The Situation Specificity of Youth Responses to Peer Provocation

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Previous studies have identified peer provocation as a challenging class of situations for youth. The work presented here builds on previous methods of assessing peer provocation by (a) increasing the contextual detail of the vignettes; (b) developing a reliable, descriptive coding system of the range of youth responses to physical, verbal, and relational provocation; and (c) assessing the relevance of these situations for a sample (N = 76) of ethnically diverse, economically disadvantaged youth ages 12 to 14. The vignettes were used to examine the situation specificity of youth responses to provocation. Situation and identity of aggressor were both predictors of youth responses. For example, participants "matched" physical aggression to physical provocation. These findings are consistent with previous studies demonstrating the situation specificity of social information processing, even within the relatively homogeneous category of peer provocations.

The social information processing (SIP) model outlined by Crick and Dodge (1994) has become the dominant approach to understanding children's social functioning. There is increasing recognition that youth social behavior, as well as the cognitive processes upstream from youth behavior, should be assessed with reference to the situations in which behavior is enacted (see Dodge, Laird, Lochman, Zelli, & the Conduct Problems Prevention Research Group, 2002). Several teams have identified managing peer provocation as a key social task for children (Dodge, McClaskey, & Feldman, 1985) and adolescents (Farrell, Ampy, & Meyer, 1998). Accordingly, many inventories of peer provocation have been developed (e.g., Erdley & Asher, 1996; Spetter, La Greca, Hogan, & Vaughn, 1992).

Previous work on social functioning has tended to focus on physical provocation (see Crick, Grotpeter, & Bigbee, 2002). However, a substantial body of work has demonstrated that relational provocation, in which the aggressor threatens a child's social relationships, is prevalent among both boys and girls (see Rose & Rudolph, 2006). For this reason, inventories of provocation situations should include conflicts of this type. Several measures including both physical and relational

provocation have been developed to assess SIP patterns among youth in Grades 2 through 6 (e.g., Crick, 1995; Hughes, Meehan, & Cavell, 2004; Leff et al., 2006).

This study examines the relevance of relational and physical provocation situations for a sample of older economically disadvantaged youth, a group at heightened risk for psychosocial difficulties, such as psychological symptoms (Costello et al., 1996). Significant evidence suggests that physical aggression is common among lower-socioeconomic status youth (e.g., Thomas, Bierman, and the Conduct Problems Prevention Research Group, 2006). However, several studies with younger children indicate that relational aggression may occur less frequently among lower-income children than in more advantaged samples (Bonica, Arnold, Fisher, Zeljo, & Yershova, 2003; McNeilly-Choque, Hart, Robinson, Nelson, & Olsen, 1996).

The work presented here attempts to enhance the provocation scenarios used in previous studies in several ways. First, our vignettes describe deliberate provocations in which the aggressor has clearly transgressed against the child. Many previous measures describe ambiguous provocation, in which the intent of the aggressor is unclear (e.g., Crain, Finch, & Foster, 2005; Crick, 1995; Dodge et al., 2002; Erdley & Asher, 1996). These situations are often designed to assess children's intent attributions. However, ambiguous provocations may place different demands on a child than confronting

intentional physical or relational aggression. A possible distinction between the two types of situations is supported by at least one study demonstrating that deliberate provocation may lead to more problematic responding than ambiguous provocation (Spetter et al., 1992).

In addition to assessing responses to what may be a different class of provocation, presenting deliberate provocations may also help to isolate decision-making processes. Ambiguous provocations are designed to assess children's judgments about the intentions of the provocateur. Within an SIP framework, attributions are upstream from decision-making processes (Crick & Dodge, 1994). Thus, variability in the interpretation of the vignettes informs later stages of processing and may influence youth behavior. Although attributional biases may still exist in response to deliberate provocation, clarifying the intent of the aggressor reduces variability in participants' interpretation of the vignettes, thereby focusing the assessment lens more clearly on decision-making processes.

To standardize interpretations of the vignettes further, we systematically incorporated additional contextual details (e.g., where the child is, who else is present). In the absence of these details, respondents may fill in different information and thus may respond to what are functionally different situations (Caplan, Bennetto, & Weissberg, 1991). In an explicit test of the role of contextual details in youth responses to interpersonal situations, we presented each vignette twice, changing only the identity of the aggressor. Previous studies suggest that aggressor identity is associated with differences in social problem solving. Notably, youth generated more skillful solutions when interacting with a friend (Caplan et al., 1991).

