’s λ = .81), F(1, 127) = 7.04, p < .001, followed by significant univariate gender main effects. To control for the possible confounding variable of language ability, a multivariate analysis of covariance was performed in which the means of girls and boys on the social stories were examined, with their Gates–MacGinitie Vocabulary Test score acting as the covariate (see Table 1). Independent of vocabulary ability, girls scored significantly higher than boys on both the total self- and social understanding score, F(1,
between vocabulary ability and self-perceived athletic competence respectively. (p < .05) when vocabulary ability was partialled out. Self-Perceived Understanding (MacGinitie & MacGinitie, 1994); SPPC = total social understanding score; GMAT = total score from the Gates-MacGinitie Vocabulary Test (1994); SELF = total self-understanding score; TOMTOT = total social stories score. Correlations were calculated between the total social stories score (TOMTOT) and the six subscales of the SPPC (see Table 2). The correlation between the TOMTOT and behavioral conduct was significant for boys, r(62) = .30, p < .05, but not for girls, r(62) = .09, ns.

As predicted, there were significant positive correlations between the total social stories score (TOMTOT) and the total Self-Understanding Interview score for both boys (r = .61, p < .01) and girls (r = .46, p < .01). That is, children who provided more sophisticated justifications for their self-statements also scored higher on the social stories. Given the link between the general language ability and the social and self-understanding scores, partial correlations were conducted with Gates-MacGinitie Vocabulary Test scores held constant. The correlations between social understanding and self-understanding remained independent of vocabulary ability, partial r = .60 for boys and partial r = .45 for girls; both ps < .05. Thus, independent of general language ability, children with higher self-understanding scores also achieved higher social story scores.

Self-Concept (Self-Esteem and Self-Understanding)

To investigate the various dimensions of the self-system (cognitive and affective), correlations were calculated between the total Self-Understanding Interview score (cognitive component) and the SPPC subscales (affective component). As summarized in Table 2, the only significant link existed between self-understanding and perceived behavioral conduct in boys, r = .37, p < .01: Boys who rated themselves as relatively well-behaved on the SPPC also provided relatively sophisticated responses in the Self-Understanding Interview.

Discussion

The hypothesis that preadolescents' ability to understand the mental states of others would be related to their self-concept and language competence was partially supported. First, independent of vocabulary ability, ToM was linked to self-understanding. However, ToM was related to only self-perceived behavioral conduct. Also, few links were found between self-esteem and self-understanding. Second, vocabulary ability was related to both ToM and self-understanding, but it was only weakly related to self-perceptions. Third, significant gender differences were found in (a) individual differences for ToM and self-concept and (b) links among ToM, self-concept, and vocabulary ability. Each of these three main findings is discussed in turn.

ToM and Self-Concept

A robust positive relation was found between ToM and self-understanding, or the cognitive aspect of self-concept (Damon & Hart, 1988). The ability to articulate one's ToM of other people is related to one's ability to articulate one's "theory of self." This finding is consistent with positive connections between self- and other understanding. Second, ToM and self-understanding, but it was only weakly related to self-perceptions. Third, significant gender differences were found in (a) individual differences for ToM and self-concept and (b) links among ToM, self-concept, and vocabulary ability. Each of these three main findings is discussed in turn.
represent and understand multiple perspectives operates similarly for both self and other in that it helps to create theories for both self and other. Thus, the relation between preadolescents’ theories of self and others may have been due to both theories stemming from a common underlying cognitive framework.

Alternatively, the relation between the ToM measure and the self-understanding measure can be explained in terms of the more recent sociocultural narrative ToM (e.g., Astington, 1993; Bruner, 1996). According to this view, the concepts of other and self are actually one and the same. Both phenomena are considered processes in which self is created through interactions with other (Bruner & Kalmar, 1997; Fivush & Buckner, 1997). Thus, people’s sense of self is created from their social experience, including their perceptions and understandings of others as psychological beings. In either case, the correlation between self- and other understanding in this study suggests that preadolescents’ understanding of self and other are intricately intertwined, constantly building on each other’s experience.

