Children’s Perceptions of Peers With Somatic Symptoms: The Impact of Gender, Stress, and Illness

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Objective: To investigate how illness characteristics influence children’s responses to ill peers.

Methods: A sample of 363 4th and 5th graders responded to a vignette describing a peer with abdominal pain. In a $2 \times 2 \times 2 \times 2$ design, conditions varied by (a) evidence for organic disease, (b) presence of stress, (c) sex of vignette character, and (d) sex of respondent. Children rated symptom severity, liking for the peer, and whether the peer should be excused from normal responsibilities.

Results: Same sex preferences significantly influenced children’s liking for a peer. Children viewed symptoms with an organic etiology as more severe than those without one. Under certain conditions, symptom severity judgments mediated the relation between the presence of organic disease and (a) liking and (b) granting relief from responsibility. The presence of stress had little effect on ratings of symptom severity, liking, or relief from responsibility.

Conclusions: Gender and evidence of organic disease influence children’s perceptions of and responses to symptomatic peers.

Key words: children; peers; symptoms; gender; stress; recurrent abdominal pain.

Children’s conceptions of illness and pain become more complex over time as their understanding of the etiology of illness progresses from magical explanations to processes involving internal physiological and psychophysiological mechanisms (Hergenrather & Rabinowitz, 1991). Children as young as 4 years distinguish between mental and physical processes (Inagaki & Hatano, 1993; Miller & Bartsch, 1997). An appreciation of psychophysiological causes of illness begins to emerge around age 11 (Burbach & Peterson, 1986). Although much is known about children’s conceptions of illness, relatively little is understood about how these conceptions may influence their responses to others who are ill. Because peer interactions play a significant role in social and emotional development (Parker & Asher, 1987), it is important to understand children’s responses to ill peers.

Related research on adults’ mental representations of health and illness have investigated characteristics that make symptom reports more or less believable (Skelton, 1991). Within Western culture, the dominant biomedical model of health and illness validates symptom reports associated with organic disease (Engel, 1977). In contrast, symptoms reported in the absence of organic pathology are perceived as noncredible and are assumed to be a.

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result of displaced emotional distress or a means of obtaining secondary gains associated with occupying the sick role (Skelton, 1991).

Similarly, in the absence of organic disease, parents appear to infer psychological causes for children’s misbehavior and to respond more negatively than when organic disease is present (Walker, Garber, & Van Slyke, 1995). Furthermore, the presence of psychosocial stressors may decrease the perceived credibility of an illness and increase the likelihood that adults will view a person’s illness as psychologically induced (Skelton, 1991).

Thus, the presence or absence of organic disease and psychosocial stressors appears to influence adults’ responses to others who are ill in a manner consistent with a dualistic view of illness as either organic or psychogenic. However, little is known about how children perceive and respond to persons exhibiting various types of symptoms. Among the few studies available, Peterson, Mullins, and Ridley-Johnson (1985) investigated how children responded to a female peer with or without symptoms of depression, and with or without recent life stress. Children rated the depressed peer as significantly less likable than the nondepressed peer; however, the depressed peer was more likable if she had experienced recent life stress. Similar findings have been reported by Little and Garber (1995), who, using classroom peer nominations, found that children with high levels of self-reported depressive symptoms and stressful life events were less likely to be rejected by peers than children with depressive symptoms and low levels of life stress. Peterson et al. (1985) also found that the respondent’s gender influenced ratings of peer liking: girls rated the female peer more positively than did boys. These studies demonstrate that depressive symptoms, life stress, and the respondent’s gender assume significant roles in children’s responses to peers with emotional symptoms.

The only studies investigating responses to peers with symptoms of physical illness have focused on children with chronic illnesses including children with cancer (Noll, LeRoy, Bukowski, Rogosch, & Kulkarni, 1991), asthma (Graetz & Shute, 1995), sickle cell disease (Noll, Vannatta, Koontz, & Kalinyak, 1996), survivors of bone marrow transplantation (Vannatta, Zeller, Noll, & Koontz, 1998), and brain tumors (Vannatta, Gartstein, Short, & Noll, 1998). Children with these conditions were viewed by peers as more sensitive and isolated (e.g., feelings easily hurt, trouble making friends) and/or were perceived as less sociable and less accepted than matched controls.

