A total of 22 girls and 22 boys nearly equally divided between preschool and second-grade levels were asked to give three responses to each of 20 questions concerning what could make them—a same-sex child, an opposite-sex child, and an adult—feel happy, sad, angry, afraid, or surprised. Responses were coded into seven categories: material goods, fantasy, interpersonal themes, environmental events, achievement themes, food, and animals. Findings indicated that interpersonal themes and environmental events were used significantly more than other themes, whereas achievement themes were used significantly less than others. Interpersonal themes were used significantly more often than other categories as explanations for anger and sadness. Impersonal contexts were used significantly more than other categories to explain happiness and surprise. Contextual explanations involving animals were used significantly more than other emotions to explain fear, and food was used most to explain happy feelings. Older children used more interpersonal and achievement themes than did preschoolers. Girls used more interpersonal contexts than did boys, whereas boys tended to use more achievement themes than did girls. Preschoolers used more fantasy explanations for fear than did older children. In general, findings only marginally confirmed the expected greater differentiation of contextual categories with age. (RH)
CHILDREN'S KNOWLEDGE OF THE

SITUATIONAL DETERMINANTS OF EMOTION

JANET STRAYER

SIMON FRASER UNIVERSITY

THE QUESTION THAT MOTIVATED THE PRESENT RESEARCH WAS:
WHAT DO CHILDREN KNOW ABOUT THE CONTEXTUAL DETERMINANTS OF THEIR OWN AND OTHER PERSONS' AFFECTIVE EXPERIENCES?

IN PREVIOUS RESEARCH CHILDREN HAVE BEEN PROVIDED WITH EXPERIMENTER-DERIVED CONTEXTS DESCRIBING EVENTS PORTRAYING THEMES OF NURTURANCE, SUCCESS, FAILURE, AGGRESSION, ETC., AND THEY HAVE BEEN ASKED TO IDENTIFY THE EMOTIONS SUCH CONTEXTS ELICIT (BARDEN, ZELKO, DUNCAN, & MATERS, 1980). IN CONTRAST, THERE ARE NO STUDIES OF CHILDREN'S NATURAL OR SPONTANEOUS PROVISION OF THE SITUATIONAL CONTEXTS ELICITING EMOTIONS SUCH AS HAPPINESS, SADNESS, FEAR, ANGER, AND SURPRISE. SUCH INVESTIGATION PROVIDES NEEDED INFORMATION REGARDING THE CATEGORIES OF EXPERIENCE THAT CONTRIBUTE TO CHILDREN'S AFFECT KNOWLEDGE. THE PRESENT STUDY WAS DESIGNED TO INVESTIGATE THIS QUESTION, AS WELL AS WHETHER SUCH EXPERIENCES CHANGE WITH AGE, ARE DIFFERENT AS A FUNCTION OF GENDER, OR ARE DIFFERENT FOR SELF VERSUS OTHER PERSONS (PEERS OR ADULTS).
OBJECTIVES

1. TO DESCRIBE CATEGORICALLY THE NATURALLY OCCURRING RESPONSES GIVEN BY CHILDREN FROM 4 TO 8 YEARS OF AGE WHEN DESCRIBING SITUATIONAL CONTEXTS THAT ELICIT EMOTIONS, INCLUDING HAPPINESS, SADNESS, ANGER, FEAR, AND SURPRISE IN SELF, SAME-AGE PEERS, AND ADULTS.

2. TO INVESTIGATE AGE- AND GENDER-RELATED DIFFERENCES IN SUCH SITUATIONAL AFFECTIVE ATTRIBUTIONS FOR GROUPS OF PRESCHOOLERS AND GRADE 2 CHILDREN.

3. TO EXAMINE HYPOTHESIZED DIFFERENCES IN THE SITUATIONAL CATEGORIES USED TO EXPLAIN THE FIVE EMOTIONS INVESTIGATED.

4. TO EXAMINE HYPOTHESIZED DIFFERENCES IN EMOTION-ELICITING CATEGORIES ATTRIBUTED TO SELF VERSUS TO OTHER PERSONS.

5. TO EXAMINE INTERACTIONS OF AGE AND GENDER WITH CATEGORIES BY EMOTIONS, WITH THE EXPECTATION THAT AGE AND GENDER DIFFERENCES WILL BE NOTED IN THE USE OF PARTICULAR CATEGORIES FOR PARTICULAR EMOTIONS.
METHOD

SUBJECTS. A TOTAL OF 44 CHILDREN (22 GIRLS; 22 BOYS) COMPRISED TWO AGE GROUPS: 21 PRESCHOOLERS (M = 53.2 MONTHS, SD = 5.0) AND 23 SECOND GRADERS (M = 91.2, SD = 6).

