Peer Victimization in Children With Obsessive–Compulsive Disorder: Relations With Symptoms of Psychopathology

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This study examined the frequency of peer victimization and psychological symptom correlates among youth with obsessive–compulsive disorder (OCD). The Schwartz Peer Victimization Scale, Children's Depression Inventory, and Asher Loneliness Scale were administered to 52 children and adolescents diagnosed with OCD. The child’s parent or guardian completed the Child Behavior Checklist, and a trained clinician administered the Children’s Yale–Brown Obsessive–Compulsive Scale (CY–BOCS). Fifty-two healthy controls and 52 children with Type 1 diabetes (T1D) who were administered the Schwartz Peer Victimization Scale as part of another study were included for comparison purposes. Greater rates of peer victimization were reported in youth with OCD relative to healthy controls and children with Type 1 diabetes (T1D). Peer victimization in the OCD sample was positively related to loneliness, child-reported depression, parent-reported internalizing and externalizing symptoms, and clinician-rated OCD severity. Peer victimization fully mediated the relation between OCD severity and both depression and parent reports of child externalizing behaviors and partially mediated the relation between OCD severity and loneliness. Recognition of the magnitude of the problem and contribution problematic peer relations may play in comorbid psychological conditions is important for clinicians who see children with OCD.
Anecdotal clinical reports support empirical findings such as these, as anxious youth and their parents frequently report being bullied, marginalized, and having difficulty making friends.

Despite the importance of studying the peer relations of anxious children and adolescents, the literature remains in its infancy. In this regard, one largely neglected yet relatively prevalent condition among youth is obsessive–compulsive disorder (OCD). Affecting between 1% and 4% of youth (Douglass, Moffit, Dar, McGhee, & Silva, 1995; Zohar, 1999), OCD is characterized by the presence of obsessions, compulsions, or both that cause distress, are time-consuming, or interfere with age-appropriate functioning (American Psychiatric Association, 2000). Recent estimates suggest that between 50% and 80% of cases have a childhood onset (Pauls et al., 1995), which suggests that many afflicted individuals may struggle in the development of healthy peer relationships. OCD follows a chronic, fluctuating course (Murphy et al., 2004) and is associated with significant impairment in academic, family, and social realms due largely to ritual engagement and distress (Piacentini, Bergman, Keller, & McCracken, 2003).

Although important, the relevant literature has been largely confined to examinations of the general peer relations of youth with anxiety disorders other than OCD. Subsumed within the definition of peer relations is the experience of peer victimization, a specific form of peer maltreatment in which a child is targeted by a peer or group of peers. Peer victimization of boys and girls occurs frequently and takes diverse forms, including overt (e.g., hitting, kicking, yelling) and relational attacks (e.g., spreading rumors, excluding a peer from social interactions; Crick & Bigbee, 1998; Crick & Grotpeter, 1996). Although most children are victimized by their peers at some point during youth, chronic victimization has been linked to depression, anxiety, and loneliness concurrently and prospectively (see Hawker & Boulton, 2000). For example, in a meta-analytic review, Hawker and Boulton found the mean correlations between peer victimization and depression ($r = .45$), anxiety ($r = .25$), and loneliness ($r = .32$) to be positive and significant.

There are a number of reasons to hypothesize that peer victimization may be a frequent experience in the lives of youngsters with OCD. First, many rituals and avoidance behaviors are observable to peers. For example, children might leave the classroom frequently during the school day to wash their hands or might take longer than other children to complete schoolwork because they have to reread or rewrite assignments. The nature of some children’s OCD symptoms might cause them to avoid classmates because of fear of contamination or of “catching” qualities of other children, such as becoming rude by touching a child who is rude. As other children are unlikely to understand the nature of these behaviors, children with OCD may be labeled as “odd or different” or having special needs, providing bullies with ammunition to fuel attacks. Second, children with OCD may have a smaller network of friends due to others’ perceptions of differences and mental illness or because they miss out on age-appropriate activities secondary to OCD. Although it is difficult to avoid school despite OCD, many children with the disorder refuse to participate in optional extracurricular activities. These activities can be triggers for OCD (e.g., sharing a baseball glove is very difficult for a child with contamination-related OCD), may be too exhausting for children after a day of having to cope with OCD, and may interfere with rituals that must be done at home once the school day is over. Small friendship networks have been linked to the experience of peer victimization because children do not have peers to provide physical or emotional support (Storch et al., 2003). Finally, many children with OCD display anxiety or behaviors characteristic of comorbid diagnoses (e.g., poor social skills in Asperger’s disorder, tics in Tourette’s Syndrome, poor social skills and assertiveness skills in social phobia) that invite further teasing and make it difficult for children to defend themselves.