No published studies have examined children’s perceptions and responses to peers with symptoms of common illnesses. It is not known, for example, if children share adults’ bias that symptoms without organic etiology are less legitimate than those associated with organic disease, and if children respond differently to peers with and without an organic basis for physical complaints. In order to address this question, this study focused on recurrent abdominal pain (RAP), a common recurrent pain of childhood that may occur with or without an identifiable organic etiology (McGrath, 1990). Symptoms of RAP can be quite disabling, regardless of their cause, and are a frequent reason for pediatric clinic visits. Recurrent abdominal pain also was chosen because its high incidence (affecting approximately 10% of school-age children (Apley, 1975)) suggested that it would be familiar to most children. Using vignettes, we examined how the presence or absence of an organic etiology influenced children’s responses to a description of a peer with abdominal pain. We also investigated the roles of psychosocial stress and child gender in children’s perceptions.

This study aimed to identify factors that influence children’s liking for a peer with physical symptoms and the extent to which children would grant the peer relief from responsibility (i.e., relieve the child from expected activities or obligations) because of those symptoms. The following hypotheses were tested:

1. The presence of organic disease and life stress will be associated with ratings of greater liking and granting of relief from responsibility.

2. Children’s judgments of symptom severity will mediate the relation of organic disease and stress to ratings of liking and granting of relief from responsibility. Specifically, the presence of organic disease or stress will be associated with ratings of symptoms as more severe, and greater severity ratings will be associated with greater liking and granting of greater relief from responsibility to the vignette character.

3. Ratings of liking will be greater for conditions in which respondents are paired with target characters of the same sex.
Method

Participants

Participants were 363 4th and 5th grade students representing 40% of all eligible students in four public schools. The mean age was 10.15 years (SD = .76) and 52% of the sample was female. The racial composition of the sample was Caucasian (69%), African American (26%) and other (5%). Fifty-seven percent of children reported their parents were currently married or remarried.

Independent Variables

The study comprised a 2 (presence or absence of evidence for organic disease) x 2 (presence or absence of a psychosocial stressor) x 2 (sex of vignette character) x 2 (sex of respondent) design. Each child was presented with one of eight vignettes describing a child with recurrent complaints of abdominal pain. The description of abdominal pain was the same across conditions and was consistent with descriptions of RAP (Apley, 1975). Conditions presenting evidence for organic disease stated that medicine was prescribed for a fictitious diagnosis of “abdominitis.” Conditions without evidence for organic disease stated that a doctor “did not find any medical problems” and did not prescribe medicine. Stressor-present conditions described frequent parental fighting with the possibility of the father moving out of the home, while stressor-absent conditions described family members as getting along “fine.” The sex of the target character described in the vignette also was varied. The condition with evidence for organic disease, stress, and a female vignette character is as follows:

Mary is a student in your grade in school. She has been having a lot of stomach aches over the past year. When she has these stomach aches, she can’t do her regular activities. For example, she has missed several days of school this year, frequently misses classes, goes home early and doesn’t play outside as much as she used to. Mary’s parents have been fighting a lot over the past year. Lately they have been talking about her Dad going to live in a different house. Mary’s parents have taken her to see a doctor about the stomach aches. The doctor examined Mary and ran some tests. The doctor found a medical problem called abdominitis and gave Mary some medicine for her illness.

Equal numbers of male and female respondents were randomly assigned to each of the eight conditions, generating sixteen cells. Each cell ranged in size from 20 to 30 participants. No significant differences existed among the eight conditions with respect to child age or race.

Manipulation Check

A manipulation check was performed to verify that children understood essential information presented in the vignette. Each of these questions, as well as those for the dependent variables, was phrased for a vignette character named either Mary or John, denoted below by “__”. Two questions assessed information that did not vary by vignette condition: (a) “Did __ have stomach aches?” and (b) “Is __ missing school?” Responses to another two questions were expected to vary depending on whether the participant listened to a vignette condition with or without organic disease: (a) “Was the doctor able to find a medical problem for __’s stomach aches?” and (b) “Did the doctor give __ some medicine?” Finally, the salience of the stressor variable was assessed with three questions: (a) “How well are __’s parents getting along with each other?” (b) “How much do you think __ is under stress?” and (c) “How much do you think that __ is stressed because of how things are going in (his or her) family?” Responses to the stress questions, as well as the dependent variable questions, were rated on five-point scales ranging from 1 (“very badly,” “not at all,” or “do not agree at all,” depending on the question) to 5 (“very well,” “a whole lot,” or “completely agree,” respectively).

