Emotion Expression Processes in Children's Peer Interaction: The Role of Peer Rejection, Aggression, and Gender

Julie A. Hubbard

The goal of the current study was to investigate sociometric status, aggression, and gender differences in children's expression of anger, happiness, and sadness. Participants were 111 second-grade African American boys and girls, half rejected and half average sociometric status, and half aggressive and half nonaggressive as assessed by their peers. Children interacted with a confederate in two standardized competitive game paradigms. Participants' expressions of anger, happiness, and sadness were observationally coded across facial, verbal intonation, and nonverbal modalities. Rejected children expressed more facial and verbal anger than average-status children. Rejected children also expressed more nonverbal happiness than average children, but only during turns of the game that were favorable to the participant. Finally, boys expressed more facial, verbal, and nonverbal anger than girls.

INTRODUCTION

Evidence is accumulating that suggests that the combination of childhood aggression and peer rejection is more powerfully predictive of later chronic antisocial behavior than is either risk factor alone (Coie, Lochman, Terry, & Hyman, 1992; Kupersmidt & Coie, 1990; Lochman & Wayland, 1994). Recently, investigators have demonstrated that boys who are both rejected and aggressive in the third grade exhibit profiles of increasingly severe externalizing problems from the sixth to the tenth grades, whereas boys who are either rejected or aggressive, but not both, have profiles marked by decreasing or lower severity (Coie, Terry, Lenox, Lochman, & Hyman, 1995). In addition, peer rejection in earlier childhood has been found to be predictive of increasingly aggressive behavior later in childhood, even when aggression in earlier childhood is taken into account (Dodge, Bates, & Pettit, 1990; Patterson & Bank, 1989). These findings suggest that peer rejection may be a critical factor in identifying aggressive children who begin displaying conduct problems early in life and who will develop into adults with persistent antisocial problems (Coie & Lenox, 1994; Moffitt, 1993).

Because of these findings, several interventions aimed at reducing the rate at which rejected and aggressive children display conduct problems have been developed, including the FAST Track Project (Conduct Problems Prevention Research Group, 1992) and the Anger Coping Program (Lochman & Lenhart, 1995). It is becoming more common for these types of interventions to focus on teaching children strategies for regulating and controlling emotion, in addition to emphasizing behavioral and social-cognitive change. Although the inclusion of emotion regulation skills in such interventions makes practical and clinical sense, only a small empirical base exists to support the increased focus on emotion when working with peer-rejected and aggressive children. Moreover, this literature is almost entirely concerned with anger, as opposed to other emotions.

Investigations of anger expression in peer-rejected and aggressive children can be separated into three categories: those in which anger expression was assessed (1) through peer nominations, (2) through teacher ratings, and (3) through direct observations. In terms of peer nominations, children who are viewed by their peers as expressing more anger are more likely to be rejected (Bryant, 1992; Coie & Dodge, 1988; Juvonen, 1992; Stocker & Dunn, 1990). Using teacher ratings, Eisenberg and colleagues found that anger expression was negatively related to social status (Eisenberg et al., 1993) and positively related to the display of aggressive behavior (Eisenberg et al., 1994). Finally, direct observations of anger expression are more common for children who are peer rejected (Denham, McKinley, Couchoud, & Holt, 1990) or aggressive (Arsenio, Lover, & Gumora, 1993; Cole, Zahn-Waxler, & Smith, 1994; Eisenberg et al., 1994).

The primary goal of the current study was to investigate the expression of different emotions—happiness, sadness, and anger—in peer-rejected and aggressive children, as opposed to focusing solely on the expression of anger. I hypothesized that peer-rejected children, aggressive children, or those who were both would express more anger, more sadness, and less happiness than their sociometrically average and/or nonaggressive peers. These hypotheses were based
on the findings described above, as well as on findings that rejected and aggressive children express more generalized negative emotion than their peers (Eisenberg et al., 1993, 1994).

Several principles guided the development of this research. First, I chose to study the observable behavioral construct of emotion expression, as opposed to more internal constructs such as emotion regulation. Although research on rejected and aggressive children’s ability to regulate emotion is sorely needed, I believe that this type of research will be more fruitful if it is first grounded in an understanding of how these children differ from their peers in the observable expression of emotion.

Second, an observational paradigm was chosen in which each participant responded to the same standardized, emotion-provoking interaction. In previous observational studies of anger expression in rejected and aggressive children (Arsenio et al., 1993; Denham et al., 1990; Eisenberg et al., 1994), naturalistic approaches to observation have been used. Studying children in the ecologically valid contexts afforded by naturalistic observation has many merits; however, with this approach, differences between rejected or aggressive children and their peers are often confounded with differences in the treatment and provocation that rejected or aggressive children receive from other children. By using a standardized, laboratory-based paradigm, I hoped to examine differences in children’s emotion expression when they were responding to identical emotion-provoking social situations.

Third, I chose to investigate children’s emotion expression in the common childhood peer context of losing a competitive game. The game-playing context is developmentally appropriate for elementary school-aged children, who play structured games frequently and who often become emotionally aroused in this situation because of their emphasis on the importance of winning and losing (Taylor & Asher, 1984). Within this context, I wanted to investigate differences in emotion expression when playing against a peer who plays fairly versus a peer who engages in cheating behavior. It was hypothesized that children would express more anger, more sadness, and less happiness in the cheating context compared with the fair context. These hypotheses were based on beliefs that (1) children would experience less negative emotional arousal in the fair context, and (2) they would be guided by stricter social norms or display rules dictating that negative emotion expression is unacceptable when losing to a peer who is playing fairly (Ramsden, 1999). Furthermore, including both the fair and cheating contexts enabled an investigation of whether rejected and aggressive children were more or less influenced by differences in the behavior of their game partner than their peers.

Finally, I chose to study emotion expression in rejected and aggressive children in a sample of African American children. African American children are well represented in groups who participate in interventions for the prevention of conduct disorder. Thus, it is important that this population of children be included when developing an empirical foundation to guide intervention efforts aimed at the reduction of conduct problems in rejected and aggressive children. When studying African American children, however, sensitivity to cultural differences in the meaning of constructs such as aggression, emotion expression, and peer rejection is critical (Kochman, 1989). Therefore, two approaches were used to attempt to insure the cultural validity of the investigation. First, participants were categorized as peer rejected and aggressive through the peer nominations of classmates who were almost entirely African American themselves. Second, when children’s emotion expression was observationally coded, reliability analyses were conducted comparing the coding of African American observers with the coding of White observers to insure that the two groups of observers viewed children’s expressions of emotion in similar ways.

The secondary goal of the current study was to explore gender differences in children’s emotion expression. It was reasoned that if gender differences were observed, these data would provide an empirical foundation to support the differential treatment of boys and girls when designing emotion-focused interventions. This sensitivity to gender differences is not currently included in the design of interventions for preventing conduct disorder.