Despite these intuitive reasons for youth with OCD to be at increased risk for problematic peer relations, few data exist on the rates of peer victimization or psychological symptom correlates of peer victimization in this population. Storch et al. (2005) documented the case of an adolescent boy whose OCD was precipitated by peer victimization. Piacentini and colleagues (2003; Langley, Bergman, McCracken, & Piacentini, 2004) have reported that children with OCD have impaired social relations. For example, 37% of youth reported difficulty making friends, 31% reported difficulty keeping friends, and between 34% and 43% reported difficulty engaging in age-appropriate peer activities (e.g., sleeping at a friend’s house).

Peer victimization may be directly linked to OCD symptom severity in several ways. Peer victimization may directly contribute to poor adjustment as the child internalizes the content of peer attacks (Storch, Roth, et al., 2004). For example, Storch et al. (2005) described an adolescent boy whose OCD onset was linked to peers’ remarks about his masculinity and sexuality. After being victimized, this youth would go home and wash excessively to cleanse himself of peers’ remarks. Alternatively, children with OCD may be targeted due to various illness-related behavioral and emotional factors. Finally, peer victimization may serve to mediate the relations between OCD severity and depression and loneliness, providing insight into the high rates of comorbidity commonly found in youth with OCD (e.g., depression; King, Leonard, & March, 1998; Swedo, Rapoport, Leonard, Lenane, & Cheslow, 1989). Others have found peer victimization
to mediate other relations. For example, peer victimization mediated the prospective relations between shyness and social withdrawal and later negative affect (Dill, Vernberg, Fonagy, Twemlow, & Gamm, 2004). This model proposed that OCD severity would positively affect peer victimization that, in turn, would lead to greater levels of depressive symptoms and loneliness. For example, we believe that victimized youth with OCD would, at least in part, incorporate the negative evaluations inherent to peer assaults into their self-views, resulting in greater depressive symptomatology and feelings of loneliness (Grills & Ollendick, 2002; Storch et al., 2003). A social information processing bias may also predispose victimized children to misinterpret peers’ behavior in an overly hostile or negative manner (Crick, Grotpeter, & Bigbee, 2002; Lochman & Dodge, 1994), resulting in a higher incidence of disruptive behavior (Storch, Bagner, Geffken, & Baumeister, 2004). Thus, peer victimization is expected to mediate the anticipated relation between levels of OCD severity and psychological symptom indexes. A mediating effect for peer victimization would be established if the statistical association between OCD severity and psychological symptom indexes diminishes once associations between peer victimization and the respective criterion were specified (Baron & Kenny, 1986).

This research aims to provide initial data on peer victimization, symptoms of psychopathology, and a possible mediational model explaining these relations in children and adolescents with OCD. Our specific goals were to (a) examine rates of peer victimization in children with OCD relative to healthy children and chronic disease controls (children with T1D), (b) examine if peer victimization is associated with OCD symptom severity and other psychological symptom indexes, (c) examine if obsessions and compulsions are differentially related to outcomes, and (d) examine if peer victimization mediates the relation between OCD severity and psychological symptom indexes. Based on findings in anxious youth and our clinical experiences, we predicted that peer victimization would be elevated relative to control samples and positively correlate with child-rated indexes of depression and loneliness, parent-rated indexes of internalizing and externalizing adjustment, and clinician-ratings of OCD severity. Given that youth may internalize peer assaults, which is considered core to the development of internalizing difficulties, we predicted that peer victimization would serve as a mediator in the relation between OCD severity and psychological symptom indexes. Specifically, more severe OCD symptoms are expected to relate to increased peer victimization, resulting in increased depression and loneliness and parent-reported internalizing and externalizing symptoms.