Dependent Variables

Following the manipulation check, children responded to a series of questions created for this study to assess Liking, Severity, and Relief from Responsibility.

Liking. Five questions assessed liking for the vignette character: (a) “How much would you like __?” (b) “How much would you like to eat lunch with __?” (c) “How much would you like to play with __ at school?” (d) “How much would you like to have __ come over to your house some time?”
and (e) “How much would you like to do something with __ on the weekend?” These items were summed to create an Index of Liking with an alpha reliability of .89.

Severity. Two questions assessed perceived severity of the vignette character’s symptoms: (a) “How badly do you think ___’s stomach aches hurt (him/her)?” and (b) “How serious do you think ___’s stomach aches are?” The alpha reliability for the Index of Severity was .77.

Relief From Responsibility. Four statements assessed the extent that the vignette character should be relieved from responsibilities: (a) “___’s mother should let (him/her) stay home from school when (he/she) has stomach aches,” (b) “When ___ has a stomach ache, the teacher should let ___ rest at (his/her) desk while the other kids are doing their work,” (c) “The teacher should let ___ go home when (he/she) has a stomach ache in school,” and (d) “___’s mom should tell (him/her) that (he/she) doesn’t have to do (his/her) chores when (he/she) has a stomach ache.” The alpha reliability of the Relief from Responsibility Index was .70.

Procedure

The experimenter presented information about the study and consent forms to each participating classroom. Parental consent and the child’s verbal assent were obtained prior to random preassignment of each participant to a single condition. Children from each of the four schools were represented in all eight experimental conditions. Participants were tested in small groups of three to fifteen children. Each group listened to one of the eight audiotaped vignettes and had a written copy of the vignette. Questionnaire items were read aloud by the experimenter to ensure standardization.

Results

Overview of Data Analysis

No significant effects were found for demographic variables (child race, parent marital status) on outcome variables (liking, severity, relief from responsibility); consequently, these variables were not considered in the analyses. Following preliminary manipulation check analyses, data pertaining to the indices of liking, relief from responsibility, and severity were analyzed with a series of 2 (presence or absence of organic disease) × 2 (presence or absence of a psychosocial stressor) × 2 (sex of the vignette character) × 2 (sex of the participant) analyses of variance (ANOVs). A further set of analyses was conducted to evaluate whether the relation between the independent variables (evidence for organic disease, stress, sex of vignette character, and sex of the respondent) and each of two dependent variables (i.e., liking and relief from responsibility) was mediated by respondents’ judgments of the severity of the symptoms reported. Tests of mediation were composed of a series of multiple regression analyses as outlined by Baron and Kenny (1986).

Manipulation Check Results

Ninety-four percent of the children responded correctly to all four questions assessing vignette comprehension. Correct responses to two or more of these questions were judged acceptable. One child responded incorrectly to three of the four questions and was removed from the data set. Separate ANOVAs showed significant main effects for the stressor manipulation on three questions (all ps < .0001). Means and standard deviations for each question were as follows: (a) “How well are ___’s parents getting along with each other?” (stress present M = 1.36, SD = .61; stress absent M = 4.58, SD = .65); (b) “How much do you think ___ is under stress?” (stress present M = 3.30, SD = 1.32; stress absent M = 2.30, SD = 1.14); and (c) “How much do you think that ___ is stressed because of how things are going in (his/her) family?” (stress present M = 3.54, SD = 1.40; stress absent M = 1.58, SD = .99). The manipulation check results demonstrated that the organic disease and stressor factors were adequately salient to participants.