It was hypothesized that girls would express less anger and sadness than boys, for several reasons. First, girls report that they express less negative emotion than boys (Jacobs, Phelps, & Rohrs, 1989; Karniol & Heiman, 1987). Second, girls anticipate a more negative reaction to the expression of negative emotion than boys (Underwood, 1997). Third, because of their socialization history, girls tend to be more concerned with sustaining harmonious relationships than boys (Archer, 1992; Maccoby, 1990; Sheldon, 1989), a concern that would suggest less propensity toward the open expression of negative emotion.

METHOD

Overview

Classroom data were collected during the spring semester from a total of 34 second-grade classrooms.
A 15-min individual interview with each child (with parental permission) included two parts: (1) peer nominations of children who were liked and disliked, and (2) peer nominations of children who were aggressive.

A total of 111 children from these classrooms participated in laboratory data collection during the summer. The laboratory protocol lasted approximately 60 min per participant and consisted of two parts: (1) the participant interacting with a confederate in two standardized, emotion-arousing, competitive game paradigms, one in which the confederate played fairly and the second in which the confederate cheated, and (2) videotaping of the games for later observational coding of anger, happiness, and sadness expression across facial, verbal intonation, and nonverbal modalities.

Participants for Classroom Data Collection

Participants for classroom data collection were 601 children (303 girls, 298 boys) in 34 second-grade classrooms from public schools in the southeastern United States. Children were approximately 8 years old. Ethnicity of the sample was over 90% African American. The average classroom participation rate was 79% (range = 50–95%).

Procedure for Classroom Data Collection

**Sociometric nominations.** Interviewers obtained unlimited positive and negative sociometric nominations from participants. Children were asked to name an unlimited number of classmates whom they liked the most. Participants then were asked to name an unlimited number of classmates whom they liked the least.

Sociometric status was determined by calculating and standardizing numbers of positive and negative nominations received by each child across all children in each classroom. Social preference (SP) scores were calculated as the standardized difference between liking and disliking scores, and social impact (SI) scores were calculated as the standardized sum of liking and disliking scores. Rejected children were those who received SP scores less than −.75, “liked most” scores less than 0, and “liked least” scores greater than 0. Average children were those whose SP and SI scores were between −.75 and .75.

**Peer nominations for aggression.** Interviewers asked participants to name an unlimited number of classmates who fit the aggression nomination item “Who are the kids in your class who start fights?” The number of nominations that each child received was standardized within gender and within classroom. This calculation resulted in a standardized continuous score for aggression for each participant. All children with a standardized score equal to or greater than .75 standard deviations above the mean for all same-sex classmates were classified as aggressive; all other children were classified as nonaggressive.

The unlimited approach to the collection of peer-nomination sociometric and aggression data is a modification of the limited nomination procedure outlined by Coie and colleagues (Coie, Dodge, & Coppotelli, 1982). According to Terry (2000), this procedure provides a more reliable assessment of social status and aggressive behavior than the use of limited nominations. In addition, Terry (1999) states that reliable and valid sociometric and aggression data can be collected using the unlimited approach when as few as 40% of the children in a classroom participate. This figure stands in contrast to the 70% participation rate needed when using a limited nomination approach (Crick & Ladd, 1989).

Standard practice is to use a cutoff of 1 standard deviation below the mean on social preference scores to classify children as rejected, and 1 standard deviation above the mean on continuous aggression scores to classify children as aggressive. Thus, the use of .75 standard deviations below or above the mean as the criterion for assigning children to the rejected and aggressive categories, respectively, was more lenient than in some studies. Terry and Coie (1991), however, have advocated for the use of these more lenient criteria on the basis of data indicating that these cutoffs maximize the prediction of later adjustment problems better than the standard cutoffs.

Participants for Laboratory Data Collection

A subsample of 111 children was recruited from the 34 classrooms to serve as participants in the laboratory phase of data collection. These children were selected based on sociometric status, aggressiveness, and gender. A 2 (rejected versus average) × 2 (aggressive versus nonaggressive) × 2 (male versus female) design was used. The goal was to recruit 15 participants for each of the eight cells of the design. This goal was met for seven of the eight design cells. Only six rejected nonaggressive girls could be recruited, however.

The procedure for recruiting laboratory participants first involved sending informational letters to parents of all boys and girls in the sample who were classified as rejected aggressive, rejected nonaggressive, and average aggressive based on classroom data collection. Letters were sent to the parents of only a
randomly selected subset of the boys and girls classified as average nonaggressive, because it was not believed that contacting all of the many average nonaggressive children would be necessary to fill these two design cells. A total of 247 children’s parents received letters. The letter explained the purpose and procedures of the study in detail. Subsequent phone calls or visits (for families who did not have telephones) to parents were made to request the participation of their child. Parents were not informed of their child’s sociometric or aggression status; rather, they were told that a wide range of children was being invited to visit the laboratory. Forty-five percent of the children whose parents were contacted participated in the laboratory paradigm (111 children out of 247). The pool of 247 children whose parents were contacted was smaller than the original classroom sample of 601 because some of the children classified as average nonaggressive, and all of the children classified as popular, neglected, or controversial based on classroom data collection, were not contacted.

An initial analysis was performed to determine whether those children who participated in the laboratory data collection differed from those who did not. This comparison focused on SP scores and aggression scores because these were the only data that were available for the entire sample. For each of the eight cells of the design, those children who participated in the laboratory data collection were compared with those children whose parents were contacted but who did not participate. No significant differences in SP or aggression scores emerged. Furthermore, for the two cells of the design that included average nonaggressive children, an additional analysis was performed comparing those who participated in the laboratory data collection with those whose parents were not contacted. Again, no significant differences in SP or aggression scores emerged.

The schools in which the 34 classrooms were located served a predominantly African American (over 90%) lower to lower middle-class population. Accordingly, only African American children were considered for participation. It should be noted, however, that the classification of African American children as rejected or aggressive was accomplished on the basis of data obtained from peers who were largely African American themselves.

Procedure for Laboratory Data Collection

Each of the two laboratory paradigms consisted of the participant and a confederate playing a competitive board game for approximately 10 min. In the first game, the confederate played fairly, but the game was “rigged” to insure that the participant lost. The second game was also set up to insure that the participant lost, but, in addition, the confederate was trained to engage in blatantly unfair play in a standardized manner.

Confederates were African American, same-sex, third-grade children unfamiliar to the participant. Seven children (four boys and three girls) served as confederates. These children were recruited from a local elementary school that had not participated in classroom data collection for this project. To recruit confederates, teachers were asked to nominate children whom they considered to be intelligent and outgoing. The parents of these children were contacted and the child’s potential role as an “actor” in the study was explained to them. Those children whose parents granted permission by signing a consent form were trained during 10 after-school sessions.

