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Despite the importance of the family in the treatment of pediatric obsessive–compulsive disorder (OCD), relatively little empirical attention has been directed to family accommodation of symptoms. This study examined the relations among family accommodation, OCD symptom severity, functional impairment, and internalizing and externalizing behavior problems in a sample of 57 clinic-referred youth 7 to 17 years old ($M = 12.99 \pm 2.54$) with OCD. Family accommodation was a frequent event across families. Family accommodation was positively related to symptom severity, parent-rated functional impairment (but not child-rated impairment), and externalizing and internalizing behavior problems. Family accommodation mediated the relation between symptom severity and parent-rated functional impairment.

Obsessive–compulsive disorder (OCD) occurs more frequently than previously believed, with prevalence rates ranging from 1% to 4% (Douglass, Moffitt, Dar, McGee, & Silva, 1995; Zohar, 1999). Children with OCD experience recurrent thoughts, repetitive behaviors, or both that result in significant distress and impair normal functioning (American Psychiatric Association, 2000). Pediatric OCD runs a chronic course and, as adults, these individuals frequently have reduced quality of life and substantial impairment in work and social functioning (Koran, 2000; Rapaport, Clary, Fayyad, & Endicott, 2005). Pediatric OCD is associated with considerable functional impairment (Piacentini, Bergman, Keller, & McCracken, 2003). However, the detrimental effects of OCD are not limited to the afflicted child, as family members often report associated distress and impaired daily functioning. Family distress appears to be correlated with the degree to which family members are involved in the patient's OCD symptoms. This study examines the role of family accommodation in maintenance of pediatric OCD, including relations with OCD symptom severity, functional impairment, and comorbid symptoms.

Given the significant morbidity and chronicity of OCD (Mataix-Cols et al., 2002), it is essential to identify factors that might impact the course of treatment. Although the biological/genetic component of OCD cannot be minimized (e.g., Pauls, Alsobrook, Goodman, Rasmussen, & Leckman, 1995), there has been recent attention to the role of family factors in symptom expression (Waters & Barrett, 2000). Children are "embedded" within the family in a meaningfully different manner than are adults (Freeman, Garcia, & Fucci, 2003). For example, youth rely on their family for guidance in most domains of life and, as such, spend considerable time in the company of caregivers who provide assistance with various tasks. Thus, families have considerable opportunity to maintain children's symptoms of pediatric OCD, through their involvement and accommodation of the child's rituals and OCD demands (Lenane et al., 1990).

Accommodation of OCD symptoms refers to actions taken by the family members to facilitate rituals (e.g., provide objects needed for rituals), acquiesce to the child's demands (e.g., following a certain routine to minimize anxiety), provide reassurance to the child (e.g., answer questions

repeatedly), decrease child responsibility (e.g., minimize attempts at discipline), or assist with or complete tasks for the child (e.g., provide extra assistance with homework, chores, on and so on). Our clinical experiences suggest that caregivers often accommodate a child's OCD in efforts to reduce ritual engagement or distress or in attempts to decrease symptom-related impairment. Although such efforts are often well intentioned, they typically result in greater impairment and symptom severity by impacting significant others' lives, contributing to increased negative family dynamics (Steketee & Van Noppen, 2003), and reinforcing the child's involvement in OCD-related rituals and avoidance. Notably, accommodation counters the primary goals of cognitive–behavioral therapy, in that accommodating the child's symptoms prevents him or her from experiencing the natural habituation of anxiety that results from refraining from ritual engagement. Family accommodation also prevents the child from learning that feared consequences (e.g., getting sick from touching a "contaminated" object) typically do not occur and lessens the natural consequences of OCD behavior (e.g., time spent engaging in rituals may interfere with preferred activities). Thus, reducing family accommodation is likely an important area of emphasis for the successful treatment of pediatric OCD.

Despite the apparent importance of family influences in pediatric OCD assessment, treatment, and maintenance, relatively little attention has been directed to family factors, and particularly family accommodation of symptoms, among pediatric patients. In one notable exception, Allsopp and Verduyn (1990) found that 70% of parents reported being involved with their child's symptoms in some way. Of these parents, 75% reported some accommodation of the youths' symptoms, whereas the remainder reported a tendency to respond in a hostile manner when their child engaged in symptoms. Similarly, studies among mixed-aged (but generally adult) OCD samples have shown high levels of accommodation and associated family impairment. Calvocoressi and colleagues (1995, 1999) developed the Family Accommodation Scale (FAS) to assess family accommodation and associated distress among relatives of OCD patients. In the initial study of 34 primary caregivers (20 spouses, 14 parents; $M_{\text{patient age}} = 35.2 \pm 11.4$; Calvocoressi et al., 1995), 88% reported accommodating their spouse's or child's symptoms. Accommodation correlated negatively with family functioning and positively with family stress. In a later study of 36 primary caregivers (20 spouses, 16 parents; $M_{\text{patient age}} = 30.0 \pm 9.9$; Calvocoressi