In addition to developing the vignettes, our study aims to provide a more detailed analysis of the responses youth generate to different types of peer provocation. Several previous inventories of relational and physical provocation have focused on SIP stages upstream from behavior, such as hostile attribution biases (e.g., Crick, 1995; Leff et al., 2006), response evaluation, and beliefs about self-efficacy (e.g., Crick & Werner, 1998). There appear to have been few attempts to code relationally aggressive responses actually generated by youth. Instead, researchers have used alternate techniques such as asking participants to rate the likelihood that they would engage in an aggressive behavior (e.g., Crain et al., 2005; Delveaux & Daniels, 2000). This approach does not require youth to generate their responses and thus may be tapping different stages of the SIP model. Hughes et al. (2004) obtained open-ended responses to relational provocations but did not

code relationally aggressive responses as a discrete form of aggression. Instead, these strategies were combined with verbally aggressive responses.

More generally, we also attempted to build on previous coding systems by constructing descriptive categories that did not contain any implicit judgments about the appropriateness of a given strategy (e.g., Troop-Gordon & Asher, 2005). This strategy differs from many previous coding approaches, which contain some valenced categories such as "competent" (e.g., Dodge et al., 2002) and "assertive/prosocial" (e.g., Hughes et al., 2004). In some populations, perceptions of the appropriateness of particular youth responses may vary. For example, studies have shown that aggression may be associated with peer acceptance (e.g., Cairns, Cairns, Neckerman, Gest, & Gareipy, 1988). Adults may not perceive this behavior so positively. Given that competence is a relative term, descriptive coding leaves evaluations of behavior to the relevant judges.

The development of the coding categories allows us to complete a more fine-grained assessment of the situation specificity of youth responses to peer provocation. Although the situation specificity of youth behavior has been well documented, researchers often compare responses to broad classes of situations (e.g., peer provocation and peer group entry; Dodge et al., 2002). Observational work suggests that significant variability may exist within the provocation category (Wright, Zakriski, & Drinkwater, 1999). This study examines the extent to which this variability may be because of stable patterns in responding to different types of aversive peer events. It is expected that situation will be strongly associated with youth's strategies. In particular, we expected physically aggressive responses to be highly situation specific, based on the contextualized nature of those responses across a wider range of interpersonal contexts (Wright et al., 1999). Similarly, Crick (1995; Crick et al., 2002) found that hostile attribution biases are specific to type of provocation (e.g., relationally aggressive youth show biases for ambiguous relational provocation only). Based on these findings, we expect that relationally aggressive responses should be specific to relational provocation.

Method

The participants attended a summer program designed to promote academic functioning among economically underprivileged children in the northeastern United States. To participate in the program, youth must qualify for free or reduced-cost lunch. Data were collected during two summers. Both years, all students in Grades 7 and 8 were asked to participate. Participants ranged in

age from 12.56 years to 14.81 years ($M = 13.64$, $SD = .58$). All study procedures were approved by the Institutional Review Board of Yale University. Written parental consent was obtained via mailings, and oral assent was obtained from all youth participants. Of 171 available families, 102 (60%) returned parental consent forms. Seventy-six (75%) of these youth completed the study and were included in the final sample. The remaining youth were unavailable on the day of testing. In the final sample, 54% of participants were male, 49% were Hispanic, 41% were African American, and 8% were Caucasian.

A female interviewer trained to administer the protocol tested each participant individually. The interviewer read two practice situations and then administered the Peer Provocation Inventory (PPI). The PPI included six vignettes describing provocation by another child. Two vignettes depicted physical aggression (i.e., pushing, attempting to take a material possession), one depicted verbal provocation (i.e., name-calling), and three vignettes described relational provocations (i.e., spreading rumors, ostracizing a child from peers, refusing to speak to someone). The appendix presents three sample vignettes. The remaining vignettes are available from the first author.

To standardize vignette presentation, a recording was made of a female narrator reading each situation. At the end of each scenario, the narrator asked the question, "What would you say or do?" To minimize the amount of time that participants had to evaluate their responses for social desirability, interviewers prompted children who appeared to be hesitating to answer quickly. After responding, participants listened to a recording asking what they would say or do if the familiarity of the aggressor varied (e.g., participants who had been told that the aggressor was a good friend then were asked what they would say or do if the aggressor were someone that they did not know well). The order of the presentation of the familiarity of the aggressor was counterbalanced across the six vignettes. After responding to all situations, participants were asked whether each of the situations had happened to them in the past year at school.