A different confederate was introduced for each of the two games. Confederates were trained to play both games, and over the course of the study they played each one approximately an equal number of times. Furthermore, confederates’ participation was divided approximately equally among rejected aggressive, rejected nonaggressive, average aggressive, and average nonaggressive participants. This approach was used to insure that any differences in confederates’ behavior, appearance, or other characteristics were balanced across the cells of the design and across the two games.

To insure that participants were invested in playing the game, a prize was offered to the winner. Prior to the start of each game, the experimenter asked participants to choose from six possible prizes the one that they would like to win. When confederates were asked to choose a prize as well, they chose the same prize as the participants, as they had been trained to do.

The game involved children pretending to be diamond hunters. As they moved around the game board, they collected and lost diamond tokens, which were placed on a score card; the first child to collect 25 tokens was the winner. Rigging the game involved controlling which space the confederate and participant landed on for each turn. Thus, instead of movement around the board being determined by dice or spinners, a slide projector was used to project numbers and arrows through the one-way mirror onto a wall. The arrow told the children whose turn it was, and the number told the child how many spaces to move. Most participants believed that the numbers were being generated by a computer or by “magic”; only one child suspected rigging, and his data were not included in the final n of 111.

Unfair play consisted of the confederate attempt-
ing to take five diamond tokens, when only three to-
kens should have been taken, on three separate occa-
sions. In addition to being trained to behave in a
standardized manner, confederates also were trained
to be blatant in their unfair play to insure that the
behavior was observed by participants. When not
engaged in cheating behavior, confederates were
trained to behave in a standardized, neutral fashion,
and not to initiate conversation with the participants.

It is acknowledged that this paradigm may raise
ethical concerns. For this reason, a number of steps
were taken to protect the welfare of participants and
confederates.

Observational Coding of Anger, Happiness,
and Sadness Expression

Using the videotapes recorded during the two
games, anger, happiness, and sadness expression were
assessed using three observational coding systems
that were newly developed for this project. Using the
first system, observers coded participants' facial ex-
pressions on a second-by-second basis as either an-
gry, happy, sad, or neutral; they also coded the inten-
sity of participants' facial expressions. Using the
second system, observers coded each of the partici-
ants' verbal remarks as having either an angry,
happy, sad, or neutral intonation. Using the third sys-
tem, observers coded for the display of four angry
nonverbal behaviors, five happy nonverbal behav-
iors, and four sad nonverbal behaviors relevant to
and prevalent in the competitive game context.

All of these coding systems utilized a cultural infor-
mant perspective. This approach is often taken in obser-
vational work on emotions (Gottman & Krokoff, 1989;
Gross & Levenson, 1993). In this approach, observers'
knowledge of emotion expression is assumed to come
from personal experience. An alternative approach
would have been to use the most well-validated and
fine-grained coding systems available for measuring

1 For example, parents of both participants and confederates
were permitted to observe the interaction from behind the one-way
mirror, and they were told that they could terminate the interaction
at any point if they became uncomfortable. In addition, children
were given the chance to compete for a prize in a third game that
was rigged to insure that the participant won; this experience al-
lowed the participant to experience mastery and win a desirable
prize to take home. Finally, at the end of the children's participa-
tion, they were thoroughly debriefed. They were told that the two
children they had played with were actors who had broken the
rules or won the prize with all of the children. Participants were
then given the opportunity to ask questions about the procedures
in which they had been involved. The play session ended with the
participants and confederates sharing a snack and having some
time to play together in a cooperative, noncompetitive manner.

emotion expression, such as the emotion facial action
coding system (EMFACS; Ekman & Friesen, 1975; Frie-
isen & Ekman, 1984). From a practical perspective, how-
ever, these systems pose several problems. First, it
would have been difficult to get the close camera
angles required to use these systems while children
were playing the board game. Second, these coding
systems typically only assess facial expressions of emo-
tion, whereas this study sought to assess emotion
expression across the multiple modalities of facial ex-
pression, verbal intonation, and nonverbal behavior.
Third, these coding systems are costly and time inten-
sive. Camras et al. (1988) presented convincing evi-
dence of substantial agreement between coding of
emotion expression conducted using the cultural in-
formant approach and EMFACS coding scores. As
Camras et al. pointed out, fine-grained coding systems
such as EMFACS may be more microanalytic than is
needed for some research on emotion expression.

Procedures used to train observers. Three undergrad-
uate students (two White females and one African
American male) were trained in the use of the facial
coding system; two undergraduate students (one
White female and one African American male) were
trained in the use of the verbal intonation coding sys-
tem, and two undergraduate students (one White fe-
male and one African American male) were trained in
the use of the nonverbal coding system. Each observer
only coded participants' emotion expression using
one of the three coding systems. Observers were blind
to the hypotheses of the study and to the sociometric
status and aggression status of the participants.

Reliability for the training trials was calculated
by comparing observers' data to coding completed by
the author. Observers were considered sufficiently
trained when they reached a criterion of .80 (Cohen's
$\kappa$) on three consecutive training trials.

Facial expression coding system. On a second-by-sec-
ond basis, observers coded whether the participant
displayed an angry, sad, happy, or neutral facial expres-
sion. Observers were taught to recognize global indica-
tors of participants' facial expression, such as inwardly
furrowed eyebrows or the mouth set in a "hard line"
(anger), smiles (happiness), or when the mouth or
eyes turned downward (sadness). In addition, after
observing each game, coders rated the overall inten-
sity of angry, happy, and sad facial expressions dur-
ing the game on a 3-point scale ranging from "a little"
to "some" to "a lot." While viewing the videotapes,
coders turned off the sound on the monitor so that fa-
cial coding was not influenced by the auditory con-
tent of the videotapes.

This coding system resulted in nine observational
variables: frequency of (angry, happy, sad) facial ex-
pressions, average duration of (angry, happy, sad) facial expressions, and intensity of (angry, happy, sad) facial expressions. The frequency variables represented the number of angry, happy, and sad facial expressions that the participant displayed during the game. Because the duration of the games varied considerably ($M_{	ext{game1}} = 559.32$ s, $SD_{	ext{game1}} = 93.81$ s; $M_{	ext{game2}} = 560.35$ s, $SD_{	ext{game2}} = 96.91$ s), these variables were adjusted by multiplying the scores by the mean duration for that game across all participants and dividing the resulting score by the actual duration of the game for that participant. The average duration variables represented the average number of seconds that the participant maintained an angry, happy, or sad facial expression during the game. The intensity variables represented the coder’s rating of the intensity of the participant’s angry, happy, and sad facial expressions during the game on a 3-point scale. The means and standard deviations for each of these variables are given in Table 1.

**Verbal intonation coding system.** Observers coded each of the participant’s verbalizations as having either an angry, happy, sad, or neutral intonation. Observers were taught to recognize global indicators of participants’ verbal intonations, such as a forceful or “growling” voice (anger), a rising inflection (happiness), or a low voice and a falling inflection (sadness). For coding, observers listened to the videotapes without viewing them after the tapes had been low-pass filtered, to allow observers to code only participants’ verbal intonation, independent of verbal content or visual information.