et al., 1999), 89% of relatives accommodated patient symptoms despite considering the symptoms to be unreasonable. Notably, 66% of caregivers believed that accommodation did not alleviate patient distress and 50% believed that it did not improve functioning. Accommodation was also moderately associated with scores on the Yale–Brown Obsessive–Compulsive Scale ($r = .49$; Goodman et al., 1989) and Global Assessment of Functioning ($r = -.45$). In yet another study of 95 respondents to a magazine survey soliciting family members of individuals with OCD, 60% reported participating in or accommodating their relative's rituals, and 53% of respondents reported significant interference linked to their relative's symptoms (Shafran, Ralph, & Tallis, 1995).

Caregiver accommodation of a relative's OCD symptoms has also been linked to increased distress and impairment in the caregiver. In a sample of 73 OCD patients and a relative ($M_{\text{patient age}} = 27.6 \pm 11.2$), Amir, Freshman, and Foa (2000) examined the relationships among family members' accommodation of an adult relative's OCD symptoms (e.g., assistance with rituals, modification of family routine), anxiety and depression in those family members, and the severity of the patient's OCD. Accommodation was positively related to OCD symptom severity ($r = .27$) and relatives' depression and anxiety (rs = .17–.47). Increased symptoms of depression and anxiety were associated with refusing to accommodate and subsequent patient distress. With regard to pediatric patients, Cooper (1996) demonstrated the presence of considerable personal distress (e.g., depression) in the parents and siblings of children with OCD. In addition, family accommodation was higher in the parents of youth with OCD relative to family members of adults with OCD. In interviews with siblings of pediatric OCD patients, Barrett, Rasmussen, and Healy (2001) showed high rates of sibling accommodation with associated impairment and distress.

These data, together with clinical experience, suggest a high prevalence of symptom accommodation among families of pediatric OCD patients. However, a number of questions remain to be addressed that may have implications for tailoring treatment to families who are highly accommodating. First, the majority of participants in the previously mentioned studies were adults, and the extant literature on children typically used unvalidated measures to assess family accommodation (e.g., Allsopp & Verduyn, 1990). Thus, the nature and prevalence of family accommodation of symptoms in youth with OCD remains unclear. Second, although studies have linked family

accommodation to global functioning, no data have been reported on specific areas of impairment that may relate to accommodation. It is conceivable, for example, that accommodation may be a particularly salient variable in understanding family impairment (as opposed to school or peer or social problems). It is also possible that family accommodation mediates the relations between symptom severity and impairment by virtue of the impact on family members. For example, does OCD symptom severity directly relate to accommodation, which might contribute to increased functional impairment? Third, little information exists regarding symptom correlates of family accommodation. Our clinical experiences indicate that family involvement is directly linked to child oppositionality. If family efforts to limit accommodation are associated with increased disruptive behavior, families may be less motivated to limit accommodation. This could negatively impact treatment response and would require additional methods of intervention (e.g., behavioral parent training).

Thus, this study examines family accommodation among pediatric OCD patients. We had four primary research questions. First, what are the rates of family accommodation among families of pediatric OCD patients? Based on past results and our clinical experiences, we expected to find high rates of family accommodation. Second, what are the relations among family accommodation, child OCD symptom severity, and child internalizing and externalizing behavior problems? We hypothesized that family accommodation would correlate positively with child OCD symptom severity and internalizing and externalizing behavior problems. Third, what are the associations between family accommodation and child functional impairment? We expected that family accommodation would be associated with greater functional impairment in the child. Fourth, does family accommodation mediate the relations between child OCD severity and child functional impairment? Given the impact of accommodation on family members, we predicted that more severe OCD symptoms would be associated with increased accommodation, which might contribute to increased child functional impairment.