Method

Participants

Participants were obtained from three sources: (a) children and adolescents with a primary diagnosis of OCD (n = 52; 31 boys, 21 girls) consecutively seen for outpatient clinical management appointments in the Department of Psychiatry Child and Adolescent OCD and Tic Clinic at University of Florida; (b) children and adolescents diagnosed with T1D (n = 52; 24 boys, 28 girls) consecutively seen for outpatient clinical management of their diabetes in the Department of Pediatrics; and (c) a sample of children and adolescents attending well-child visits to their pediatrician (n = 52, 23 boys, 29 girls). Participants’ ages ranged from 8 to 17 years, with an average age of 12.0 years (SD = 2.5 years). The sample was largely White (88%), followed by African American (7%), Hispanic (2%), Asian (2%), and other (1%). No gender, age, or ethnic differences existed among groups (p > .05; see Table 1). Only youngsters with OCD completed all study forms. Forty mothers and 12 fathers of participants with OCD completed parent forms. OCD and comorbid diagnoses were made by a board-certified child psychiatrist with 10 years of experience by using all available clinical information (Leckman, Sholomskas, Thompson, Belanger, & Weissman, 1982), which included the Children’s Yale–Brown Obsessive–Compulsive Scale (CY–BOCS) results, clinical interview, and responses to other measures. OCD and comorbid diagnoses were also confirmed by one of two licensed clinical psychologists with extensive experience in pediatric OCD. Forty-one children had a comorbid diagnosis (19 had one comorbid diagnosis; 17 had two comorbid diagnoses; 5 had three comorbid diagnoses). Comorbid diagnoses for the OCD group were as follows: Tic Disorder (n = 29), attention deficit hyperactivity disorder (any subtype; n = 17), major depression (n = 7), generalized anxiety disorder (n = 4), separation anxiety disorder (n = 3), oppositional defiant disorder (n = 3), social phobia (n = 2), Asperger’s disorder (n = 2), panic disorder with agoraphobia (n = 1), and trichotillomania (n = 1). Diagnoses of T1D were made by a board-certified pediatric endocrinologist with 25 years of experience based on all clinical information available at their re-

Table 1. Descriptive Information for Study Groups

<table>
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<tr>
<th>Group</th>
<th>OCD</th>
<th>Diabetes</th>
<th>Control</th>
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<tbody>
<tr>
<td>Age</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>M</td>
<td>11.3</td>
<td>12.3</td>
<td>12.2</td>
</tr>
<tr>
<td>SD</td>
<td>2.3</td>
<td>2.3</td>
<td>2.7</td>
</tr>
<tr>
<td>Female (%)</td>
<td>40.4</td>
<td>57.7</td>
<td>55.8</td>
</tr>
<tr>
<td>Caucasian (%)</td>
<td>94.2</td>
<td>82.7</td>
<td>88.5</td>
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Note: OCD = obsessive–compulsive disorder.
spective endocrinology clinic visit (e.g., plasma C-peptide test, fasting glucose test).

Measures

Schwartz Peer Victimization Scale. The Schwartz Peer Victimization Scale (Schwartz, Farver, Change, & Lee-Shin, 2002) is a five-item self-report measure rated on a 4-point scale of 1 (never) to 4 (almost every day) of peer victimization that occurred over the past 2 weeks (possible range = 4 to 20). Items focused on overt and relational forms of victimization consistent with contemporary definitions (cf. Storch & Ledley, 2005). An example item is “How often do other kids gossip or say mean things about you?” The measure has good internal consistency (α = .75), a stable one-factor structure, and correlated strongly and positively with teacher and peer reports of victimization (Schwartz et al., 2002). Cronbach’s α in this sample was .85.