This coding system resulted in three observational variables—frequency of (angry, happy, sad) verbal intonations—that represented the frequency with which participants made verbalizations using the emotional intonation in question during the course of the game. These frequency variables were adjusted to account for differences across participants in the duration of the games in the same manner as described above for frequency of facial expressions. The means and standard deviations for each of these variables are given in Table 1.

**Nonverbal behavior coding system.** On an event basis, observers recorded all instances in which participants engaged in four nonverbal behaviors indicative of anger, five nonverbal behaviors indicative of happiness, and four nonverbal behaviors indicative of sadness (see Table 2). This coding system resulted in three observational variables—frequency of (angry, happy, sad) nonverbal behaviors—each of which represented the aggregated frequency with which the participant displayed any of the nonverbal behaviors indicative of that emotion during the game. These frequency variables were adjusted to account for differences across participants in the duration of the games in the same manner as described above for frequency of facial expressions. The means and standard deviations for each of these variables are given in Table 1.

Because the sad nonverbal behaviors (see Table 2) lack the face validity of the happy and angry nonverbal behaviors, correlational analyses were conducted to demonstrate that these behaviors are more associated with sadness—at least for this sample and in this particular paradigm—than they are with happiness or anger. Table 3 provides the correlations between frequency of sad nonverbal behaviors and each of the other 14 observational variables. Frequency of sad nonverbal behaviors was significantly related to all three of the sad facial measures, but not to any of the other observational variables. Although the claim would be even stronger if frequency of sad nonverbal behaviors was related to frequency of sad verbal intonations as well, these data provide some support for the validity of the measure of sad nonverbal behavior.

**Reliability of the coding schemes.** Four White females served as the primary observers for their respective coding systems. Reliability analyses were conducted in two ways. First, for each of the three coding systems, 20% of the videotapes were coded by the author (a White female) as well as by the primary observer. Second, for each of the three coding systems, 20% of the videotapes were coded by the African American male observer as well as by the primary White female observer. Reliability analyses comparing the coding of White females with the coding of African American males were conducted to establish that the coding systems were not gender or culturally biased, and that White females and African American males agreed in their coding of the behavior of the African American children.

The primary observers knew that reliability checks would occur throughout coding, but they were blind to which videotapes served as reliability trials. Reliability data for each of the coding systems are provided in Table 4. Coding systems using the cultural informant approach are best evaluated in terms of their capacity to achieve reliable results. Using this criterion, these reliability indices suggest that the cultural informant approach to the coding of emotion expression was adequate for the needs of the current project.

**RESULTS**

**Overview of Data Analyses**

Multivariate analyses of variance (MANOVAs) were conducted on three sets of variables, with each
### Table 1  Means for the Observational Variables by Sociometric Status, by Aggression Status, by Gender, and by Game

<table>
<thead>
<tr>
<th>Variable</th>
<th>Overall</th>
<th>Average</th>
<th>Rejected</th>
<th>Aggressive</th>
<th>Non-aggressive</th>
<th>Boys</th>
<th>Girls</th>
<th>Fair Game</th>
<th>Game</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frequency of angry facial</td>
<td>5.10 (4.23)</td>
<td>4.61 (4.38)</td>
<td>5.67 (4.01)</td>
<td>5.01 (4.06)</td>
<td>5.20 (4.46)</td>
<td>6.32 (4.47)</td>
<td>3.66 (3.43)</td>
<td>4.87 (5.20)</td>
<td>5.33 (4.17)</td>
</tr>
<tr>
<td>expressions</td>
<td>Average</td>
<td>Intensity</td>
<td>Frequency</td>
<td>Duration</td>
<td>Frequency</td>
<td>Intensity</td>
<td>Frequency</td>
<td>Duration</td>
<td>Frequency</td>
</tr>
<tr>
<td>Average duration of angry</td>
<td>6.23 (7.09)</td>
<td>5.60 (5.51)</td>
<td>9.74 (8.38)</td>
<td>4.46 (4.67)</td>
<td>4.66 (8.03)</td>
<td>7.11 (10.99)</td>
<td>Average</td>
<td>Intensity</td>
<td>Frequency</td>
</tr>
<tr>
<td>facial expressions</td>
<td>1.58 (.63)</td>
<td>1.78 (.66)</td>
<td>1.63 (.68)</td>
<td>1.51 (.58)</td>
<td>1.69 (.62)</td>
<td>1.44 (.62)</td>
<td>1.47 (.67)</td>
<td>1.68 (.75)</td>
<td>Frequency</td>
</tr>
<tr>
<td>Intensity of angry facial</td>
<td>3.32 (4.63)</td>
<td>2.26 (3.89)</td>
<td>3.71 (5.30)</td>
<td>2.86 (3.69)</td>
<td>4.59 (5.36)</td>
<td>1.82 (3.01)</td>
<td>1.87 (3.31)</td>
<td>3.93 (5.62)</td>
<td>Intensity</td>
</tr>
<tr>
<td>expressions</td>
<td>1.94 (2.84)</td>
<td>1.53 (2.25)</td>
<td>2.42 (3.36)</td>
<td>2.17 (3.05)</td>
<td>1.67 (2.56)</td>
<td>2.46 (2.99)</td>
<td>1.33 (2.53)</td>
<td>2.06 (3.26)</td>
<td>Frequency</td>
</tr>
<tr>
<td>Frequency of happy facial</td>
<td>9.38 (8.52)</td>
<td>8.88 (7.51)</td>
<td>9.98 (9.62)</td>
<td>8.99 (8.08)</td>
<td>9.84 (9.08)</td>
<td>10.42 (9.80)</td>
<td>8.16 (6.60)</td>
<td>11.47 (9.52)</td>
<td>Intensity</td>
</tr>
<tr>
<td>expressions</td>
<td>4.54 (2.45)</td>
<td>4.93 (2.52)</td>
<td>4.08 (2.31)</td>
<td>4.31 (2.30)</td>
<td>4.80 (2.62)</td>
<td>4.58 (2.78)</td>
<td>4.49 (2.03)</td>
<td>4.69 (3.01)</td>
<td>Frequency</td>
</tr>
<tr>
<td>Average duration of happy</td>
<td>1.83 (.69)</td>
<td>1.77 (.61)</td>
<td>1.91 (.77)</td>
<td>1.82 (.71)</td>
<td>1.85 (.67)</td>
<td>1.93 (.71)</td>
<td>1.72 (.65)</td>
<td>1.98 (.75)</td>
<td>Frequency</td>
</tr>
<tr>
<td>facial expressions</td>
<td>1.99 (3.27)</td>
<td>1.51 (2.26)</td>
<td>2.56 (4.11)</td>
<td>1.93 (3.61)</td>
<td>2.07 (2.84)</td>
<td>2.65 (3.86)</td>
<td>1.22 (2.18)</td>
<td>2.46 (4.14)</td>
<td>Frequency</td>
</tr>
<tr>
<td>Intensity of happy facial</td>
<td>2.44 (4.36)</td>
<td>1.70 (3.69)</td>
<td>3.30 (4.93)</td>
<td>2.09 (4.38)</td>
<td>2.84 (4.35)</td>
<td>3.11 (4.77)</td>
<td>1.64 (3.72)</td>
<td>2.38 (4.02)</td>
<td>Frequency</td>
</tr>
<tr>
<td>expressions</td>
<td>7.76 (5.34)</td>
<td>8.17 (6.10)</td>
<td>7.29 (4.29)</td>
<td>7.73 (5.06)</td>
<td>7.80 (5.70)</td>
<td>8.81 (4.75)</td>
<td>8.89 (5.81)</td>
<td>7.45 (6.33)</td>
<td>Frequency</td>
</tr>
<tr>
<td>Frequency of happy</td>
<td>9.85 (7.17)</td>
<td>9.36 (6.73)</td>
<td>10.42 (7.68)</td>
<td>8.93 (6.40)</td>
<td>10.93 (7.91)</td>
<td>9.90 (8.08)</td>
<td>9.79 (6.00)</td>
<td>7.57 (6.82)</td>
<td>Frequency</td>
</tr>
<tr>
<td>nonverbal behaviors</td>
<td>1.67 (.59)</td>
<td>1.64 (.55)</td>
<td>1.71 (.64)</td>
<td>1.69 (.58)</td>
<td>1.65 (.61)</td>
<td>1.58 (.58)</td>
<td>1.77 (.59)</td>
<td>1.60 (.69)</td>
<td>Frequency</td>
</tr>
<tr>
<td>Average duration of sad</td>
<td>1.68 (2.64)</td>
<td>1.60 (1.92)</td>
<td>1.76 (3.32)</td>
<td>1.36 (1.90)</td>
<td>2.05 (3.29)</td>
<td>2.08 (3.14)</td>
<td>1.20 (1.81)</td>
<td>1.94 (2.93)</td>
<td>Frequency</td>
</tr>
<tr>
<td>facial expressions</td>
<td>4.13 (5.47)</td>
<td>4.48 (6.26)</td>
<td>3.73 (4.38)</td>
<td>3.94 (4.27)</td>
<td>4.35 (6.64)</td>
<td>4.17 (5.85)</td>
<td>4.09 (5.03)</td>
<td>3.77 (5.58)</td>
<td>Frequency</td>
</tr>
<tr>
<td>Intensity of sad facial</td>
<td>Note: Values in parentheses are standard deviations.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>expressions</td>
<td>4.50 (6.12)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Table 2  Participants' Nonverbal Behaviors Coded by Observers

