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Sex and Age Variations in the Quality and Intensity of Children's Emotional Attributions to Hypothetical Situations[1]

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Sex and age differences in the quality and intensity of children's emotional attributions to affect-laden stories were explored. Seventy-two 7-, 9-, and 11-year-old children, with equal numbers of boys and girls of each age, were individually told 10 affect-laden stories. After each story, children were asked to indicate how they would feel as the story protagonist by pointing to angry, sad, happy, and scared faces, each of which had three degrees of intensity. The results revealed that boys attributed anger to themselves more frequently than did girls; girls attributed sadness and fear to themselves more frequently than did boys. Boys' first responses to the stories were more intensely angry and more intensely happy than were girls' first responses; and the intensity of both boys' and girls' emotional attributions decreased with age.

Few developmental studies have explored sex differences in children's emotional attributions to themselves as protagonists in affect-laden situations. However, many studies have revealed sex differences in children's emotional behaviors and their stereotypes about emotional

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behaviors. Preschoolers have been found to associate anger with males, and happiness, sadness, and fear with females (Birnbaum, Nosanchuk, & Croll, 1980). Similarly, aggressive and angry behaviors have been found to be more common, but fearful behaviors have been found to be less common, among boys than among girls (Maccoby & Jacklin, 1974; Phillips, 1968). The ways in which emotional attributions are related to emotional behaviors and sex-role stereotypes are currently unclear, although there are indications that children's attributions may mediate emotional behaviors (Dodge, 1980). Thus, in light of the sex differences found in children's emotional behaviors, it becomes important to explore sex differences in children's emotional attributions to situations.

Two different tasks have been used in previous studies of children's emotional attributions to affect-laden situations. One task has required children to attribute emotions to protagonists in emotionally laden stories (Borke, 1971, 1973). Another task has required boys and girls to attribute affects to themselves upon hearing emotionally laden stories in which the characters are either boys or girls (Feshbach & Roe, 1968). This task has indicated that both boys and girls attribute more fear to themselves after listening to affect-laden stories involving girls as protagonists. This finding is consistent with the sex differences found in children's emotional behaviors and their stereotypes about emotional behaviors (Birnbaum et al., 1980; Maccoby & Jacklin, 1974).

However, previous studies concerning children's emotional attributions to situations have been limited in several important ways. The studies have used nonambiguous situations, each designed to elicit a single appropriate affect—either happiness, sadness, fear, or anger. Perhaps greater sex differences would be more likely to emerge if children were presented with emotional situations that were more ambiguous in affective content, as the literature on projective techniques with children suggests (cf. Brody & Carter, 1982). Furthermore, previous studies have been limited to middle-class children. Much research suggests that sex-role stereotypes are more pronounced in lower-class children than in middle-class children (Romer & Cherry, 1980). Also, previous studies have not explored changes in emotional attributions with age. As early as 6 years of age, sex differences in attribution have been found (Feshbach & Roe, 1968), but it is not clear whether or how these attributions develop in the school-age range. Research has indicated that the older children get, the more their self-reference statements conform to socially desirable standards (Walsh, Tomlinson-Keasy, & Klieger, 1974). This suggests that children's emotional attributions may become increasingly sex-role stereotyped with age. Finally, the intensity of children's attributions has not been explored. Adult women have been found to attribute more intense affects to themselves than do

adult men (Allen & Haccoun, 1976), and adult women are culturally stereotyped to be more intensely expressive of affect than are adult men (Rosenkrantz, Vogel, Bee, Broverman, & Broverman, 1968). Whether the intensity of children's emotional attributions similarly differs by sex, or changes with age, has not been explored. Theory suggests that children modulate the intensity of their emotions as they become older (cf. Lewis & Rosenblum, 1978).

Thus, the present study was designed to systematically assess whether age and sex differences would exist in the quality and intensity of lower-class school-aged children's emotional attributions to themselves as protagonist in affect-laden situations. The hypotheses were: (1) boys would attribute anger more frequently and happiness, sadness, and fear less frequently to themselves than would girls, and (2) these differences would become more pronounced with age. Furthermore, it was hypothesized that boys would attribute less intense affects to themselves than would girls, and older children would attribute less intense affects to themselves than would younger children.

METHOD

Subjects

Seventy-two children from a predominantly Caucasian small urban public school with a lower-socioeconomic-class population served as subjects. There were 24 first graders ($\bar{x}$ age = 6 years 8 months), 24 third graders ($\bar{x}$ age = 9 years 0 months), and 24 fifth graders ($\bar{x}$ age = 11 years 2 months), with equal numbers of boys and girls at each grade level. Children were randomly selected from their classroom by the experimenter.

Task and Procedure

Each child was individually told 10 stories that were affectively loaded. The stories had been selected because 100% of an undergraduate sample (n = 20) agreed that the progagonist in each story might feel a minimum of two different affects from among the four affects: happiness, sadness, fear, and anger. All stories were two sentences long and were written in the present tense. The protagonist in each story was the child listening (i.e., "you"). An example of one of the stories is "You go to a

park with your friend. Your friend takes you on a roller coaster ride for the first time." The 10 stories were presented in a random order to each child.