CY–OCS. The CY–OCS (Scahill et al., 1997) is a 10-item semistructured clinician-administered measure of obsession and compulsion severity. Items are rated over the previous 7 days on a 5-point Likert scale, with higher scores corresponding to greater symptom severity. Items about obsessions and compulsions are summed to derive the Obsession and Compulsion Severity Scales. These scales are summed to derive the Total Severity score. Internal consistency is good for the CY–BOCS Obsession and Compulsion Severity scores (α = .80 and .82) and Total score (α = .90). Six-week test–retest reliability is good for the Obsession and Compulsion Severity scores (intraclass coefficient = .70 and .76) and Total score (intraclass coefficient = .79; Storch, Murphy, et al., 2004). The CY–BOCS scores correlated highly with clinician impairment ratings and ratings on the Tourette’s Disorder Scale–Clinician Rated Version (Shytle et al., 2003) OCD factor. The CY–BOCS scores were moderately associated with measures of depression and clinician ratings of aggression and attention deficit hyperactivity disorder symptoms, yet not significantly related to self-reports of anxiety or clinician ratings of tic severity (Scahill et al., 1997; Storch, Murphy, et al., 2004). Cronbach’s α for the CY–BOCS Total Score and Obsession and Compulsion Severity scores in this sample were .90, .89, and .79.

Children’s Depression Inventory. The Children’s Depression Inventory (Kovacs, 1992) is a commonly used 27-item child-report measure of the presence and severity of cognitive, affective, or behavioral symptoms of depression during the previous 2 weeks. The Children’s Depression Inventory has good internal consistency, test–retest reliability, and discriminative validity (Carlson & Cantwell, 1979). In addition, the Children’s Depression Inventory is construct valid as determined by high correlations with other depression measures and a stable factor analysis (Craighead, Smucker, Craighead, & Ilardi, 1998; Kovacs, 1992). Cronbach’s α in this sample was .80.

Child Behavior Checklist. The Child Behavior Checklist (Achenbach, 1991) is a 113-item parent-report form designed to assess a wide range of child behavioral and emotional problems. Parents are instructed to use a 3-point scale of 0 (not true), 1 (somewhat or sometimes true), or 2 (very or often true). This widely used index has established psychometric properties across a variety of clinical and nonclinical populations (Achenbach, 1991). For the purposes of this study, the Internalizing and Externalizing scale scores were used. Cronbach’s α for each in this sample were .88 and .77, respectively.

Asher Loneliness Scale. The Asher Loneliness Scale (Asher, Hymel, & Renshaw, 1984) is a self-report measure consisting of 24 items endorsed on a 5-point scale indicating how true each item is for the participant. The 16 items that focus on feelings of loneliness, social adequacy, and subjective estimations of peer status were included in this study, whereas eight filler items that inquire about the participants’ hobbies were excluded to minimize the time needed to complete the assessment battery. Factor analysis of the measure revealed one primary factor for the 16 items (Asher & Wheeler, 1985). In addition, the Asher Loneliness Scale was positively correlated with negative peer nominations and depression (Asher & Wheeler, 1985; Bagner, Storch, & Roberti, 2004) and negatively associated with positive peer nominations and play ratings (Asher & Wheeler, 1985). Cronbach’s α in this sample was .90.

Procedures

The University of Florida Institutional Review Board granted permission to conduct this research. Active parental consent and child assent was obtained for each of the participating youth prior to the administration of the questionnaires. Parents were told that their and their child’s involvement in the project was voluntary and that they could refuse permission without negative consequences of any kind. Children were also informed that their involvement was voluntary and they could decline participation without penalty.

Participants with OCD completed questionnaires following the clinical interview and the CY–BOCS. Instructions were provided for each measure by a trained research assistant, who was available to answer questions. Experienced clinicians (either a psychiatric nurse or postdoctoral fellow) administered the CY–
BOCS to both the child and parent jointly in a private clinical office before completion of study questionnaires. Clinician training consisted of an instructional meeting about the CY–BOCS content and structure with the first or final author, two practice interviews, and two directly observed interviews. Children with T1D and healthy controls completed the Schwartz Peer Victimization Scale and several measures relevant to other studies during their regularly scheduled endocrinology or well-child appointment. Consent rates for each were high (52/70 = 74% for children with T1D, 52/60 = 80% for healthy children). The consent rate for the OCD sample was 93% (52/56).