Self-Perceptions and Self-Understanding

Although no specific prediction was made, this study explored the different aspects of self-concept by assessing both the affective (self-perceived competence or self-esteem) and cognitive (self-understanding) self-concepts. Consistent with the view that the conceptual self is multidimensional and complex (e.g., Bruner & Kalmar, 1997), in general, self-esteem scores were not related to self-understanding scores. Perceived behavioral conduct was the only subscale significantly associated with self-understanding. In general, the lack of relation between self-concept (SPPC) and the self-understanding measure supports the view that self-concept is not only multidimensional but also connected representations (Damon & Hart, 1988). Thus, how individuals view themselves may not be related to how they feel about themselves. For example, in the present study, a child could have scored high on the self-understanding interview (i.e., possess a sophisticated or complex self-theory) but may have reported negative feelings about himself or herself in particular areas (e.g., scored low on the SPPC). Hence, similar to the multidimensional notion of ToM, the concept of self may also consist of an intricate network of separate but connected representations (Markus & Nurius, 1986).

Role of Language in Understanding Mental States in Self and Other

The finding of links between ToM and self-understanding is consistent with previous outcomes (Astington & Jenkins, 1999; Cutting & Dunn, 1999; de Villiers, 1999; Happé, 1995; Jenkins & Astington, 1996) and thus suggests that language plays an important role in preadolescents’ ToM and self-understanding, although the relation in this study between self-understanding and language was very weak for girls. General vocabulary ability seemed not to be related to girls’ ability to articulate their self-theories.

Gender Issues

The gender-related differences found in the present study illustrate the complex role gender plays in social cognition. Independent of vocabulary ability, girls performed significantly higher on the social and self-understanding tasks, consistent with Hatcher et al.’s (1990) findings that girls scored higher than boys on both social and self-understanding tasks. This gender difference is consistent with previous demonstrations that girls score higher than boys in psychological understanding tasks such as conceptual perspective taking, empathetic sensitivity, and person perception (e.g., Hatcher et al., 1990; Honess, 1981). Specifically with respect to ToM research, the present study adds to the growing evidence of superiority among girls in the area of mental state attribution or psychological mindedness (Baron-Cohen et al., 1997; Hughes & Dunn, 1999).

Why did girls, compared with boys, score relatively high on both the social and self-understanding tasks? Perhaps children are subjected to societal voice and ear training that teaches them how to interact socially and to behave according to social convention (Gam, 1992). Gradually, children are said to internalize these social role expectations, which are said to increase during preadolescence (Hill & Lynch, 1983). Thus, on the basis of the gender role stereotype of understanding thoughts and feelings of others as a “feminine” ability (Unger & Crawford, 1992), girls may actually acquire more training in this ToM ability.

The finding that girls scored significantly higher than boys on perceived behavioral conduct is consistent with girls’ perceptions of themselves as more well-behaved and compliant than boys (Harter, 1985). In contrast, the present results contrast with past findings of girls perceiving themselves more negatively and being more likely to suffer from related concept disorders such as depression and disordered eating (Brown & Gilligan, 1992; Edwards, 1993; Pipher, 1994). The only self-concept subscale that provided some support for low self-worth in girls was the physical appearance subscale. Boys scored significantly higher than girls on physical appearance and perceived themselves as more physically attractive and happier with their physical appearance than girls, consistent with other reports about preadolescent body image: Girls are more negative and sensitive than boys about their physical appearance (Johnson, Roberts & Worell, 1999).

The finding that perceived behavioral conduct was related to both self- and social understanding only among boys is consistent with boys having higher levels of moral reasoning related to higher levels of rule-conforming classroom behavior (Bear & Rys, 1994). Why did boys who scored relatively high on the ToM task also perceive themselves as more well-behaved, and furthermore, why was this effect not found among the girls? These gender differences can be explained in terms of stereotypical social role expectations. Traditional gender role stereotypes perpetuate the view that girls are more likely to follow convention and passively obey authority, whereas boys have been viewed as unconventional and are encouraged to question or rebel against the status quo (Smetana, 1993).

Alternatively, the lack of correlations among the girls could have been due to the lack of variability in the girls’ scores. Although this accounts largely for the low correlation among girls, it does not explain why girls with varying degrees of self-understanding showed similar ratings of perceived behavioral conduct. As suggested by Bear and Rys (1994), perhaps due to socialization, conventional behavior may be more script-determined, and thus habitual, among girls than among boys, requiring little social-cognitive processing.
Educational Implications and Future Directions

This study sought to chart new territory in ToM ability among preadolescent girls and boys. The illustration of gender patterns among sociocognitive reasoning and language ability highlights the necessity for future social cognitive research to include gender and language as contributing factors. The present study also highlights the crucial role that language plays in the mental life of the preadolescent. The finding that, for girls, vocabulary ability was linked to social understanding but not self-understanding suggests that language may help girls to gain insight into the minds of others but not their own. That is, although language may provide a vehicle through which the theories of others’ minds and feelings are created (e.g., Bruner & Kalmar, 1997), among preadolescent girls, language may be of greater use in the creation of theories-of-others than theories-of-self. Consequently, ToM researchers need to draw from psycholinguistic literature (e.g., Levinson, 1995; Tannen, 1994) and begin to integrate language tasks (receptive and expressive).