PROCEDURE. EACH CHILD WAS INDIVIDUALLY INTERVIEWED IN A SESSION LASTING 30 MINUTES. ALL CHILDREN UNDERSTOOD AND COMPLIED WITH INSTRUCTIONS TO "TELL ME WHAT KINDS OF THINGS HAPPEN, OR WHAT COULD MAKE YOU FEEL HAPPY?" THIS FORMAT WAS REPEATED ACROSS FIVE EMOTIONS (HAPPY, SAD, ANGRY, AFRAID, SURPRISED) AND ACROSS FOUR TARGET PERSONS (SELF, SAME-SEX CHILD, OPPOSITE-SEX CHILD, AND ADULT). ALL EMOTIONS FOR A PARTICULAR TARGET PERSON WERE COMPLETED BEFORE CONTINUING TO THE NEXT TARGET. ORDER OF TARGETS WAS VARIED, AS WAS ORDER OF EMOTIONS WITHIN TARGETS. CHILDREN WERE REQUESTED TO PROVIDE THREE RESPONSES FOR EACH OF THE 20 QUESTIONS (5 EMOTIONS X 4 TARGETS) BY USING THE PROBE, "YES, WHAT ELSE?" RESPONSE CATEGORIES. A PRIORI CATEGORIES WERE USED TO CODE CHILDREN'S RESPONSES ACCORDING TO HYPOTHESES: MATERIAL GOODS (E.G., GETTING A NEW TOY, CAR, ETC.); FANTASY (E.G., "IF A MONSTER CAME INTO THE ROOM"); INTERPERSONAL THEMES WHICH MENTIONED PEOPLE.
AND STATED INTERACTIONS (E.G., "WHEN PEOPLE TAME THEM"): ENVIRONMENTAL EVENTS (E.G., "GOING TO DISNEYLAND"): ACHIEVEMENT THEMES (E.G., "LEARN HOW TO SKATE"). IN ADDITION, TWO POST-HOC CATEGORIES WERE ADDED, BASED ON RESPONSES THAT COULD NOT EASILY BE FIT INTO EXISTING CATEGORIES AND BECAUSE THEY SEEMED MOST EVIDENT IN PRESCHOOL PROTOCOLS, SUGGESTING POST-HOC AGE EFFECTS: FOOD (E.G., "GETTING ALL THE COOKIES I WANT"): AND ANIMALS (E.G., "GOING WHERE THE RACCOONS ARE").

A TOTAL OF SEVEN MUTUALLY EXCLUSIVE CATEGORIES WAS SUFFICIENT TO CLASSIFY ALL RESPONSES, WITH 90 - 100% AGREEMENT ACROSS ALL TARGETS AND JUDGES.
HYPOTHESES

1. Contextual explanations for emotions would be nonrandomly distributed across the five emotions investigated. Thus, both a significant category main effect as well as category x emotion interaction were expected. *Confirmed*

2. Interpersonal themes were expected to provide the most prevalent explanations for anger; whereas material goods and impersonal events were expected to be the major explanatory categories for happiness and surprise. *Confirmed*

3. Age differences were expected in the use of particular categories. *Confirmed*

In particular, interpersonal themes were expected to increase as a function of children's increasing social involvement and interpersonal cognitions. Achievement themes were also expected to increase as a function of increasing demands for school- and activity-related mastery. Fantasy themes were expected to decrease as a function of cognitive development.
HYPOTHESES

4. Given prevailing sex-role typologies, gender differences were expected in contextual explanations for emotions. In particular, girls were expected to use more interpersonal explanations for emotions than did boys; and boys were expected to use more achievement themes than did girls. *Partially confirmed*.

5. Age-related category x emotion interactions were expected. *Confirmed*

In particular, older versus younger children were expected to use more interpersonal attributions for anger. Younger versus older children were expected to use more fantasy attributions for fear; whereas older versus younger children were expected to use more realistic events and achievement themes for fear.

6. Greater differentiation was expected for older children in categories used for emotions across target persons (i.e., self, peers, adults). *Marginally confirmed--trends at p<.10*

7. Greater differentiation was expected for categories explaining one's own versus other person's emotions. *Not confirmed*
RESULTS SUMMARY

In order to accommodate unequal response frequencies across subjects, each child's responses per data cell were transformed to a percent of his or her total responses, so that no main effects for age or gender are possible. Instead, relevant age and gender effects can be examined in interactions. Repeated measures, mixed-model ANOVA was used, with explanation category (7), emotions (5), and target persons (4) comprising the repeated factors.

1. Findings confirmed the expected significant main effects for categories used to explain emotions, $F(6,240) = 61.4, p < .0001$. This was accounted for by significantly greater use of interpersonal themes, $F(6,258) = 26.2$, and environmental events, $F = 25.4$, as well as the significantly infrequent use of achievement themes, $F = 8.9$, all $p's < .0001$.

See Table 1 for data relevant to these and other findings.

