Gender and Preschoolers’ Perception of Emotion

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Abstract
A person’s gender plays a role in the emotion children attribute to that person, even given unambiguous cues to a basic emotion. Eighty preschoolers (4 or 5 years of age) were asked to name the emotion of either a boy (Judd) or a girl (Suzy) in otherwise identical stories about prototypical emotional events and, separately, as shown with identical prototypical facial expressions. Boys more often labeled Judd than Suzy as disgusted, both in the disgust story and with the disgust face. There was also a trend for girls to label Suzy as afraid more often than Judd, both in the fear story and with the fear face.

Introduction
In a fascinating and nearly neglected study Condry and Condry (1976) found that adults attributed more anger to a boy than to a girl (shown via videotape) reacting to a Jack-in-the-box. The interesting twist was that the observers were actually shown the same videotape. The “boy” and the “girl” were the same infant simply labeled differently by the experimenter. Differences in the attributed emotion were in the eye of the beholder, not in the displayed facial expression. This fascinating finding concerns adult observers and may be limited to ambiguous cues. There is some evidence that the gender of the expresser affects attributed emotion given unambiguous facial cues (Plant, Hyde, Keltner, & Devine, 2000), but this evidence too is limited to adult observers. Further, different people posed the facial expressions, making it impossible to determine whether the gender effect is due to gender stereotypes held by the perceivers or due to actual differences in the expressions of male and female expressers.

There is also evidence that (perhaps by 3 years of age) young children hold gender stereotypes, and use them in making judgments about the emotions of others. Available research, however, is limited to cases in which cues about the emotion of the other were ambiguous or even absent. For example, shown only expressionless line drawings, children rated females as feeling sad more often than males and rated males as feeling angry more often than females (Karbon, Fabes, Carlo, & Martin, 1992). Similarly, told emotion stories, children were more likely to choose a girl for the happiness and fear stories, and a boy for the anger stories (Birnbaum & Chemelski, 1984). These two types of experimental designs maximize the influence of gender, and the design has therefore been useful to establish the existence and nature of a stereotype. Still, the question arises as to whether gender stereotypes continue to influence children’s emotion judgments as cues to the other’s gender and emotion are made clearer and clearer. To our knowledge, there is no evidence available on this question.
In the current study, we provided preschoolers with clear evidence as to the emotion of the other person. We used facial expressions and stories prototypical of happiness, sadness, anger, fear, and disgust. We used computer software to create facial stimuli that appear to vary in gender of the expresser but actually show an identical face. A smiling 12-year-old boy and a smiling 13-year-old girl were “morphed” together to create a single androgynous smiling face. The hairstyle of that single morphed face was then altered to create an image of a boy and another of a girl, named Judd and Suzy, with an identical expression. A similar procedure produced pictures of Judd and Suzy showing prototypical facial expressions of fear, anger, sadness, and disgust. Preschoolers were asked to name the emotion felt by either Judd or Suzy.

As a separate task, we introduced a set of stories (each describing the causes and consequences of an emotional event) and the child’s task was to label the protagonist’s emotion. Apart from names (Judd and Suzy) and related pronouns, the story for each emotion was identical.

**Method**

**Participants**

Participants were 80 children (40 girls and 40 boys) between the ages of 4;0 and 5;11. Children were randomly assigned to either Judd or Suzy with the proviso of an equal number in each cell of a 2 (gender of participant) x 2 (gender of protagonist) x 2 order (face first, story first) x 2 modes of presentation (story, face) x 5 emotion (happiness, sadness, anger, fear, disgust). For each child and within each mode of presentation, the five stimuli were presented one at a time, in a separate random order.

**Materials**

*Photographs of Facial Expressions.* We began with two sets of black and white photographs of prototypical facial expressions of five basic emotions (happiness, sadness, anger, fear, disgust) plus neutral expressions. One set was posed by a 13-year-old girl, the other by a 12-year-old boy. The photographs were provided by Dr. Linda Camras.