Results

Study Aim 1: Descriptive Analyses and Group Differences

Using a cutoff score of 1 SD above the nonclinical mean of this sample (cutoff = 9.8), 27% of the OCD population reported clinically significant victimization scores compared to 9% of children with T1D and 9% of healthy controls. Using a cutoff score of 1 SD above the mean for the normative sample in Asher et al. (1984), clinically significant loneliness was reported by 14% of children with OCD. Twelve percent of children with OCD reported clinically significant levels of depression based on the standardized normative data for the Children’ Depression Inventory (Kovacs, 1992). For this sample, 30.8% (n = 18) of children with OCD had clinically significant internalizing symptoms and 21.2% (n = 14) had clinically significant externalizing symptoms (based on the cutoff of T ≥ 70; Achenbach, 1991). T scores ranged from 38.3 to 117.0 and 36.0 to 89.0 for the Internalizing and Externalizing scales, respectively.

A one-way analysis of variance indicated significant group differences on child ratings of peer victimization F(2, 153) = 4.4, p < .01. The Scheffé post hoc test revealed that children with OCD (M = 8.5 ± 3.0) reported significantly higher peer victimization than children with diabetes (M = 7.1 ± 2.8, p < .03, effect size = .50) and controls (M = 7.1 ± 2.7, p < .04, effect size = .52). Reports of peer victimization did not differ between children with diabetes and controls (p = .99).

Study Aim 2: Relations Between Peer Victimization and Psychological Symptom Indexes Among Children with OCD

The relations among peer victimization and psychological symptom indexes were examined by Pearson product–moment correlations (see Table 2). Strong positive correlations were found between peer victimization and OCD symptom severity, loneliness, depressive symptoms, and parental reports of externalizing and internalizing behavioral problems.

Study Aim 3: Relations Among Obsessions, Compulsions, and Psychological Symptom Indexes

Compulsion and obsession severity were positively and significantly related to peer victimization. No differences in the magnitude of relations with symptom indexes were found (see Table 2).

Study Aim 4: Peer Victimization as a Mediating Variable

Our hypothesized mediational model states that more severe OCD symptoms were expected to result in more victimization from peers, which in turn would increase symptoms of depression and loneliness and parental reports of child externalizing and internalizing behaviors (see Figures 1 through 3). Support for mediation would provide a more comprehensive explanation of the process by which youth with OCD become...

Table 2. Pearson Product–Moment Correlations Between Peer Victimization and Indexes of Psychological Symptoms for Children With Obsessive–Compulsive Disorder