Children were individually told each story and asked how they would feel in the story. They were asked to point to 1 of 12 black line drawings of sexually neutral faces depicting happiness, anger, sadness, or fear, each with three degrees of intensity. Intensities were explained to the child as "a little," "some," or "a lot." The 12 drawings were placed in a standard, fixed 6 X 2 matrix in front of each child. The three intensities for each affect were grouped together and displayed sequentially from left to right as they increased in intensity. Children were encouraged to select as many affects as they wished for each story.

RESULTS

Two dependent measures were analyzed: the frequency and the intensity of each of the four emotions attributed to the 10 stories. Intensity for each affect was analyzed as the average intensity across all occurrences of the affect. Thus, if a child responded that she or he would feel "angry" a total of two times across all 10 stories with intensities of "a little" (1) and "some" (2), the child was given an average anger intensity score of 1.5. For both the frequency and intensity measures, the children's first response to the 10 stories and their total number of responses to the 10 stories were analyzed separately.

Frequency of Affects

First Responses. A 3 (age: 7, 9, and 11 years) X 4 (emotion: happiness, sadness, anger, and fear) repeated measures ANOVA, with emotion as the repeated measure, did not reveal any significant results: age $F(2, 66) = 1.022$; age X sex $F(2, 66) = 1.022$; sex $F(1, 66) = 1.022$; sex X emotion $F(3, 198) = .92$; and age X emotion $F(6, 198) = 1.18$ (all p's $> .05$).

Total Responses. A 3 (age: 7, 9, 11 years) X 2 (sex) X 4 (emotion: happiness, sadness, anger, and fear) repeated measures ANOVA, with emotion as the repeated measure, revealed a significant sex X emotion interaction, $F(3, 198) = 4.55$, $p < .005$, as displayed in Table I. One-tailed t test comparing the average frequency of each affect that boys and girls attributed to themselves revealed that girls attributed less anger ($t(70) = 2.23$, $p < .01$); more sadness ($t(70) = 1.75$, $p < .05$) and more fear ($t(70) = 2.32$, $p < .01$) to themselves than did boys. No significant age effect $F(2, 66) = 2.37$; age X sex interaction $F(2, 66) = .40$; or age X emotion interaction $F(6, 198) = .59$, were found (all p's $> .05$).

Table I. Average Frequency of Total Affects and Average Intensity of First Affect Response Attributed by Sex

	Anger		Happiness		Sadness		Fear	
	$\bar{x}$	*SD*	$\bar{x}$	*SD*	$\bar{x}$	*SD*	$\bar{x}$	*SD*
Frequency of total affects[a]								
Females	3.44	1.04	3.19	.84	4.75	1.69	3.33	1.33
Males	4.33	1.70	3.27	1.26	3.97	2.02	2.67	1.05
Intensity of first affect response[b]								
Females	2.31	.67	2.59	.47	2.29	.56	2.61	.50
Males	2.65	.51	2.73	.32	2.10	.63	2.31	.57

[a]Total possible number of attributions for each affect = 10.
[b]Intensity range = 1 (a little); 2 (some); 3 (a lot).

Table II. Average Intensity of Total Affects Attributed by Age

	Affect intensity[a]	
Age (years)	$\bar{x}$	*SD*
7	2.40	.64
9	2.24	.55
11	2.08	.52

[a]Intensity range = 1 (a little), 2 (some), 3 (a lot).

Intensity of Responses

First Response. A 3 (age: 7, 9, and 11 years) X 2 (sex) X 4 (emotion: happiness, sadness, anger, and fear) repeated measures ANOVA, with emotion as the repeated measure, revealed a significant sex X emotion interaction $F(3, 153) = 6.17, p < .001$, as displayed in Table I. Two-tailed *t* tests were used to test for differences between boys' and girls' average intensities for each of the four affects, since no directional hypotheses had been made about the intensity with which specific emotions would be attributed by each sex. These *t* tests revealed that boys attributed more intense anger $t(64) = 2.04, p < .05$, and more intense happiness $t(71) = 2.50, p = .01$, to themselves than did girls. Girls tended to attribute more intense fear to themselves than did boys $t(61) = 1.74, p = .09$. The intensity of sadness did not significantly differ by sex $t(68) = 1.46, p = .15$. No other significant effects were obtained: age $F(2, 51) = 1.50$; sex $F(1, 51) = .003$, age X emotion $F(6, 153) = 1.99$; and age X sex $F(2, 51) = .54$ (all p's $> .05$).