For each emotion, the girl’s expression and the boy’s corresponding expression were combined with Morph (Sierra On-Line, Inc., 1998), a computer program that creates a sequence in which one face gradually changes into the other (Figure 1, top). A single frame in the middle of this sequence provided a face that was neither clearly masculine nor feminine (Figure 1, middle). The middle frame was selected and coded with FACS. Each “morphed” face so selected was found to contain the specified pattern of action units (AUs) for the specific emotion: neutral (no AUs), happiness (AUs 6 + 12 + 25), fear (AUs 1 + 2 + 4 + 5 + 20 + 25), anger (AUs 4 + 5 + 7 + 10 + 26), disgust (AUs 7 + 9 + 25), and sadness (AUs 1 + 4 + 15).
From each of the resulting 6 computer-generated (“morphed”) faces, we created two versions (Figure 1, bottom). The computer program Cosmopolitan Virtual Make-Over: The Collection (Segasoft, Inc., 1998) was used to paste different hairstyles on the faces in a way that did not block the visibility of any of the action units of the face. The face given a boy’s hairstyle was called Judd, and the face given a girl’s hairstyle was called Suzy. The resulting 12 faces were printed as 3” x 5” black and white photographs. The expression of happiness for Judd and Suzy is shown in Figure 1.

Stories of Emotional Events. Five stories describing stereotypical emotion-eliciting events and responses were created (Table 1) based on prior work in our lab in which children generated causes and consequences of specific emotions. The stories for the two characters were identical, except for the character name (Judd, Suzy) and related pronouns. The children were shown a drawing depicting a setting for each story (e.g., a bedroom) while the story was being read. To confirm that the stories were prototypical emotional events, 36 university-aged adults read each story and labeled the protagonist’s emotion. The proportion of adults who selected the target emotion was 1.00 for happiness and fear; .97 for sadness, and .94 for anger and disgust.

Procedure

Priming. Prior to the labeling tasks, each child’s emotion concepts were primed during a conversation with the experimenter about emotions. The priming procedure gave the child opportunity to become more comfortable with the experimenter prior to the labeling task and made it more likely that the necessary terms will be accessible to the child.
Table 1

Emotion Stories

<table>
<thead>
<tr>
<th>Emotion</th>
<th>Story</th>
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<tbody>
<tr>
<td><strong>Happiness:</strong></td>
<td>… it was Judd’s birthday. All his friends came to his birthday party. They all ate birthday cake. Judd got lots and lots of presents. Then Judd and his friends played some games. Judd gave his friend a big hug.</td>
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<tr>
<td><strong>Sadness:</strong></td>
<td>… Judd went to feed his pet gold fish. But it was not swimming. It was not even in the fish tank. Judd’s fish had died. He really missed his fish.</td>
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<tr>
<td><strong>Anger:</strong></td>
<td>… Judd was at daycare. He spent a long time building a block tower. So long, in fact, that the block tower was very tall. But then a boy came and touched his beautiful tower. Judd said, “Be careful.” But the boy knocked it over anyway. Judd wanted to yell at that boy and hit him.</td>
</tr>
<tr>
<td><strong>Disgust:</strong></td>
<td>… Judd found an apple. It looked big and juicy. Judd took a big bite. Then he saw that there was a worm in the apple. He spit it out as fast as he could and threw the apple on the ground. He did not want to touch it.</td>
</tr>
<tr>
<td><strong>Fear:</strong></td>
<td>… Judd was in his bed. He was all alone and it was very dark. He heard something moving in the closet. He didn’t know what it was. He wanted to hide under the bed. Then he heard the closet door open. Judd wanted to run away.</td>
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(See. Stories for Suzy were identical except for name and gender of pronouns.)