Method

Participants

Participants included 57 children and adolescents (51% male) and their parent(s), who presented to the University of Florida OCD Program for a cognitive–behavioral treatment research study. Each of the children was diagnosed with OCD by a licensed psychologist (the first author) or board-certified child psychiatrist (eighth author), based on a clinical interview, according to criteria outlined in the *Diagnostic and Statistical Manual of Mental Disorders* (fourth edition, text revision; American Psychiatric Association, 2000). Diagnoses were confirmed by administration of the Anxiety Disorders Interview Schedule for Children–Parent version (Silverman & Albano, 1996), which was administered by a trained research assistant. The youth ranged in age from 7 to 17 years old ($M = 12.99 \pm 2.54$) and came from primarily White backgrounds (97%), with the other children self-identifying as "other." Fifty mothers (88%) and 7 fathers (12%) participated in the study. Of the sample, 36 were currently taking psychotropic medication(s) for their OCD; because they were presenting for a clinical research study, all had been stable on their medication dosage for a minimum of 8 weeks. Thirty children had received psychotherapy in the past; based on parental report, only 4 received exposure-based cognitive–behavioral therapy (the others generally received supportive psychotherapy). Age of onset and illness duration were not systematically collected.

Measures

FAS. The FAS (Calvocoressi et al., 1995, 1999) is a 13-item clinician-rated measure that assesses the degree to which family members have accommodated the child's OCD symptoms during the previous month (nine items) and the level of distress or impairment that the family members and patient experience as a result of the family accommodating or not accommodating the child (four items). These items are combined to create a Total Score. The FAS assesses various areas of accommodation, including the extent to which family members provide reassurance or objects needed for compulsions; decrease behavioral expectations of the child; modify family activities or routines; and help the child avoid objects, places, or experiences that may cause him or her distress. Sample items include "How often did you provide items for the patient's compulsions?" and "Has the patient become distressed/anxious when you have not provided assistance? to what degree?" Items are scored on a 5-point Likert-type scale and are listed in Table 1. The FAS has demonstrated good psychometric properties. Research has demonstrated that it has adequate internal consistency for the FAS Total Score, with alphas ranging from .76 to .80 (Calvocoressi

Table 1. *Means and Standard Deviations for Each FAS Item*

FAS Item	*M*	*SD*	Range	Highest Two[a] (%)
1. Frequency of patient reassurance	3.40	1.10	1 to 4	40
2. Frequency of providing items for the patient's compulsions	1.44	1.61	0 to 4	19
3. Frequency participating in patient's compulsive behaviors	2.14	1.77	0 to 4	38
4. Frequency assisting the patient in avoidance	2.31	1.52	0 to 4	31
5. Modifying personal routine due to patient's symptoms	1.18	1.20	0 to 4	14
6. Modifying family routine due to patient's symptoms	1.60	1.31	0 to 4	17
7. Assuming responsibilities that are normally the patient's	1.30	1.00	0 to 4	11
8. Modifying work schedule due to patient's symptoms	1.47	1.34	0 to 4	9
9. Modifying leisure activities due to patient's symptoms	1.56	1.30	0 to 4	26
10. Does helping patient lead to distress?	1.65	1.07	0 to 4	17
11. Has patient become distressed when you have not accommodated?	2.19	1.30	0 to 4	16
12. Has patient become angry when you have not accommodated?	1.47	1.48	0 to 4	16
13. Has ritual time increased when you have not participated?	1.46	1.38	0 to 4	5

Note: FAS = Family Accomodation Scale. Items 1–5 were scored on a scale of 0 (*never*), 1 (*once/week*), 2 (2–3 *times/week*), 3 (4–6 *times/week*), 4 (*every day*). Items 6–13 were scored on a scale of 0 (*not at all*), 1 (*mild*), 2 (*moderate*), 3 (*severe*), 4 (*extreme*).
[a] Percent age of parents who endorsed one of the two highest items on the FAS question (i.e., endorsed a 3 or 4 on the item).

et al., 1995; Geffken et al., in press), and good interrater reliability, with intraclass correlation coefficients for individual items ranging from .72 to 1.0 (Calvocoressi et al., 1999). The FAS Total Score was positively related to familial stress and symptom severity and negatively associated with family functioning (Calvocoressi et al., 1995). For this sample, Cronbach's α was .90.