<table>
<thead>
<tr>
<th>Behavior</th>
<th>Description/Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anger</td>
<td></td>
</tr>
<tr>
<td>Damaging property</td>
<td>Participant behaves in a destructive way when handling game materials. Examples include throwing tokens or slamming game piece down on the board with force.</td>
</tr>
<tr>
<td>Displaying frustration</td>
<td>Examples include swinging fist, punching fist into hand, hitting head with palm of hand, and pretending to cry.</td>
</tr>
<tr>
<td>Stomping feet</td>
<td>Participant lifts one or both feet off of floor, and the sound of feet hitting floor is audible. Examples include pointing at confederate and laughing or sticking nose in air.</td>
</tr>
<tr>
<td>Nonverbal teasing</td>
<td></td>
</tr>
<tr>
<td>Happiness</td>
<td></td>
</tr>
<tr>
<td>Cheering</td>
<td>Participant waves arms or body in a cheering or self-congratulating motion.</td>
</tr>
<tr>
<td>Clapping hands</td>
<td>Participant claps hands as though to applaud for something that has happened in game.</td>
</tr>
<tr>
<td>Dancing</td>
<td>Participant moves body in a rhythmic way.</td>
</tr>
<tr>
<td>Laughing</td>
<td>The sound of laughter must be audible; the participant cannot be merely smiling broadly.</td>
</tr>
<tr>
<td>Singing</td>
<td>Participant sings part of a real or made-up song.</td>
</tr>
<tr>
<td>Sadness</td>
<td></td>
</tr>
<tr>
<td>Covering face</td>
<td>Participant covers or shields face as though to hide expression from confederate.</td>
</tr>
<tr>
<td>Putting hands to mouth</td>
<td>Participant puts hand to mouth.</td>
</tr>
<tr>
<td>Sighing</td>
<td>Participant emits air forcefully from nose or mouth.</td>
</tr>
<tr>
<td>Slumping in seat</td>
<td>Participant sits in a lower than normal posture in chair.</td>
</tr>
</tbody>
</table>
Table 3  Correlations between Frequency of Sad Nonverbal Behaviors and the Other Observational Measures

<table>
<thead>
<tr>
<th>Observational Measure</th>
<th>Correlation with Frequency of Sad Nonverbal Behaviors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frequency of angry facial expressions</td>
<td>-.10</td>
</tr>
<tr>
<td>Average duration of angry facial expressions</td>
<td>-.04</td>
</tr>
<tr>
<td>Intensity of angry facial expressions</td>
<td>-.12</td>
</tr>
<tr>
<td>Frequency of angry verbal intonations</td>
<td>-.12</td>
</tr>
<tr>
<td>Frequency of angry nonverbal behaviors</td>
<td>-.07</td>
</tr>
<tr>
<td>Frequency of happy facial expressions</td>
<td>.09</td>
</tr>
<tr>
<td>Average duration of happy facial expressions</td>
<td>.02</td>
</tr>
<tr>
<td>Intensity of happy facial expressions</td>
<td>.06</td>
</tr>
<tr>
<td>Frequency of happy verbal intonations</td>
<td>.00</td>
</tr>
<tr>
<td>Frequency of happy nonverbal behaviors</td>
<td>-.05</td>
</tr>
<tr>
<td>Frequency of sad facial expressions</td>
<td>.48**</td>
</tr>
<tr>
<td>Average duration of sad facial expressions</td>
<td>.42**</td>
</tr>
<tr>
<td>Intensity of sad facial expressions</td>
<td>.30*</td>
</tr>
<tr>
<td>Frequency of sad verbal intonations</td>
<td>-.04</td>
</tr>
</tbody>
</table>

*p < .01; **p < .001.

set consisting of the five observational variables (frequency of facial expression, average duration of facial expression, intensity of facial expression, frequency of verbal intonation, and frequency of nonverbal behavior) for one of the three emotions (anger, happiness, and sadness). The MANOVAs for each of the three emotions followed a 2 (sociometric status) × 2 (aggression status) × 2 (gender) × 2 (game) design. Univariate analyses were examined only for those multivariate main effects or interactions that reached significance at the level of p < .05. When univariate analyses were conducted, each of the five variables indexing the emotion in question served as the dependent variables in separate ANOVAs.