2. Findings confirmed the expected interaction of explanation categories with particular emotions, $F (24,960) = 39.7, p < .0001$. 
RESULTS SUMMARY

AS EXPECTED, INTERPERSONAL THEMES WERE USED SIGNIFICANTLY MORE THAN WERE OTHER CATEGORIES AS EXPLANATIONS FOR ANGER, $F(24, 960) = 18.6$, AND ALSO, FOR SADNESS, $F = 15.4$, $p < .0001$.

IN CONTRAST, IMPERSONAL CONTEXTS (MATERIAL GOODS, EVENTS) WERE USED SIGNIFICANTLY MORE THAN WERE OTHER CATEGORIES TO EXPLAIN BOTH HAPPINESS, $F = 51.5$ AND SURPRISE, $F = 34.1$, $p < .0001$.

POST-HOC FINDINGS SHOWED THAT CONTEXTUAL EXPLANATIONS INVOLVING ANIMALS WERE USED SIGNIFICANTLY MORE TO EXPLAIN FEAR THAN OTHER EMOTIONS, $F(4, 960) = 4.0$, $p < .0001$, AND FOOD WAS USED MOST (NONSIGNIFICANTLY) TO EXPLAIN HAPPY VERSUS OTHER EMOTIONS.

3. FINDINGS CONFIRMED THE SIGNIFICANT AGE EFFECTS EXPECTED FOR CONTEXTUAL EXPLANATIONS OF EMOTIONS, $F(6, 240) = 40.5$, $p < .0001$.

OLDER CHILDREN USED MORE INTERPERSONAL AND ACHIEVEMENT THEMES THAN DID PRESCHOOLERS TO EXPLAIN EMOTIONS, BOTH $F's = 2.8$, $p < .05$.

4. FINDINGS CONFIRMED THE GENDER DIFFERENCES EXPECTED IN CONTEXTUAL EXPLANATIONS FOR EMOTIONS, $F(6, 240) = 24.7$, $p < .0001$. 
RESULTS SUMMARY

GIRLS USED MORE INTERPERSONAL CONTEXTS TO EXPLAIN EMOTIONS THAN DID BOYS, $F (1, \text{240}) = 5.7, \ p < .05$. BOYS TENDED TO USE MORE ACHIEVEMENT THEMES THAN DID GIRLS, $F = 2.1, \ p < .10$.

5. FINDINGS CONFIRMED EXPECTED AGE-RELATED CATEGORY X EMOTION INTERACTIONS, $F (24, \text{960}) = 1.14, p < .0001$:

- PRESCHOOLERS USED MORE FANTASY EXPLANATIONS FOR FEAR THAN DID OLDER CHILDREN, $F (1, \text{960}) = 11.4, p < .0001$. HOWEVER, THE EXPECTED GREATER USE BY OLDER CHILDREN OF REALISTIC AND ACHIEVEMENT THEMES FOR FEAR WAS NOT CONFIRMED.

6. USING A SEPARATE ANOVA IN WHICH NUMBER OF DIFFERENT CATEGORIES WAS ENTERED AS THE DEPENDENT VARIABLE ACROSS TARGETS AND EMOTIONS, FINDINGS ONLY MARGINALLY CONFIRMED THE EXPECTED GREATER DIFFERENTIATION OF CONTEXTUAL CATEGORIES WITH AGE, $F (1, \text{40}) = 3.2, p < .09$.
TABLE 1

MEAN PERCENT\(^1\) CONTEXTUAL EXPLANATION CATEGORIES USED WITHIN EMOTIONS

<table>
<thead>
<tr>
<th>CATEGORIES:</th>
<th>MATERIAL</th>
<th>FOOD</th>
<th>ANIMAL</th>
<th>FANTASY</th>
<th>INTERPERSONAL</th>
<th>EVENTS</th>
<th>ACHIEVEMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>HAPPY</td>
<td>32</td>
<td>5</td>
<td>2</td>
<td>0</td>
<td>26</td>
<td>33</td>
<td>5</td>
</tr>
<tr>
<td>SAD</td>
<td>12</td>
<td>3</td>
<td>4</td>
<td>3</td>
<td>46</td>
<td>32</td>
<td>1</td>
</tr>
<tr>
<td>ANGRY</td>
<td>12</td>
<td>2</td>
<td>4</td>
<td>3</td>
<td>52</td>
<td>26</td>
<td>1</td>
</tr>
<tr>
<td>AFRAID</td>
<td>4</td>
<td>&lt;1</td>
<td>14</td>
<td>26</td>
<td>19</td>
<td>35</td>
<td>1</td>
</tr>
<tr>
<td>SURPRISED</td>
<td>32</td>
<td>3</td>
<td>5</td>
<td>4</td>
<td>19</td>
<td>32</td>
<td>&lt;1</td>
</tr>
</tbody>
</table>

\(^1\)Row percents do not sum to 100 because they are based on averages of individual's percent responses, rather than on group totals. Percentages can be interpreted relative to the total of 20 questions asked (5 emotions x 4 target persons).