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<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
</tr>
</thead>
<tbody>
<tr>
<td>CY–BOCS Obsession Scale</td>
<td>1.00</td>
<td>0.68***</td>
<td>0.93***</td>
<td>0.28*</td>
<td>0.32**</td>
<td>0.37**</td>
<td>0.00</td>
<td>0.43**</td>
</tr>
<tr>
<td>CY–BOCS Compulsion Scale</td>
<td>1.00</td>
<td>0.90***</td>
<td>0.40**</td>
<td>0.33**</td>
<td>0.43**</td>
<td>0.30*</td>
<td>0.41**</td>
<td></td>
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<tr>
<td>CY–BOCS Total Score</td>
<td>1.00</td>
<td>0.36**</td>
<td>0.35**</td>
<td>0.43***</td>
<td>0.27*</td>
<td>0.46***</td>
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<tr>
<td>Peer Victimization</td>
<td>1.00</td>
<td>0.64***</td>
<td>0.57***</td>
<td>0.37**</td>
<td>0.31**</td>
<td></td>
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<tr>
<td>CDI</td>
<td>1.00</td>
<td>0.59***</td>
<td>0.42**</td>
<td>0.49***</td>
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<td></td>
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<tr>
<td>ALS</td>
<td>1.00</td>
<td>0.33*</td>
<td>0.30*</td>
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<tr>
<td>CBCL–Externalizing</td>
<td>1.00</td>
<td>0.44***</td>
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<tr>
<td>CBCL–Internalizing</td>
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<td>1.00</td>
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Note: CY–BOCS = Children’s Yale–Brown Obsessive–Compulsive Scale; ALS = Asher Loneliness Scale; CDI = Children’s Depression Inventory, Short Form; CBCL = Child Behavior Checklist. Means and standard deviations represent raw scores.
*p < .05. **p < .01. ***p < .001, two-tailed.
depressed and isolated. Baron and Kenny's (1986) guidelines for mediation were followed to test a model of the influence of OCD symptom severity on symptom indexes via peer victimization. In our sample, age was not related to peer victimization ($r = -.067, p = .4$). Accordingly, age-moderated mediation was not tested. Additionally, gender differences in peer victimization were not identified ($t = .12, p < .3$). Separate regression analyses were computed for the four dependent variables: loneliness, depression, externalizing behaviors, and internalizing behaviors. In each model, four separate regressions were conducted to determine if mediation was present.

The following criteria are necessary for mediation:

1. the predictor (OCD symptomatology) is significantly associated with the outcome (loneliness or depression).
2. the predictor is significantly associated with the mediator (peer victimization).
3. the mediator is associated with the outcome variable (with the predictor accounted for).
4. the addition of the mediator to the full model reduces the relation between the predictor and criterion. In criteria 4, peer victimization was entered in Step 1, and both peer victimization and OCD severity was entered in Step 2.

**Loneliness as the outcome.** Regression techniques were used to identify the direct effect of OCD symptom severity on loneliness (criterion a) and peer victimization (criterion b). Results indicated that OCD symptom severity significantly predicted 20%, $F(1, 50) = 11.5, p < .001$, of the variance in loneliness, meeting the first requirement for mediation and predicted 14%, $F(1, 50) = 7.6, p < .01$, of the variance in peer victimization, satisfying the second requirement for mediation. In accordance with criterion c of the guidelines, peer victimization predicted 34%, $F(2, 49) = 26.1, p < .001$, of the variance in loneliness with the effects of OCD symptom severity accounted for in the equation. Finally, the relation between OCD symptom severity and loneliness was reduced from 20% to 5%, $F(1, 49) = 4.5, p < .05$, when peer victimization was ac-
counted for, demonstrating criteria 4 for mediation (see Table 3). The Sobel significance test (Sobel, 1988), which tests for a decrease in the total effect of the predictor on the criterion after controlling for the mediator, also supports criteria 4 (Sobel $z = 2.44$, $p < .01$), namely that peer victimization mediates the relation between OCD symptom severity and loneliness. The addition of the mediator reduced the size of the direct effect but did not reduce the effect to a nonsignificant value, suggesting partial mediation. As such, OCD symptoms were predictive of unique variance above and beyond peer victimization, indicating direct and indirect effects of OCD symptom severity on loneliness. However, it is noteworthy that the more comprehensive model accounted for significantly more variance (20%) than the parsimonious direct effects model.

**Depression as the outcome.** Data support criteria 1 and 2 for mediation: OCD symptom severity significantly predicted 13%, $F(1, 50) = 7.0$, $p < .01$, of the variance in depression and predicted 14%, $F(1, 50) = 7.6$, $p < .01$, of the variance in peer victimization. The path between the mediator and the criterion variable was also verified; peer victimization predicted 40%—$F(2, 49) = 33.9$, $p < .001$—of the variance in depression with the effects of OCD symptom severity accounted for in the equation supporting criterion c for mediation. Finally, the relation between OCD symptom severity and depression was reduced from 13% to 1%, $F(1, 49) = 1.4$, $p = .24$, when peer victimization was accounted for, demonstrating criterion d for mediation (see Table 3). The Sobel test ($z = 2.6$, $p < .009$) provides further support for criterion d, indicating that peer victimization mediates the relation between OCD symptom severity and depression. These data are presented in Figure 2. The addition of the mediator reduced the direct path between OCD symptom severity and depression to a nonsignificant value, suggesting full mediation. As such, OCD symptoms were not predictive of unique variance above and beyond peer victimization in this sample. Similar to the isolation model, this mediating model accounted for 30% more variance in depression that the simple direct effects model.