Analyses of Expressed Anger

The MANOVA conducted on the five variables measuring the expression of anger produced a significant main effect for sociometric status,  \( F(5, 99) = 2.49, p < .04 \); a significant main effect for gender,  \( F(5, 99) = 3.82, p < .01 \); a significant main effect for game,  \( F(5, 99) = 6.23, p < .001 \); and a significant Sociometric Status × Game interaction,  \( F(5, 99) = 2.75, p < .03 \).

Univariate analyses indicated significant sociometric status differences for three of the five variables measuring the expression of anger: (1) average duration of angry facial expressions,  \( F(1, 103) = 4.08, p < .05 \); (2) intensity of angry facial expressions,  \( F(1, 103) = 9.61, p < .01 \); and (3) frequency of angry verbal intonations,  \( F(1, 103) = 4.24, p < .05 \). Rejected children (\( M = 8.54 \)) maintained angry facial expressions for a longer time period than average children (\( M = 4.26 \)); rejected children (\( M = 1.78 \)) made more intensely angry facial expressions than average children (\( M = 1.40 \)); and rejected children (\( M = 4.44 \)) spoke with an angry intonation more often than average children (\( M = 2.36 \)).

Univariate analyses indicated significant gender differences for four of the five variables measuring the expression of anger: (1) frequency of angry facial expressions,  \( F(1, 103) = 11.33, p < .01 \); (2) average duration of angry facial expressions,  \( F(1, 103) = 5.09, p < .03 \); (3) frequency of angry verbal intonations,  \( F(1, 103) = 9.08, p < .01 \); and (4) frequency of angry nonverbal behaviors,  \( F(1, 103) = 4.73, p < .04 \). Boys (\( M = 6.32 \)) made more angry facial expressions than girls (\( M = 3.66 \)); boys (\( M = 7.74 \)) maintained angry facial expressions for a

Table 4  Reliability Estimates for the Facial Expression, Verbal Intonation, and Nonverbal Behavior Observational Coding Systems

<table>
<thead>
<tr>
<th>Coding System and Category</th>
<th>Comparison of White Female Observer to Author (k)</th>
<th>Comparison of White Female Observer to African American Male Observer (k)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Facial expression</td>
<td>.95</td>
<td>.83</td>
</tr>
<tr>
<td>Angry</td>
<td>.94</td>
<td>.71</td>
</tr>
<tr>
<td>Happy</td>
<td>.96</td>
<td>.88</td>
</tr>
<tr>
<td>Sad</td>
<td>.94</td>
<td>.71</td>
</tr>
<tr>
<td>Neutral</td>
<td>.94</td>
<td>.83</td>
</tr>
<tr>
<td>Intensity of facial expression</td>
<td>.80</td>
<td>.77</td>
</tr>
<tr>
<td>Angry</td>
<td>.85</td>
<td>.81</td>
</tr>
<tr>
<td>Happy</td>
<td>.82</td>
<td>.79</td>
</tr>
<tr>
<td>Sad</td>
<td>.72</td>
<td>.70</td>
</tr>
<tr>
<td>Verbal intonation</td>
<td>.87</td>
<td>.80</td>
</tr>
<tr>
<td>Angry</td>
<td>.89</td>
<td>.82</td>
</tr>
<tr>
<td>Happy</td>
<td>.87</td>
<td>.80</td>
</tr>
<tr>
<td>Sad</td>
<td>.85</td>
<td>.74</td>
</tr>
<tr>
<td>Neutral</td>
<td>.87</td>
<td>.81</td>
</tr>
<tr>
<td>Nonverbal behavior</td>
<td>.83</td>
<td>.73</td>
</tr>
<tr>
<td>Angry</td>
<td>.89</td>
<td>.85</td>
</tr>
<tr>
<td>Displaying frustration</td>
<td>.81</td>
<td>.78</td>
</tr>
<tr>
<td>Stomping feet</td>
<td>1.00</td>
<td>.75</td>
</tr>
<tr>
<td>Nonverbal teasing</td>
<td>.66</td>
<td>.66</td>
</tr>
<tr>
<td>Happy</td>
<td>.90</td>
<td>.90</td>
</tr>
<tr>
<td>Cheering</td>
<td>.90</td>
<td>.90</td>
</tr>
<tr>
<td>Clapping hands</td>
<td>1.00</td>
<td>.83</td>
</tr>
<tr>
<td>Dancing</td>
<td>.97</td>
<td>.91</td>
</tr>
<tr>
<td>Laughing</td>
<td>.94</td>
<td>.90</td>
</tr>
<tr>
<td>Singing</td>
<td>.96</td>
<td>.80</td>
</tr>
<tr>
<td>Sad</td>
<td>.77</td>
<td>.75</td>
</tr>
<tr>
<td>Covering face</td>
<td>.92</td>
<td>.94</td>
</tr>
<tr>
<td>Putting hands to mouth</td>
<td>.91</td>
<td>.81</td>
</tr>
<tr>
<td>Sighing</td>
<td>.95</td>
<td>.87</td>
</tr>
<tr>
<td>Slumping in seat</td>
<td>.95</td>
<td>.87</td>
</tr>
</tbody>
</table>
longer time period than girls (M = 4.46); boys (M = 4.59) spoke with an angry intonation more often than girls (M = 1.82); and boys (M = 2.46) engaged in angry nonverbal behavior more often than girls (M = 1.33).

Univariate analyses indicated significant game differences for three of the five variables measuring the expression of anger: (1) average duration of angry facial expressions, $F(1, 103) = 8.35, p < .01$; (2) intensity of angry facial expressions, $F(1, 103) = 15.54, p < .001$; and (3) frequency of angry verbal intonations, $F(1, 103) = 13.72, p < .001$. Participants maintained angry facial expressions for a longer time period during the cheating game (M = 7.11) compared with the fair game (M = 4.66); participants made more intensely angry facial expressions during the cheating game (M = 1.68) compared with the fair game (M = 1.47); and participants spoke with an angry intonation more often during the cheating game (M = 3.93) compared with the fair game (M = 2.71).

Univariate analyses indicated significant Sociometric Status $\times$ Game interactions for three of the five variables measuring the expression of anger:

1. Average duration of angry facial expressions, $F(1, 103) = 8.20, p < .01$. Rejected (M = 5.09) and average children (M = 4.31) maintained angry facial expressions for comparable lengths of time during the first game, in which the confederate played fairly, $F(1, 109) = .26, ns$; however, rejected children (M = 10.39) maintained angry facial expressions longer than average children (M = 4.33) during the second game, in which the confederate cheated, $F(1, 109) = 8.99, p < .01$.