Responses were coded into eight descriptive categories. Based on the existing literature, we included the following coding categories: physical aggression, verbal aggression, relational aggression, telling an adult, seeking an explanation, and doing nothing. After reading the responses, these six categories were retained, although relational aggression was divided into two categories: ending one's own relationship with the aggressor and damaging the aggressor's relationship with others. In addition, an eighth category was created for responses that involved stating

that the aggressor's actions crossed personal limits. Responses could be coded into multiple categories (e.g., a response that involved saying, "Why did you do that, you jerk?" to the aggressor would be coded as both seeking an explanation and verbal aggression). The coding manual is available from the first author.

Two graduate research assistants blind to the purpose of the study coded participants' responses to the vignettes. To determine the reliability of the coding system, we computed kappa coefficients between the coding of the second author and each of the two raters on the first wave of data collected ($n = 46$). These kappas all exceeded .76. After collection of the second wave of data, we reassessed the interrater agreement of the second author and one of the raters. All kappas exceeded .82.[1] A research assistant's coding was used in all subsequent analyses. Eighty percent of responses were coded into at least one category. The percentage of responses coded into each category was as follows: physical aggression, 9%; verbal aggression, 16%; ending one's relationship with the aggressor, 4%; damaging the aggressor's relationship with others, 2%; doing nothing, 7%; seeking an explanation, 40%; telling an adult, 4%; and limit crossing, 31%. No category had fewer than 20 responses placed in it.

Results

Representativeness of Sample

Sixty percent of parents returned consent forms. Using summary information provided by the program, we determined that our sample did not differ from the population of the summer program in terms of ethnicity, family income, maternal education, or ratings of physical aggression.[2]

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[1]The interrater reliability indexes between the second author and each of the other two raters were as follows: physical aggression, $\kappa = 1.0$, 1.0; verbal aggression, $\kappa = .86$, .86; ending relationship with aggressor, $\kappa = .93$, .91; damaging the aggressor's relationship with others, $\kappa = .84$, .76; doing nothing, $\kappa = .86$, .90; seeking an explanation for the provocation, $\kappa = .96$, .97; telling an adult, $\kappa = .88$, .96; stating that the provocation crossed personal limits, $\kappa = .85$, .90. Reliability was also assessed for the coding of the two research assistants. These kappas all exceeded .81, except for damaging the aggressor's relationship with others, which was .68. The frequency of responses in this category was very low, which likely contributed to the lower reliability of the coding.

[2]The summer program provided descriptive statistics for demographic characteristics of program participants (e.g., ethnicity, family income) as well as evaluations of program participants' behavior. For each year we collected data, we completed one-sample t tests and chi-square tests to evaluate whether study participants' demographic characteristics and guidance counselor evaluations differed from those of program participants. None of these analyses were significant (all ps > .31).

Prevalence of Situation Occurrence

To determine the relevance of the situations in the lives of the participants, we calculated the number of children who stated that they had experienced each of the six situations in the last year at school. Forty-nine percent of participants reported being shoved, 33% reported having property damaged, 57% reported being ignored, 17% reported being left out of a party, 55% reported having rumors spread about them, and 74% reported being called a name.

Situation Specificity of Responses

Logistic-regression techniques were used to assess the situation specificity of participants' coded responses to the six vignettes. The criterion variable across the eight analyses was the presence or absence of each of the response categories (e.g., physical aggression). The two types of predictor variables were situation (with six values) and relationship to the aggressor (with two values). For each situation, four new cases were added that had a response coded into each category (Menard, 1995). This was done to eliminate zero frequencies, which typically result in large parameter estimates and standard errors, and possible failure of convergence (Hosmer & Lemeshow, 2000). As the situation predictor had six nominal scale values, multiple indicator variables were created using an effect-coding scheme, as outlined by Hosmer and Lemeshow. For each response category, five situation predictor variables were created. For each of these five variables, the situation that had the frequency of responses closest to the mean frequency was chosen as the reference category and coded as -1. The situation of interest was coded as 1, and the remaining situations were coded as 0. When all five predictors were entered, effect coding allowed for comparison between the odds ratio (OR) for each situation coded as 1 and the average odds across all situations (Hosmer & Lemeshow, 2000). Thus, an OR significantly greater than 1 indicated that participants were more likely than average to give a response in that situation. Because repeated observations were collected from each participant, a robust estimator was used to calculate standard errors (Williams, 2000).