Analysis of Variance Results

Liking Index. Contrary to expectations, neither the presence of organic disease, F(1, 347) = 1.02, p = .31, nor the presence of a stressor, F(1, 347) = .06, p = .80, had main effects on the Liking Index. However, a significant three-way interaction for organic disease by sex of vignette character by sex of respondent, F(1, 347) = 12.89, p < .0001, was found. Mean ratings appear in Table I. Post hoc analyses indicated that in general, respondents liked vignette characters of their own sex significantly more than characters of the opposite sex. Specifically, boys
liked males significantly more than females in conditions both with organic disease, $t(88) = 2.11$, $p < .04$, and without organic disease, $t(84) = 3.69$, $p < .0001$. Girls liked females significantly more than males when symptoms were described without organic disease, $t(88) = 6.65$, $p < .0001$.

There was only one instance in which liking was not significantly greater for a same sex character: girls liked male and female vignette characters equally well, $t(95) = .77$, $p = .44$, when organic disease was present. In contrast, when organic disease was not present, girls liked male characters significantly less than when evidence of disease was present, $t(84) = 4.12$, $p < .0001$. This was the only situation in which organic disease had a significant effect on ratings of liking.

Relief From Responsibility Index. Consistent with study hypotheses, the presence of organic disease had a significant effect on ratings of relief from responsibility, $F(1, 347) = 5.42$, $p < .02$. Participants were more likely to indicate that the vignette character should be relieved from responsibility if organic disease was present ($M = 3.16$, $SD = 1.02$) than absent ($M = 2.93$, $SD = 1.02$). However, two significant three-way interactions qualified this effect.

A significant three-way interaction took place for organic disease, the sex of vignette character, and the sex of the respondent, $F(1, 347) = 9.94$, $p < .002$, (see ratings in Table II). In general, both boys and girls granted more relief to male than to female characters. Follow-up analyses indicated that the interaction was primarily due to one instance in which the sex effect was not evident: in conditions without organic disease, girls granted equivalent relief from responsibility to male and female vignette characters, $t(88) = .70$, $p = .49$.

We had hypothesized that organic disease would correspond to granting higher levels of relief from responsibility. This was supported only when respondents rated vignette characters of the opposite sex. Specifically, girls granted male characters significantly greater relief from responsibility when organic disease was present than absent, $t(84) = 2.87$, $p < .01$, and boys granted female characters significantly greater relief from responsibility when organic disease was present than absent, $t(87) = 2.47$, $p < .02$. However, when respondents rated characters of their own sex, organic disease was not associated with greater relief from responsibility. Boys granted comparable relief from responsibility to male characters, regardless of presence or absence of organic disease, $t(85) = 1.14$, $p < .26$. Interestingly, when organic disease was present, girls granted female characters significantly less relief from responsibility than when organic disease was absent, $t(99) = 2.02$, $p < .05$.

A second, significant three-way interaction was observed for relief from responsibility that involved the organic disease, stress, and respondent sex variables, $F(1, 347) = 10.19$, $p < .002$, (see Table II). Post hoc analyses showed that the presence of stress and organic disease influenced how boys, but not girls, granted relief from responsibility. When stress was present, boys granted significantly more relief from responsibility to characters with organic disease than to those without, $t(89) = 4.21$, $p < .0001$, while girls granted equivalent levels of relief from responsibility regardless of whether or not organic disease was present, $t(85) = .07$, $p = .95$. When stress was absent, no significant differences in granting relief from responsibility for characters with and without organic disease occurred for boys’, $t(83) = .72$, $p = .47$, or girls’, $t(98) = 1.01$, $p = .31$, ratings.

Severity Index. With respect to ratings of symp-
tom severity, the expected main effect for organic disease was found, $F(1, 347) = 26.31, p < .0001$. Symptoms with organic disease were rated as more severe ($M = 4.18, SD = .84$) than were symptoms without organic disease ($M = 3.66, SD = 1.15$). However, these findings were qualified by a significant three-way interaction involving the organic disease, stress, and respondent sex variables, $F(1, 347) = 9.62, p < .002$ (see Table III). The three-way interaction indicated that when stress was present, boys rated symptoms with organic disease as significantly more severe than symptoms without organic disease, $t(89) = 3.50, p < .001$, whereas girls’ ratings did not reliably differ as a function of organic disease, $t(85) = .79, p = .43$. Conversely, when stress was absent, the difference between boys’ ratings of the severity of symptoms did not reliably vary as a function of evidence for organic disease, $t (83) = 1.53, p = .13$, while girls’ ratings were significantly higher when organic disease was present, $t (98) = 3.92, p < .0001$.