Children's yale–brown obsessive–compulsive scale (CY–BOCS). The CY–BOCS (Scahill et al., 1997) is a clinician-rated, semistructured inventory of pediatric OCD symptoms and severity displayed in the previous week. Developed as a downward extension of the Yale–Brown Obsessive–Compulsive Scale (Goodman et al., 1989), the CY–BOCS consists of two subscales, Obsessions Severity (five items) and Compulsions Severity (five items), which are combined to create a Total Score. Items are rated on a 5-point Likert scale assessing the severity of symptoms (i.e., distress, frequency, interference, and resistance) and the child's control over his or her symptoms. The CY–BOCS is considered the "gold standard" measure of pediatric OCD and has demonstrated high internal consistency, with Total Score alphas ranging from .87 to .90 (Scahill et al., 1997; Storch et al., 2004). The CY–BOCS has strong convergent and divergent validity (Scahill et al., 1997; Storch et al., 2004) and has been shown to be treatment sensitive (Barrett, Healy-Farrell, & March, 2004; Pediatric OCD Study Team, 2004). For this sample, Cronbach's α for the CY–BOCS Total Score was .89.

Child obsessive compulsive impact scale (COIS). The COIS (Piacentini & Jaffer, 1999) is a 56-item, self-report or parent-report measure, which assesses the extent to which pediatric OCD causes impairment in specific areas of child psychosocial functioning over the previous month. The child and parent separately respond to the prompt, "In the past month, how much trouble have you [your child] had doing the following because of OCD?" The COIS assesses difficulties in school activities (16 items), social activities (19 items), and home and family activities (17 items). Items were generated by the authors through interviews and focus groups with pediatric OCD patients and their parents. Example items include "Getting to classes on time during the day" and "Getting ready for bed at night." Respondents rate the extent to which OCD interferes with the child's functioning in each area using a 4-point scale ranging from 0 (*not at all*) to 3 (*very much*). The four final questions assess global impairment related to school, social activities, going places, and home and family activities. The COIS has demonstrated good internal consistency, construct validity (Piacentini, Bergman, Jacobs, McCracken, & Kretchman, 2002), and convergent validity (Piacentini et al., 2003). The internal consistency of the COIS was α = .97 for both the child- and parent-rated versions.

Child behavior checklist (CBCL). The CBCL (Achenbach, 1991) is a 118-item parent-report measure of childhood internalizing and externalizing symptoms over the past 6 months.

Items are rated on a 3-point scale, ranging from 0 (*not true (as far as you know)* to 3 (*very true or often true*). The CBCL consists of eight subscales that make up an Internalizing Problems Composite score (Withdrawn, Somatic Complaints, and Anxious/Depressed subscales) an Externalizing Problems Composite score (Delinquent Behavior, and Aggressive Behavior subscales) and a Total Score, which is comprised of the subscales making up the two composite scores and the Social Problems, Attention Problems, and Thought Problems subscales. The CBCL has demonstrated adequate internal consistency ($\alpha = .62$–$.92$) and construct validity (Achenbach, 1991). Cronbach's α for the Internalizing and Externalizing Behavior scores were .92 and .94.

Procedure

After obtaining permission from the University of Florida Institutional Review Board, families who presented to the University of Florida OCD Program for treatment of pediatric OCD were invited to participate in a research study involving families of children with OCD. Of the 58 families approached, only one family declined participation (consent rate = 98%). After obtaining appropriate written consent and assent, research assistants (master's- or doctoral-level graduate student in clinical psychology) administered the Anxiety Disorders Interview Schedule for Children–Parent version to parents and the CY–BOCS to parents and children jointly. Ratings on the CY–BOCS were based on both parent and child responses, as well as clinician judgment and behavioral observation of the child. All research assistants had extensive training in the administration of the Anxiety Disorders Interview Schedule for Children–Parent version, FAS, and CY–BOCS; they first attended an instructional meeting and independently observed three administrations before administering three Anxiety Disorders Interview Schedule for Children–Parent version and CY–BOCS with in vivo observation and supervision by the first author. The CY–BOCS was readministered to 20 individuals by the first author to examine interrater reliability ($\kappa = .97$). Following administration of the clinician-rated measures, instructions were given to participants on completing the self-report questionnaires. Parents completed the FAS, CBCL, and parent-rated COIS. Children completed the child-rated COIS. One parent did not complete the COIS, so analyses involving the parent-rated version of the COIS involved 56 rather than 57 participants.

Results

Descriptive Analyses

Descriptive information for each measure is presented in Table 2. Consistent with our predictions and previous findings in mainly adult samples (Calvocoressi et al., 1995, 1999), the rate of symptom accommodation in families of pediatric OCD patients was high, with families most commonly reporting providing reassurance to the child, followed by participating in the child's rituals and assisting with avoidance of feared objects and situations. Means and standard deviations, as well as the percentage of parents who responded to the two highest response options for each FAS accommodation item, are presented in Table 1. Notably, only the CBCL Internalizing score differed between sexes, $t(53) = 2.25$, $p < .03$, with significantly higher internalizing score in female ($M = 20.44$, $SD = 9.27$) compared to male participants ($M = 14.72$, $SD = 9.61$). Scores on the CY–BOCS, FAS, CBCL Externalizing scale, and COIS Parent and Child ratings did not differ between sexes (all $ps > .12$).