Table 1 presents the results of the eight logistic-regression analyses. Alpha was corrected for the six predictors within each analysis and set at .008 using a Bonferroni correction procedure. Our analyses revealed that manipulating the identity of the aggressor affected the frequency of responses in three categories. Participants were more likely to give responses coded as seeking an explanation or verbal aggression when the aggressor was a good friend. Conversely, responses coded as doing nothing were more likely when the aggressor was described as someone the participant did not know.

As expected, situation was highly predictive of physically aggressive responses, which were significantly more likely to occur in response to being shoved or having property damaged and significantly less likely to occur in the other three situations. Similarly, damaging the aggressor's relationship with others, a relationally aggressive strategy, was significantly more likely to occur in response to rumor spreading and significantly less likely to occur in response to the physical provocations, as well as being ignored. The less controversial responses also showed a high degree of specificity. For example, seeking an explanation was significantly more likely to occur in response to being shoved and significantly less likely to occur in response to having property damaged, being left out of a party, and being called a name.

Discussion

The goal of this study was to contribute to the development of a more contextually sensitive approach to assessing social functioning among economically disadvantaged youth. We focused on peer provocation, as prior work suggested the importance of managing this type of situation. Physical and verbal provocation occurred frequently to participants. The majority of participants also endorsed experiencing at least one of the relational provocations. Although previous studies have suggested that relational aggression may be less common than physical aggression among lower-income youth (e.g., Xie, Farmer, & Cairns, 2003), our findings suggest that these situations occur in the lives of our participants with some regularity.

We also developed an updated coding manual that described the range of youth responses to provocation. Our eight coding categories accommodated 80% of youth strategies and exhibited a high degree of interrater reliability. Physically and relationally aggressive responses occurred infrequently, a finding consistent with previous studies examining youth's open-ended responses to a different type of peer conflict (Hopmeyer & Asher, 1997), and ratings of the likelihood of engaging in relationally aggressive behaviors (Crain et al., 2005). Verbal aggression was a more common strategy. The most frequently given responses were seeking an explanation for the provocation and stating that the provocation crossed personal limits.

Table 1. *Summary of Odds Ratios (95% Confidence Intervals) for Variables Predicting Presence or Absence of Response Categories*

	Physical Aggression	Verbal Aggression	Ending Relationship	Damaging Relationship	Doing Nothing	Seeking Explanation	Telling Adult	Limit Crossing
Being Shoved	3.23* (1.83, 5.68)	0.77 (0.54, 1.12)	0.75 (0.56, 1.01)	0.65* (0.53, 0.79)	0.48* (0.33, 0.70)	4.29* (3.01, 6.10)	1.15 (0.76, 1.75)	0.63* (0.46, 0.87)
Being Ignored	0.48* (0.33, 0.68)	0.74 (0.55, 1.00)	1.80 (1.14, 2.84)	0.65* (0.53, 0.79)	1.74 (1.13, 2.69)		0.66 (0.48, 0.91)	0.52* (0.39, 0.70)
Having Property Damaged	3.89* (2.17, 6.98)			0.65* (0.53, 0.79)	0.42* (0.27, 0.65)	0.68* (0.51, 0.90)	2.68* (1.54, 4.68)	1.61* (1.21, 2.16)
Not Invited to Party	0.48* (0.33, 0.68)	0.63 (0.41, 0.96)	1.08 (0.75, 1.55)	1.30 (0.82, 2.06)	2.52* (1.55, 4.10)	0.60* (0.45, 0.80)	0.59* (0.41, 0.85)	0.39* (0.28, 0.54)
Being Called a Name	0.48* (0.33, 0.68)	1.43 (1.03, 1.98)	0.67 (0.49, 0.91)			0.45* (0.31, 0.67)	0.66 (0.48, 0.91)	
Having Rumor Spread		2.18* (1.51, 3.13)	1.52 (1.00, 2.30)	2.70* (1.61, 4.53)	0.85 (0.60, 1.18)	1.14 (0.84, 1.55)		2.76* (2.09, 3.63)
Relationship to Aggressor	1.22 (0.94, 1.60)	0.71* (0.56, 0.89)	0.67 (0.47, 0.96)	0.88 (0.67, 1.16)	2.08* (1.39, 3.12)	0.43* (0.33, 0.56)	1.17 (0.94, 1.45)	1.06 (0.83, 1.37)

Note: For each coding category, the situation with the number of responses closest to the mean served as the reference category and was omitted from the logistic-regression analyses. The corresponding cells are left blank in the table.

*$p < .008$.