**Externalizing behavior as the outcome.** Regression analysis provided support for criteria 1 through 3 for mediation: OCD symptom severity significantly predicted 7.5%, $F(1, 50) = 4.0$, $p < .05$, of the variance in externalizing behaviors and predicted 14%, $F(1, 50) = 7.6$, $p < .01$, of the variance in peer victimization; peer victimization predicted 14%, $F(2, 49) = 7.8$, $p < .01$, of the variance in externalizing behavior with the effects of OCD symptom severity accounted for in the equation. The relation between OCD symptom severity and child externalizing behavior was reduced from 7.5% to 2%, $F(1, 49) = 1.2$, $p = .27$, when peer victimization was accounted for, demonstrating criterion 4 for mediation (see Table 3). Sobel’s test ($z = 1.7$, $p < .05$) corroborates this report, indicating that peer victimization mediates the relation between OCD symptom severity and child externalizing behavior (see Figure 3). Similar to the prior model, the mediator reduced the direct path between OCD symptom severity and externalizing behaviors to a nonsignificant value, suggesting full mediation. As such, OCD symptoms were not predictive of unique variance above and beyond peer victimization in this sample. This mediating model accounted for 8% more variance in child externalizing behavior that the simple direct effects model.

**Internalizing behavior as the outcome.** Analyses did not support the hypothesis that peer victimization mediates the relation between OCD symptom severity and parent report of child internalizing problems. Although criteria 1 and 2 were substantiated, the third criterion for mediation was not upheld. The relation between the mediator and outcome was not preserved when the predictor was accounted for in the equation.

**Discussion**

The findings from this data offer a number of unique contributions to the literature on peer relationships among children with OCD. Similar to others (e.g., Ginsburg et al., 1998; Strauss et al., 1988), these data suggest that peer victimization is a common experience among children with OCD, with more than one quarter being victimized regularly by their peers. Furthermore, in this sample, children with OCD were significantly more likely to report victimization than were children with diabetes or healthy children. Although children with diabetes also engage in behaviors that set them apart from their peers (e.g., taking insulin shots, avoiding junk food, and so on.), their behaviors may not be seen as aberrant, perhaps explaining the higher rates of victimization in children with OCD.

The other important finding from these data comes from the mediational analyses. We hypothesized that more severe OCD symptoms would result in more victimization from peers, which in turn would increase symptoms of depression and loneliness and parental reports of child externalizing and internalizing behaviors. These hypotheses were generally supported. Peer victimization fully mediated the relation between OCD severity and both depression and parent reports of child externalizing behaviors and partially mediated the relation between OCD severity and loneliness. Analyses did not support the hypothesis that peer victimization mediated the relation between OCD severity and parent reports of child internalizing problems.

These results suggest that OCD in and of itself may not fully explain high comorbidity with depression or
problematic externalizing behaviors. Rather, the peer victimization suffered by children with OCD (in addition to other variables not explored in this study) may contribute in a modest fashion to these outcomes. Theoretically, this outcome points to the impact of peer factors in understanding overall symptom presentation. Although the biological component of OCD is widely recognized (cf. Lewin et al., 2005), environmental factors undoubtedly play an important role. This finding also has important clinical implications. Although it is essential that children with OCD receive appropriate treatment, it is not clear that resolution of the unusual behaviors associated with OCD would be sufficient to improve children’s peer relations and, by extension, the other difficulties that they experience. Rather, it might be necessary to help children re-engage in the social world that they both overtly and more subtly avoided due to OCD. This might include helping children to discover interests that they want to pursue (e.g., joining a sports team, trying out for the school play) and developing the skills to establish and maintain friendships with children who seem as if they might be receptive to such advances.