2. Intensity of angry facial expressions, $F(1, 103) = 5.59, p < .02$. Rejected children (M = 1.61) made more intensely angry facial expressions than average children (M = 1.35) during the first game, in which the confederate played fairly, $F(1, 109) = 4.18, p < .05$. In addition, rejected children (M = 1.96) made more intensely angry facial expressions than average children (M = 1.45) during the second game, in which the confederate cheated, $F(1, 109) = 14.31, p < .001$. The discrepancy was greater, however, for the cheating game.

3. Frequency of angry verbal intonations, $F(1, 103) = 3.93, p < .05$. Rejected (M = 3.49) and average children (M = 2.04) made similar numbers of remarks with an angry verbal intonation during the first game, in which the confederate played fairly, $F(1, 109) = 3.21, ns$; however, rejected children (M = 5.39) made more remarks with an angry verbal intonation than average children (M = 2.68) during the second game, in which the confederate cheated, $F(1, 109) = 6.73, p < .02$.

Analyses of Expressed Happiness

The MANOVA conducted on the five variables measuring the expression of happiness produced a significant main effect for sociometric status, $F(5, 99) = 2.36, p < .05$, and a significant main effect for game, $F(5, 99) = 12.78, p < .001$.

Univariate analyses indicated significant sociometric status differences for one of the five variables measuring the expression of happiness: (1) frequency of happy nonverbal behaviors, $F(1, 103) = 4.61, p < .04$. Rejected children (M = 3.30) engaged in happy nonverbal behaviors more often than average-status children (M = 1.70).

Univariate analyses indicated significant game differences for four of the five variables measuring the expression of happiness: (1) frequency of happy facial expressions, $F(1, 103) = 36.18, p < .001$; (2) average duration of happy facial expressions, $F(1, 103) = 25.44, p < .001$; (3) intensity of happy facial expressions, $F(1, 103) = 20.70, p < .001$; and (4) frequency of happy verbal intonations, $F(1, 103) = 11.78, p < .001$. Participants made more happy facial expressions during the fair game (M = 11.47) compared with the cheating game (M = 7.30); participants maintained happy facial expressions for a longer time period during the fair game (M = 4.69) compared with the cheating game (M = 3.31); participants made more intensely happy facial expressions during the fair game (M = 1.98) compared with the cheating game (M = 1.68); and participants spoke with a happy intonation more often during the fair game (M = 2.46) compared with the cheating game (M = 1.53).

Because the finding that rejected children displayed more happy nonverbal behaviors than average-status children was in the opposite direction to that which was hypothesized, an exploratory follow-up analysis was conducted. Every game turn was classified as representing one of six contexts. These contexts included those instances when (1) the participant gained tokens, (2) the participant lost tokens, (3) the participant neither gained nor lost tokens, (4) the confederate gained tokens, (5) the confederate lost tokens, and (6) the confederate neither gained nor lost tokens. The reliability estimates were as follows: for the two categories involving gaining tokens, .96; for the two categories involving losing tokens, .93; and for the two categories involving neither gaining nor losing tokens, .93 (all Cohen’s k). A 2 (sociometric status) $\times$ 6 (context) $\times$ 2 (game) ANOVA was then conducted with frequency of happy nonverbal behaviors as the dependent variable. A significant Sociometric Status $\times$ Context interaction emerged, $F(5, 545) = 4.23, p < .001$. In the context in which the participant...
gained tokens, rejected children \((M = 1.48)\) engaged in more happy nonverbal behaviors than average children \((M = .59)\), \(F(1, 109) = 5.24, p < .03\). In the other five contexts, however, rejected and average-status children did not differ in the number of happy nonverbal behaviors that they displayed.

Analyses of Expressed Sadness

The MANOVA conducted on the five variables measuring the expression of sadness resulted in a significant main effect for game, \(F(5, 99) = 3.29, p < .01\). Univariate analyses indicated significant game differences for three of the five variables measuring the expression of sadness: (1) average duration of sad facial expressions, \(F(1, 103) = 12.96, p < .001\); (2) intensity of sad facial expressions, \(F(1, 103) = 3.87, p < .05\); and (3) frequency of sad nonverbal behaviors, \(F(1, 103) = 4.42, p < .04\). Participants maintained sad facial expressions for a longer time period during the cheating game \((M = 10.81)\) compared with the fair game \((M = 7.57)\); participants made more intensely sad facial expressions during the cheating game \((M = 1.74)\) compared with the fair game \((M = 1.60)\); and participants engaged in sad nonverbal behaviors more often during the cheating game \((M = 4.50)\) compared with the fair game \((M = 3.77)\).

DISCUSSION

In the current study, sociometric status differences, aggression differences, and gender differences were investigated in children’s expression of anger, happiness, and sadness. Peer-rejected children expressed more facial and verbal anger than average-status children in the context of losing a game to another child. These effects emerged or were more pronounced when the child lost a second game to a peer who engaged in cheating behavior, compared with when the child lost an initial game to a peer who played fairly. These results are consistent with earlier reports of greater anger expression by rejected children compared with their peers in studies in which anger expression was assessed through peer nominations (Bryant, 1992; Coie & Dodge, 1988; Juvenen, 1992; Stocker & Dunn, 1990), through teacher ratings (Eisenberg et al., 1993), and through naturalistic observations (Denham et al., 1990). The fact that the current study extends these findings from a naturalistic context to a standardized situation suggests that the greater anger expression of rejected children is not solely the result of higher rates of provocation directed toward them, which is a possible confound in a naturalistic observational setting. To the extent that the increased expression of anger suggests difficulties with anger control, these findings support the fairly recent addition of anger regulation skills to interventions aimed at reducing the rate at which rejected children display conduct problems (Conduct Problems Prevention Research Group, 1992; Lochman & Lenton, 1995).

Unexpectedly, rejected children expressed more nonverbal happiness than average-status children in the game-playing context. Follow-up analyses indicated that rejected children only differed from their average peers in this regard during turns of the game in which the participant was gaining tokens, a positive turn of events for the participant. This finding suggests that rejected children were more likely than average children to express their happiness openly when something happened in the game that was in their favor. This expression of happiness may be due to rejected children’s greater emphasis on instrumental goals over social goals in the game-playing context (Renshaw & Asher, 1983). Furthermore, if such behavior takes the form of gloating rather than simple expression of pleasure at doing well in the game, it may reflect a lack of social sensitivity or social perspective taking (Bierman, Smoot, & Aumiller, 1993). Such behavior may contribute to peers’ feelings of dislike for rejected children and their lack of interest in having them as playmates. This finding of rejected children expressing more nonverbal happiness than average children emphasizes the importance of studying emotions other than anger in samples of rejected and aggressive children. Furthermore, it suggests that when emotion regulation skills are included in interventions aimed at rejected children, these skills need to include a focus on the socially appropriate expression of positive affect as well as on the control of negative affect.