The development of the vignettes and manual allowed us to explore further the situation specificity of youth responses to provocation. Consistent with previous studies (Caplan et al., 1991), manipulating one detail of the vignettes, aggressor identity, changed the frequency of responses in three categories. As expected, youth generated more responses coded as seeking an explanation, a response likely to be construed as socially appropriate, with friends. Unexpectedly, they were also more likely to be verbally aggressive with friends. Youth generated a greater number of strategies coded as doing nothing in response to someone they did not know well.

Previous work has demonstrated the situation specificity of different stages of SIP across different classes of situations (e.g., Dodge et al., 2002). Our study provides additional information about the contextualized nature of youth social functioning by more precisely identifying the contexts that may engender potentially problematic behavior. In general, responses to the provocations presented in our study were highly situation specific. Consistent with our hypothesis, physical aggression showed perhaps the greatest degree of situation specificity. Our findings indicate that the likelihood that youth would endorse a physically aggressive strategy increased dramatically when confronted with a physically aggressive provocation. These findings are consistent with previous work demonstrating that more global scores of externalizing difficulties may obscure important functional differences in problematic behavior (Wright et al., 1999).

Similarly, damaging the aggressor's social relationships, a relationally aggressive response, only occurred in response to being relationally provoked. This finding is consistent with previous work demonstrating that relationally aggressive youth show attribution biases in response to relational, but not instrumental, provocations (Crick, 1995; Crick et al., 2002). Our results suggest that rumor spreading may be particularly likely to elicit this type of response. Ending one's relationship with the aggressor is another strategy identified as relationally aggressive (e.g., Delveaux & Daniels, 2000). Unlike damaging the aggressor's relationship with others, this type of response did not vary significantly across provocation type. This distinction suggests the utility of coding these response categories separately.

The two types of strategies most likely to be construed as socially appropriate, seeking an explanation for the provocation and stating that the action crossed limits, also showed a considerable degree of situation specificity. Researchers often focus on identifying situations that lead to problematic functioning. However, developing a model of situational antecedents of social strategies more likely to be received positively may also inform intervention approaches. If there are behaviors that are thought to be advantageous that many children are not enacting under particular conditions, it may be helpful to teach youth to use those behaviors more generally.

The study presented here has several limitations. The relatively small size of the sample limited power to conduct more complex analyses. Future work should explore potential moderators of the situation-response contingencies identified in this study, such as gender, age, and ethnicity. Further replication may also allow for extension of the provocation vignettes. Our measure includes a range of provocation situations used frequently in studies of SIP. However, it does not include all of the relevant situations. For example, in the future, it will be important to include situations describing proactive provocation (e.g., Crick & Dodge, 1996). Other physically and relationally aggressive strategies may be assessed in response to these additional situations. Finally, the return rate for consent forms raises concerns about the external validity of the findings. However, our study participants did not appear to differ from the population of students in the program.

Implications for Future Research, Policy, and Practice

Despite these challenges, this study contributes to the literature addressing the situation specificity of youth social functioning by further delineating factors associated with more or less controversial responses among a sample of economically disadvantaged youth. In addition, the vignettes and coding manual provide a feasible method for assessing the contextualized nature of youth responses to peer provocation. Measuring behavior in a more contextualized manner may result in a more complete understanding of the sources of youth's social strengths and difficulties, as more global assessments of overall behavior rates can obscure functional differences in strategies (Wright & Zakriski, 2001; see also Dirks, Treat, & Weersing, 2007). Thus, development of inventories of this type may provide a standardized method by which researchers and clinicians can incorporate social context into their assessment protocols.

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Appendix. *Sample Vignettes from Peer Provocation Inventory*

1. Physical aggression

You have just started walking home after school is over. You can see other students and teachers leaving for the day as well. You see your good friend[a] walking quickly towards you. He/she looks really angry. He/she walks right up to you and before you can say anything, he/she shoves you.

2. Verbal aggression

You are sitting at your desk in class working on some homework. The teacher is grading papers at her desk across the room and the other students are all busy working on their own projects. Your good friend[a], who sits next to you, leans over to talk to you. He/she asks you a question about an assignment from this morning. You answer the question, and he/she gives you a dirty look and says: "That's a stupid answer. You must be really dumb."

3. Relational aggression

You are walking by yourself up to the door of the school before class in the morning. There are lots of students outside, and some of the teachers too. As you get to the door you see a good friend[a] of yours. He/she is walking into the school. You say hi to him/her. He/she turns around, looks right at you, and says: "Why are you talking to me?" then turns away from you and walks quickly away.

[a] In an alternate presentation, "good friend" was replaced with "a kid from your class who you don't know very well."