It was surprising to find that peer victimization did not mediate the relation between OCD severity and parent reports of child internalizing problems. It is possible that parents are more aware of peer victimization in children with externalizing problems than in children with internalizing problems. When children react to peer victimization with sadness and feelings of loneliness (i.e., internal experiences), the experience might be much less noticeable to parents than when children react with anger and aggression (i.e., overt behaviors). It is also possible that children with internalizing problems might be less likely than other children to share peer victimization experiences with their parents. This leaves parents recognizing a link between OCD symptoms and internalizing problems but not seeing the connection with peer victimization experiences. It might be important for clinicians to alert parents of children with OCD (particularly parents of children with internalizing problems) to the fact that their children are at increased risk of being victimized by peers. Clinicians and parents can then work together to try to reduce the risk of victimization, particularly during the early stages of treatment when children might still be exhibiting bizarre behaviors. For example, clinicians and parents can coach children to try to “put off” their compulsions until the end of the school day when they get home. Some, but not all, people with OCD can accomplish this by reassuring themselves that they can wash their hands, or recopy their work, or engage in some other compulsion eventually, even if not right now. Although this sort of instruction maintains OCD over the long term, for a short period of time it might help the peer relations of children with OCD, thereby also lessening other problems such as loneliness, depression, and externalizing behaviors.

This study is not without limitations. First, this sample was demographically homogeneous, which may constrain the generalizability of our results. Second, the correlational nature of this study prevents the directionality of the relations from being established. Well-designed, prospective studies will help elucidate causal pathways. Third, the use of child reports of peer victimization may provide an under- or overestimate of negative peer interactions. On balance, the Schwartz Peer Victimization Scale has good psychometric properties, and some have suggested that self-reports provide a more complete assessment (vs. peer or parental reports) of peer maltreatment that takes place outside of the school setting or may be of a more secretive nature (e.g., relational attacks; Storch & Ledley, 2005). Finally, these models only accounted for modest amounts of variance. Thus, a significant amount of variance remains to be explained by variables other than peer victimization.

There is much to still be learned about the peer relations of children with OCD. First, it is important to ascertain whether certain types of OCD are more strongly related to peer victimization than others. For example, it is possible that overt rituals (like hand-washing) lead to more problems than mental rituals. Alternatively, it is possible that mental rituals also cause problems because they might make children come across as “spacey” and disinterested in others or in what is going on around them. Perhaps it is the amount of time occupied by a child’s OCD during the school day that determines its impact on peer relations and on other problems like depression and loneliness.

It is also important to better understand the peer relation problems that some children with OCD experience. The data from this study suggest simply that OCD is associated with peer victimization. Left unanswered is the question of what these children are doing to provoke victimization. Is it their overt OCD behaviors or related problems (e.g., tics)? Or is it social skills deficits that might have developed over time as children were unable to participate in social activities due to their OCD symptoms? Each of these questions underscores the correlational nature of this study and that numerous other models may be relevant (e.g., OCD severity mediating the relation between peer victimization and other outcomes). Longitudinal studies that include youth from multiple cultures will be needed to uncover the directionality of these relations, enhance the cross-cultural relevance of this research, and explore other variables that may be related. Discovering the answers to these questions would help clinicians and parents understand ways to help children with OCD better manage the social world.

Finally, it is important to learn whether successful treatment for OCD, in and of itself, ameliorates peer
relation problems. It is reasonable to predict that this might be the case for some children but not for others. Once children are no longer performing compulsions and feeling distracted by obsessive thoughts, it is certainly possible that some will naturally reengage in the social world and find success with peers. Other children, however, might have significant social skills deficits from years of avoidance or might have suffered such significant peer relation problems that their peers are unwilling to give them a “second chance.” As noted previously, these children might very well need specific interventions to help them succeed in the social world. It is very likely (and another question open to research) that such success might be an important predictor of relapse of OCD symptoms.

References


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