Each child was tested individually in a quiet area of his or her childcare facility. The experimenter first spent time playing with a child until the child seemed comfortable with the experimenter. The experimenter asked the child for the names of two people at home with whom the child played games (call them X and Y). In order to prime the child’s emotion concepts, the experimenter began a conversation in which 6 emotion words were inserted (happy, sad, mad, scared, disgusted or yucky). The experimenter asked, for example, “Does Y ever feel happy?” “Do you sometimes feel mad?” “Does X ever get scared?” “Does Y ever feel sad?” and “Did you ever feel yucky?” The experimenter did not discuss when or why these emotions might occur. If the child spontaneously offered an example of when someone had felt a particular emotion, the experimenter listened but did not comment on the child’s story or encourage further explanation. Every effort was made throughout the experiment to use a neutral tone of voice when presenting the emotion words.

**Faces.** The experimenter introduced the faces by saying, “I brought some pictures of Judd (Suzy). [In the Face-First condition, the phrase was “a boy named Judd/ a girl named Suzy.”] Would you like to look at them with me? Okay, here is a picture of Judd (Suzy) [showing the neutral expression]. Do you know what Judd (Suzy) is going to do? He (she) is going to show us how he (she) feels sometimes.” The experimenter then showed the child the five facial expressions, one at a time in a random order. For the first face, the experimenter said, “One day, Judd (Suzy) felt like this [pointing to the face].” For the other faces, the experimenter said, “One week later, Judd (Suzy) felt like this [pointing to the picture].” After each picture, the experimenter asked, “How do you think Judd (Suzy) feels in this picture?”
Stories. The experimenter introduced the stories (Table 1) by saying, “I'm going to tell you some stories about things that happened to Judd (Suzy). [In the Story-First condition, the phrase was “a boy named Judd/ a girl named Suzy.”] After each one, you get to tell me how you think Judd (Suzy) feels. How does that sound? Remember: listen carefully, because you have to tell me how Judd (Suzy) feels.” The experimenter then presented the stories, one at a time in a random order. The first story began, “Once upon a time,” and the other stories began, “One week later…” After each story, the experimenter asked, “How do you think Judd (Suzy) feels?”

Results

Our main interest was in the significant gender-of-protagonist x gender-of-participant x emotion interaction. LSD comparisons (alpha = .05) indicated that the significant differences concerned disgust and fear. For disgust, a Judd-Suzy difference was found, but only with boy participants (Figure 2). Boys labeled Judd significantly more often than Suzy (p = .009) as disgusted. For fear, a Judd-Suzy difference was found, but only with the girl participants (Figure 3). Girls labeled Suzy more often than Judd (p = .08) as afraid. Importantly, the differences for fear and disgust replicated in each mode of presentation. (The gender-of-protagonist x gender-of-participant x emotion x mode interaction was not significant, p = .26.) The Judd-Suzy difference replicated for the two orders of presentation (the gender-of-protagonist x gender-of-participant x emotion x order-of-presentation was not significant, p = .73).

Conclusions

In this study, preschoolers were given unusually clear information about the emotion of another person: a stereotypical emotional story or a prototypical facial expression. The other person’s ascribed gender played a role in the attribution of disgust (and, possibly, fear) to the other person. (Performance for happiness and sadness was at ceiling.) This finding is an important demonstration of the power of gender stereotypes in emotion judgments made by preschoolers.
Gender of the protagonist interacted with the gender of the preschooler: It was boys who were more willing to label Judd than Suzy as disgusted. (And, tentatively, it was girls who were more willing to label Suzy than Judd as afraid.) A possible explanation of this gender-of-participant effect is that the masculine stereotype is more salient or accessible to boys, and the feminine stereotype is more salient or accessible to girls (Martin, 2000). Boys would thus be more influenced than girls by the masculine stereotype in responding to Judd and girls more influenced than boys by the feminine stereotype in responding to Suzy.

Figure 3: Girls more often labeled Suzy than Judd as scared ($p = .08$)

References


Note: The manuscript on which this poster was based has been accepted for publication in Merrill-Palmer Quarterly.

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