Contrary to our hypotheses, aggressive children did not differ from nonaggressive children in the expression of anger, happiness, or sadness. I considered the possibility that the use of a lenient cutoff to classify children as aggressive (.75 standard deviations above the mean on standardized numbers of peer nominations for aggression) may have obscured results that would have emerged had a more stringent cutoff been used. To test this hypothesis, children were classified as aggressive or nonaggressive using a cutoff of 1 standard deviation above the mean and the analyses were rerun (with unequal cell sizes). The results of the re-analysis were that aggressive children still did not differ from their nonaggressive peers on any measure of emotion expression.

An alternative explanation for the lack of aggression effects is that the peer nomination item used to measure aggression (i.e., “Who are the kids in your
class who start fights?"") may have emphasized the proactive subtype of aggression over the reactive subtype of aggression. This emphasis may have diminished the possibility of finding a significant relation between aggression and emotion expression. Reactive aggression is characterized by a defensive, retaliatory, emotional response to a real or perceived provocation, whereas proactive aggression is goal directed, non-emotional, and nonretaliatory (Dodge & Coie, 1987). Given these definitions, it is possible that reactive aggression is more related to emotion expression than proactive aggression. In fact, in data collected on a separate sample of children in which a similar game-playing paradigm was used, it was found that teacher-rated reactive aggression was related to the expression of anger, but proactive aggression was not (Hubbard et al., 2001). Those results parallel other findings that suggest that reactive and proactive aggression are differentially related to constructs such as peer rejection (Price & Dodge, 1989), hostile attributional biases (Dodge & Coie, 1987; Dodge, Price, Bachorowski, & Newman, 1990), and outcome expectations for aggression (Crick & Dodge, 1996; Smithmyer, Hubbard, & Simons, 2000), even though the two constructs are highly correlated.

Consistent with the current hypotheses about gender differences, boys expressed more anger than girls across the three modalities of angry facial expressions, angry verbal intonations, and angry nonverbal behaviors. Girls’ lesser concern with competition (Archer, 1992; Maccoby, 1990) may have played a role in their tendency to express less anger than boys. Girls may not have been as invested in winning the game as were boys and so did not become as angry as boys; thus, these findings may be somewhat context specific. One possibility for future research would be to develop a standardized, peer-based, emotion-arousing situation that is not based on competition and to examine gender differences in anger expression in this context. If a new research paradigm emphasized issues that are more central to girls’ social concerns, such as social inclusion and exclusion (Crick & Grot- peter, 1995), it might be possible to test the context-specificity of the current finding that boys express more anger than girls. To the extent that boys are found to express more anger than girls across multiple contexts, the findings in the current study indicating that boys express more anger than girls suggest that a focus on anger regulation may be more critical when designing interventions for boys than when designing interventions for girls.

As hypothesized, children expressed more facial and verbal anger, more facial and nonverbal sadness, and less facial and verbal happiness in the context of the second game, in which the confederate cheated, compared with the first game, in which the confederate played fairly. Although the experience of losing may have aroused negative affect in children in both games, these feelings were likely compounded in the second game by the cheating behavior of the confederate. Furthermore, even when children did experience negative emotion during the fair game, they likely were inhibited from fully expressing this emotion by social norms or display rules that dictate that negative emotion expression is not acceptable when losing to a peer who is playing fairly (Ramsden, 1999).

In interpreting the game effects, however, it is important to remember that the order of the fair and cheating games was not counterbalanced. Rather, children first had the experience of losing to a fair partner, followed by the experience of losing to a partner who cheated. Therefore, the fair versus cheating comparison is confounded by the fact that the fair context involved losing an initial game, whereas the cheating context involved losing a second game. Thus, the game effects that emerged may be the result of playing with a fair versus a cheating partner; of losing initially versus losing repeatedly; or, most likely, of a combination of these two influences. This same caveat holds true when interpreting the Sociometric Status × Game interaction that emerged for anger expression. Rejected children were especially likely to express more anger than average-status children during the second game compared with the first game; however, it is not clear whether this increased discrepancy resulted from playing against a peer who cheated, from losing repeatedly, or both. To reach a more definitive conclusion about the cause of these effects, one would need to observe children’s emotion expression in contexts in which the experience of losing initially versus repeatedly and the experience of playing against a fair versus a cheating partner were independent and, therefore, could be counterbalanced.

I chose to study emotion expression in a sample of African American children because these children are well represented in groups who participate in emotion-focused interventions for the prevention of conduct disorder. Accordingly, I felt that it was important to include African American children in developing an empirical foundation to guide emotion-focused intervention efforts, rather than basing the development of such interventions on findings obtained from samples of largely White children. In the current investigation, two empirical approaches were used to insure the cultural validity of the measurement of constructs such as aggression, emotion expression, and peer rejection. First, participants were categorized as
rejected and aggressive through the peer nominations of classmates who were almost entirely African American themselves. Second, when children’s emotion expression was observationally coded, reliability analyses were conducted comparing the coding of African American observers to the coding of White observers to insure that the two groups of observers viewed children’s expressions of emotion in similar ways.

Several limitations of the current study should be mentioned. First, in considering the findings discussed previously, it is important to remember that these effects may be specific to African American children in middle childhood and may not generalize to other ethnic groups or age levels. Second, these findings cannot be generalized beyond the context of competitive game playing with a peer, and they may be specific to those game-playing situations that involve losing and playing against a partner who plays unfairly. Third, only one source of data (peer nominations) and only one peer nomination item were used to measure sociometric status and aggression. In future studies, it would be preferable to measure these constructs in a way that utilizes multiple methods and multiple sources of information. Fourth, although it was argued that the use of the cultural informant approach to coding emotion expression was adequate for the purposes of the study, it is possible that interesting information would have emerged had a more fine-grained observational approach been used.

ACKNOWLEDGMENTS

This investigation was supported by a grant from the Duke Center for the Study, Prevention, and Treatment of Disruptive Behavior Disorders. The author would like to thank the following individuals for their help with this project: (1) the author’s dissertation committee: Adrian Angold, John Coie, Philip Costanzo, Barbara Fredrickson, Janis Kupersmidt, and John Lochman; (2) data collection assistants: Joe Craven and Deollo Johnson; (3) observational coders: Neil Cornish, Aaron Drew, Aron Evans, Laura Jones, Stephanie Maher, Julie Marcus, and Mandy Parks; (4) confederates: Damien Barnette, Michael Cary, Buster Collins, Joshua Johnson, Herlisa Miles, Annette Thompson, and Charnae Young; (5) Claire Hyman; and (6) Toon Cillessen.

ADDRESS AND AFFILIATION

Corresponding author: Julie A. Hubbard, Department of Psychology, University of Delaware, 220 Wolf Hall, Newark, DE 19716-2577; e-mail: jhubbard@udel.edu.

REFERENCES