### Results of Multiple Regression Analyses

Due to the pervasive effect of gender on the preceding ANOVA findings, the sample was divided into four subsamples based upon pairings of respondents with vignette characters by gender prior to conducting the multiple regression analyses. This procedure allowed us to stratify on a variable—sex match—and to examine effects for each group (see Keppel, 1982, regarding interaction comparisons). The four subsamples were: male respondents rating male vignette characters (MM), male respondents rating female vignette characters (MF), female respondents rating male vignette characters (FM), and female respondents rating female vignette characters (FF).
In examining moderating effects, we tested significant differences between coefficients using the formula for unstandardized coefficients, as described by Cohen and Cohen (1983). However, in describing the results of these moderational tests, we report standardized regression coefficients for ease of interpretation.

In order to test the extent to which judgments of severity mediated the relation between manipulated vignette characteristics and participants’ responses to the vignette character, a set of three regression equations was performed on each subsample (Baron & Kenny, 1986). First, each dependent variable (liking and relief from responsibility) was regressed onto the independent variables. Next, the hypothesized mediator, the severity index, was regressed upon the independent variables (organic disease, stress, and the organic disease by stress interaction). Finally, each dependent variable was regressed onto both the independent variables and the hypothesized mediator, severity.

The severity index was considered to be a mediator if the following criteria were met: (a) the independent variable predicted the dependent variable in the first equation; (b) the independent variable predicted the severity variable in the second equation; and (c) the severity variable predicted the dependent variable in the third equation while, at the same time, the relation between the independent variable and the dependent variable was weaker in the third equation than in the first (see Baron & Kenny, 1986). Results showed that the organic disease independent variable met each of the three criteria above for one or more of the four sex-matched groups. However, few significant effects occurred for the stress variable or for the organic disease by stress interaction variable, and in no case was either of these variables involved in a significant full mediational pathway. Consequently, the remainder of the results section provides further detail about the mediational and moderational1 relations found for the organic disease independent variable only.

Relief From Responsibility. Figure 1 depicts how respondents’ ratings of symptom severity mediated the impact of organic disease on ratings of relief from responsibility. Severity served as a mediator

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1In examining moderating effects, we tested significant differences between coefficients using the formula for unstandardized coefficients, as described by Cohen and Cohen (1983). However, in describing the results of these moderational tests, we report standardized regression coefficients for ease of interpretation.
when respondents rated vignette characters of the opposite sex. The total effects that the presence of organic disease had on the degree of relief from responsibility granted to the vignette character were significant, except when boys rated male vignette characters. Further, severity ratings were significantly predicted by the presence of organic disease presented in the vignette for each group, except when girls rated female vignette characters. Finally, the degree of relief from responsibility granted to the vignette character was significantly predicted by ratings of severity made by each sex-matched group and, after these severity ratings were entered into the analysis, the effect that organic disease had on relief from responsibility was attenuated, except when girls rated female vignette characters.

Beta coefficients for the four independent groups (MM, MF, FM, and FF) were then compared to determine if significant differences existed (Cohen & Cohen, 1983). Significant differences between these coefficients would suggest that the sex of the respondent and/or vignette character moderated the observed mediational effects. The analyses showed that for female respondents, the sex of the vignette character moderated the mediating relation of the severity variable.2

Liking. The only instance in which severity served as a mediator between organic disease and ratings of liking was when female respondents rated liking for male vignette characters. When rating male vignette characters, organic disease significantly predicted girls’ ratings of severity ($\beta = .49$, $p < .01$), and these severity ratings, in turn, significantly predicted girls’ ratings of liking ($\beta = .35$, $p < .01$). Furthermore, the significant direct effect that organic disease had on girls’ ratings of liking for male characters ($\beta = .41$, $p < .01$), was attenuated when girls' ratings of severity were entered into the analysis ($\beta = .24$, $p < .05$). Thus, girls’ ratings of severity mediated the relation between organic disease and ratings of liking for male vignette characters. Beta coefficients for the four independent groups (MM, MF, FM, and FF) were again compared to determine if gender moderated this mediational effect. Analyses again showed that when girls (but not boys) were respondents, the sex of the vignette character moderated the mediating role that the severity variable played in the relation between organic disease and liking.3