Total Responses. A 3 (age: 7, 9, and 11 years) X 2 (sex) X 4 (emotion: happiness, anger, sadness, and fear) repeated measures ANOVA, with emotion as the repeated measure, revealed a significant main effect for age $F(2, 65) = 3.47, p < .05$, as displayed in Table II. The intensity of the affects attributed significantly decreased with age, with one-tailed *t* tests revealing that the significant difference was between 7- and 11-year-olds, $t(45) = 2.78, p < .01$. There was no significant sex effect $F(1, 65) = 1.00$; sex X emotion interaction $F(3, 195) = .04$; age X emotion interaction $F(6, 195) = .94$; or age X sex effect $F(2, 66) = .61$ (all p's $> .05$).

DISCUSSION

The results of the present study confirm and extend previous studies which have indicated that children's emotional attributions differ by sex. In

the present study of lower-class school-aged children, girls were found to attribute sadness and fear to themselves more frequently than did boys, and to attribute anger to themselves less frequently than did boys. Girls' first attributions to themselves were less intensely angry and less intensely happy than were boys' first attributions to themselves. These results partially confirm the hypothesis posited at the beginning of the study that boys would attribute anger more frequently and happiness, sadness, and fear to themselves less frequently than would girls. The results are highly consistent with Birnbaum et al.'s (1980) results, which demonstrated that preschoolers associated sadness and fear with females and anger with males. They are also consistent with Allen and Haccoun's (1976) finding that adult women reported experiencing more fear and sadness than adult men. If the assumption is made that anger is a more externally directed affect, while sadness and fear are more internally directed affects, the results are also consistent with research on adolescent and adult defense mechanisms (Cramer, 1979) demonstrating that males externalize feelings, but females internalize feelings.

The pattern of sex differences found in the intensity of children's first emotional attributions (i.e., more intense anger and happiness were attributed by boys) is not consistent with the present study's hypothesis that girls would attribute more intense affects than would boys. The results are also not consistent with research on adult sex-role stereotypes, which has suggested that adult women are more intensely expressive of affect than adult men (Allen & Haccoun, 1976; Rosenkrantz et al., 1968). The discrepancies between the adult literature and the present study's findings may be partially explained by procedural differences among the studies. For example, Allen and Haccoun (1976) used a forced choice questionnaire to explore adult emotionality. This procedure is very different from asking children to attribute emotions to affect-laden situations. The difference between the present and previous studies may also have occurred because it is more socially acceptable for boys to express intense feelings than it is for men to do so; and it is more socially acceptable for women to express intense feelings than it is for girls to do so. Research is needed to compare the intensity of emotional attributions made by both boys and girls to those made by both men and women. Such research would help to clarify the nature of the relationship among emotional intensity, sex, and child versus adult status.

It seems that the sex differences in both the intensity and quality of emotional attributions found in the present and previous experiments may be a function of parent socialization practices. Block (1973) found that parents encouraged boys to control affect, while they encouraged girls to control aggression. Similar results have been found by Grief, Alvarez, & Ulman (Note 1), who asked parents to "read" a storybook containing no

words to their preschool children. Fathers generated more affect words when "reading" to daughters than to sons; mothers generated affect words equally when "reading" to sons and daughters. However, mothers did tend to emphasize anger more to sons than to daughters. These results are consistent with the pattern of sex differences in both the frequency and intensity of attributions found in the present study, and make it likely that differential socialization practices contribute to sex differences in children's emotional attributions and emotional behaviors.

The lack of age differences in the frequency with which boys and girls attributed different affects to themselves contradicts one of the hypotheses of the present study. The finding suggests that emotional sex-role stereotypes are established early and endure throughout the elementary school period. Indeed, Birnbaum et al. (1980) found that college undergraduates held similar emotional sex-role stereotypes to preschoolers: They associated sadness with females and anger with males.

However, age differences were found in the intensity of the total number of emotions both boys and girls attributed to themselves, thus confirming the final hypothesis of the present study. The intense expression of affect may be discouraged in both boys and girls increasingly with age. It is a common observation that parents and schools teach children to modulate the intense expression of their affect. "Not so loud," "quietly," and "keep it down" are frequently heard parent and teacher admonishments to school-aged children. These socialization practices may account for the developmental decrement in the intensity of emotional attributions found in the present study.

Further explorations of the affects children associate with various situations may be helpful in understanding the origins of adult emotionality. Some theorists (Kemper, 1978; Piaget, 1981) maintain that affects are first learned in association with specific situations and are only later generalized across situations. As the present and previous studies suggest, males and females may learn to associate distinctly different affects and intensities with particular affect-laden situations. Different situation-emotion associations may partially explain the vastly different rates of depressive and aggressive behaviors in women and men, if indeed emotional attributions to situations do mediate behavior (cf. Atkinson & Polivy, 1976). The results of the present study suggest that future research on this issue should explore both children's first response to affect-laden situations and the total number of children's response to affect-laden situations. In the present study, first response clearly reflected sex differences in emotional intensity; the total number of responses clearly reflected sex differences in the frequency with which emotions were attributed to affect-laden situations.

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