In agreement with Bruner (1996), this study emphasized the critical role the self-concept plays in preadolescent children’s school experiences and helps to remind educators that preadolescence is a pivotal time in self-development. Educators need to be cognizant that early adolescence is a time when girls and boys experience increased social consciousness and social pressures to conform to gender-stereotypic norms. This study may help to increase educators’ awareness of how gender-stereotypic beliefs may affect preadolescents’ social cognition. I interpret these findings to mean that educators should minimize the extent to which they use gender-stereotypic language and behavior within the classroom.

Given the limitations of the present study (e.g., correlational design, lack of memory and expressive language tasks, ethnically and economically homogeneous sample), interpretations of the present findings are made with caution. This study does raise the possibility, however, that mental world knowledge may differ for girls and boys (Byrne & Shavelson, 1996). The measure developed for this study is potentially an important tool to study mindreading ability in preadolescents.

References


Appendix

Self-Understanding Interview

Further Assessment of Self-Concept
(Justification of Self-Beliefs)

To attain a deeper understanding of the child's self-concept and the reasons for his or her self-judgments, following the administration of the SPPC (Harter, 1985), each child is asked six questions based on the child's responses on the SPPC (one question on each domain; SPPC Items 25, 8, 3, 34, 17, and 30). Each question is framed in the following manner: "What is the main reason for why it is really true/sort of true that you are [item content; e.g., good at your school work, don't have many friends, etc.?"]?

1. What is the main reason for why it is really true/sort of true that you: do very well at your classwork OR don't do very well at your classwork? (SPPC Item 25)
2. What is the main reason for why it is really true/sort of true that you: have a lot of friends OR don't have very many friends? (SPPC Item 8)
3. What is the main reason for why it is really true/sort of true that you: do very well at all kinds of sports OR don't feel that you are very good when it comes to sports? (SPPC Item 3)
4. What is the main reason for why it is really true/sort of true that you: think that you are good looking OR think that you are not very good looking? (SPPC Item 34)
5. What is the main reason for why it is really true/sort of true that you: usually act the way you know you are supposed to OR often don't act the way you are supposed to? (SPPC Item 17)
6. What is the main reason for why it is really true/sort of true that you: are very happy being the way you are OR wish you were different? (SPPC Item 30)

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New Editors Appointed, 2002–2007

The Publications and Communications Board of the American Psychological Association announces the appointment of five new editors for 6-year terms beginning in 2002.

As of January 1, 2001, manuscripts should be directed as follows:

- For Behavioral Neuroscience, submit manuscripts to John F. Disterhoft, PhD, Department of Cell and Molecular Biology, Northwestern University Medical School, 303 E. Chicago Avenue, Chicago, IL 60611-3008.
- For the Journal of Experimental Psychology: Applied, submit manuscripts to Phillip L. Ackerman, PhD, Georgia Institute of Technology, School of Psychology, MC 0170, 274 5th Street, Atlanta, GA 30332-0170.
- For the Journal of Experimental Psychology: General, submit manuscripts to D. Stephen Lindsay, PhD, Department of Psychology, University of Victoria, P.O. Box 3050, Victoria, British Columbia, Canada V8W 3P5.
- For Neuropsychology, submit manuscripts to James T. Becker, PhD, Neuropsychology Research Program, 3501 Forbes Avenue, Suite 830, Pittsburgh, PA 15213.
- For Psychological Methods, submit manuscripts to Stephen G. West, PhD, Department of Psychology, Arizona State University, Tempe, AZ 85287-1104.

Manuscript submission patterns make the precise date of completion of the 2001 volumes uncertain. Current editors, Michela Gallagher, PhD; Raymond S. Nickerson, PhD; Nora S. Newcombe, PhD; Patricia B. Sutker, PhD; and Mark I. Appelbaum, PhD, respectively, will receive and consider manuscripts through December 31, 2000. Should 2001 volumes be completed before that date, manuscripts will be redirected to the new editors for consideration in 2002 volumes.