Discussion

This study identified several psychosocial factors that appear to influence children's perceptions of and responses to a peer with somatic symptoms. We predicted that the presence of organic disease and life stress in the vignette would be associated with greater ratings of liking and granting of relief from responsibility. The results generally indicated that children distinguish between symptoms with and without organic disease and tend to view symptoms with an organic etiology as more severe. With respect to the mediational hypotheses, the results showed that children's judgments of symptom severity mediated the relation (a) between the presence of organic disease and granting of relief from responsibility when children rated an opposite sex peer, and (b) between the presence of organic disease and ratings of liking when girls rated male peers. Finally, the results showed that same-sex preferences had a significant impact on children’s liking of peers with somatic symptoms.

Children perceived symptoms associated with organic disease as more severe than those not associated with organic disease, even though symptom descriptions were identical for both conditions. Thus, at a young age children distinguish between somatic complaints with and without organic etiology and view symptoms and suffering as more serious if they are associated with an organic etiology. This finding is similar to that of Skelton (1991), who found that adults perceived symptoms as more severe when a corroborating medical test result was presented. Children's tendency to view illness as more severe when associated with an organic etiol-

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2Among the beta coefficients for organic disease as a predictor of ratings of severity, the coefficient for the FF group was significantly lower than that for the FM group ($\beta = .49$ vs. $\beta = .49$, respectively), $z = 2.15$, $p < .05$, but did not significantly differ from those for the MM ($\beta = .26$) and MF ($\beta = .29$) groups. Beta coefficients for ratings of severity as a predictor of ratings of relief from responsibility, controlling for organic disease, also were compared and revealed no significant differences between groups.

3Among the beta coefficients for organic disease as a predictor of ratings of severity, the FM group was significantly higher than the FF group ($\beta = .49$ vs. $\beta = .49$, respectively), $z = 2.15$, $p < .05$, but did not significantly differ from the MM ($\beta = .26$) or MF ($\beta = .29$) groups. Beta coefficients for ratings of severity as a predictor of ratings of liking, controlling for organic disease, showed that the FM group ($\beta = .35$) significantly differed from the MF group ($\beta = .33$), $z = 2.53$, $p < .02$, but did not differ from either the FF group ($\beta = .18$) or the MM group ($\beta = .14$). Beta coefficients for the total effect of organic disease on ratings of liking were $-.08$, $.09$, $41$, $.16$ for the MM, MF, FM, FF groups, respectively. Beta coefficients for the effect of organic disease as a predictor of ratings of liking, after controlling for severity ratings, were $-.12$, $.07$, $.24$, $.17$ for the MM, MF, FM, and FF groups, respectively.
ogy is consistent with the “just world” hypothesis (Lerner & Miller, 1978), which asserts that individuals need to believe that people generally get what they deserve. This belief allows individuals to approach their environment as predictable and facilitates optimal functioning. Thus, children may believe that in a “just world” somatic symptoms are the result of an identifiable and potentially treatable disease. To believe otherwise would be threatening, as it would suggest that if a peer can suffer “unjustly,” then the child respondent could also suffer “unjustly.”

Although children generally perceived symptoms associated with organic disease as more severe, both boys and girls tended to rate symptoms of male vignette characters as more severe than those of female characters. Explanations for this difference may be found in our culture’s perceptions of gender roles, particularly as they relate to illness behavior. Rosenfield (1982) found that gender played a role in decision making for adult psychiatric hospitalizations, such that symptom severity was viewed as greater if the individual’s symptoms were considered inconsistent with gender-based norms. The literature suggests that physical illness is a more culturally accepted aspect of the social role for women than men, women report more symptoms of physical and mental illness, and women utilize more health services (Marcus & Seeman, 1981; Nathanson, 1975; Verbrugge, 1985). Similarly, a study conducted at a children’s residential summer camp found that girls were more likely than boys to visit the infirmary for acute conditions, minor complaints, and complaints not requiring medical attention (e.g., a bruise), (Rudolf, Tomanovich, Greenberg, Friend, & Alario, 1992). These findings suggest that children may view abdominal pain as more common in females than males. Thus, children in this study may have regarded the symptoms exhibited by males as more aberrant and severe than comparable symptoms exhibited by females.

Because of the stigma that may be attached to somatic complaints without organic disease, we predicted that children would like vignette characters with evidence of organic disease more than those without. However, this was only the case when girls rated liking for male vignette characters. The presence of organic disease may have made male vignette characters more likable to girls because girls perceived male characters’ symptoms as more severe when there was evidence for organic disease than when there was no such evidence. Girls’ ratings of greater severity, in turn, were associated with higher ratings of liking. In other words, perceptions of symptom severity significantly mediated the effect of organic disease on girls’ liking for male vignette characters.

We predicted that ratings of severity would mediate the relation between organic disease and granting of relief from responsibility. This was the case when children rated vignette characters of the opposite sex. When rating boys, girls viewed the symptoms associated with organic disease as more severe and granted more relief from responsibility than to girls without organic disease. However, this was not the case when boys rated other boys: perhaps the same-sex preference was so strong that it overshadowed any effect for organic disease. In contrast, organic disease influenced girls’ granting of relief from responsibility to same-sex vignette characters, but not in the manner expected: girls granted female vignette characters significantly less relief from responsibility when organic disease was present in the condition. Furthermore, girls granted other girls more relief from responsibility and boys less relief from responsibility in conditions without evidence of organic disease. It may be that girls at this age accept other girls who have symptoms without evidence of organic disease, but have little sympathy for boys with symptoms not legitimated by an organic diagnosis.

A strong same-sex preference pervaded the findings: children generally showed a preference for peers of their own sex, regardless of other factors. Children of all ages tend to like members of their own sex more than the opposite sex (Hartup, 1983). Studies investigating peer liking of children with chronic illness conditions have typically matched target children to controls by sex (Graetz & Shute, 1995; Noll et al., 1991; Noll et al., 1996; Vannatta, Gartner, et al., 1998; Vannatta, Zeller, et al., 1998). Given the prominent role of gender in the results of this study, future research on peer relationships of chronically ill children should evaluate responses to both same- and opposite-sex peers.

Contrary to our original hypothesis, the presence of a stressor within the vignette did not influence respondents’ ratings of liking for peers. This finding differs from those of studies showing that children reported greater liking for depressed peers with concomitant life stress than those without (Little & Garber, 1995; Peterson et al., 1985). In the present sample, same-sex preferences may have overshadowed any potential buffering effect of
stressful events on liking. It also may be that the presence of stressful events has less impact on children’s liking for peers with somatic symptoms than emotional symptoms, or that children require more cues to view a stressor as a factor contributing to an episode of abdominal pain (e.g., a closer temporal connection to the onset of symptoms). Unexpectedly, the effect of a stressor on granting of relief from responsibility was limited to boys’ granting of relief from responsibility. This finding suggests that stressors may play an important role in leading boys to view symptoms without evidence for organic disease as less believable and contrived to earn sympathy or secondary gains such as relief from responsibilities.

The use of alternative methodologies such as video presentations and observation in natural settings should be considered for future work in this area to provide a richer understanding of dynamics that may underlie peer interactions of a child with somatic complaints. Related research investigating patterns of social responding to individuals with depression has highlighted important interpersonal aspects of this disorder, which suggest that symptoms of depression are maintained in part by responses of others (Bell-Dolan, Foster, & Christopher, 1995; Coyne, 1976; Mullins et al., 1995). Future studies of children with somatic symptoms also may identify patterns of interactions between children and their peers that contribute to symptom maintenance. This knowledge can play an important role in identifying intervention strategies to reduce chronic illness behavior in children.

Results of this study demonstrate that children distinguish between physical symptoms with and without an identified organic etiology and that this distinction influences responses to symptomatic peers. The findings further show that gender differences in the socialization of illness behavior begin to emerge by middle childhood. This was particularly evident in children’s perception that pain was more severe when exhibited by boys than by girls, perhaps reflecting the notion that boys should not complain of pain unless it is especially severe. Future investigations are needed to extend this work to include adolescents and increase our knowledge of the development of norms regarding the expression of both illness behavior and caretaking behavior toward others who are ill.

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