Correlational Analyses

A correlation matrix for measures of child symptom severity, family accommodation, child functional impairment, and child internalizing and externalizing behavior problems is presented in Table 3. As expected, family accommodation was not related to the child demographic variables

Table 2. *Descriptive Statistics for Symptom Severity, Accommodation, Functional Impairment, and Behavior Difficulties*

Source	*M*	*SD*	Range
CY–BOCS Total Score	26.13	7.26	9 to 39
FAS Total Score	23.20	11.70	4 to 51
COIS Parent Rating Total Score	44.88	31.66	0 to 137
School subscale	14.52	11.42	0 to 45
Social subscale	10.72	10.59	0 to 44
Home subscale	13.86	10.32	0 to 44
COIS Child Rating Total Score	47.87	34.01	5 to 142
School subscale	14.48	10.99	0 to 39
Social subscale	13.53	12.74	0 to 56
Home subscale	13.68	11.36	0 to 51
CBCL Internalizing	17.63	9.78	0 to 39
CBCL Externalizing	10.29	7.62	0 to 27

Note: CY–BOCS = Children's Yale–Brown Obsessive–Compulsive Scale; FAS = Family Accommodation Scale; COIS = Child Obsessive Compulsive Impact Scale; CBCL = Child Behavior Checklist.

Table 3. *Correlation Matrix for Study Variables*

	1	2	3	4	5	6	7	8	9	10	11	12	13
1. Age (years)	1												
2. Gender	−.004	1											
3. CY–BOCS	−.01	.10	1										
4. FAS	−.09	.12	.35**	1									
5. COIS:P Total	−.05	−.17	.68**	.48**	1								
6. COIS:P School	.08	−.24	.62**	.39**	.90**	1							
7. COIS:P Social	−.06	−.19	.55**	.35**	.91**	.73**	1						
8. COIS:P Home	−.17	−.02	.62**	.53**	.88**	.68**	.71**	1					
9. COIS:C Total	.05	−.16	.20	.15	.24	.12	.23	.25	1				
10. COIS:C School	.05	−.16	.11	.04	.08	.10	.06	.01	.84**	1			
11. COIS:C Social	.04	−.17	.21	.08	.22	.08	.25	.26	.93**	.66**	1		
12. COIS:C Home	.05	−.09	.23	.15	.30*	.16	.26	.36*	.94**	.67**	.83**	1	
13. CBCL Extern.	−.14	.21	.51**	.51**	.52**	.41**	.41**	.54**	.30*	.28	.21	.30*	1
14. CBCL Intern.	.11	.30*	.48**	.27*	.46**	.39**	.41**	.40**	.10	−.06	.14	.14	.50**

Note: CY–BOCS = Children's Yale–Brown Obsessive–Compulsive Scale; FAS = Family Accommodation Scale; COIS:P = Child Obsessive Compulsive Impact Scale: Parent Rating; COIS:C = Child Obsessive Compulsive Impact Scale, Child Rating; CBCL = Child Behavior Checklist.
$^*p < .05$; $^{**}p < .01$.

of age or gender but did correlate with measures of child symptom severity and behavior ratings. Specifically, the FAS Total Score was significantly associated with the CY–BOCS Total Score and CBCL Externalizing and Internalizing Behavior scores. Correlations between the FAS Total Score and parent or child ratings of functional impairment on the COIS showed that family accommodation was associated with parent ratings of the child's total functional impairment as well as parent ratings of the child's impairment at school, home, and in the social environment. In contrast, family accommodation was not significantly related to child-reported functional impairment. Similarly, child functional impairment scores were related to the CY–BOCS Total Score for parent but not child ratings.

Mediational Model

We used the procedures outlined by Baron and Kenny (1986) to assess whether family accommodation mediated the relation between child symptom severity (CY–BOCS Total Score) and total child functional impairment as reported by the parent (COIS Parent Total Score). Child report of functional impairment was not used, as there was no significant relation with accommodation. Utilizing the criteria outlined by Baron and Kenny, mediation is demonstrated when (a) the independent variable (OCD symptom severity) is significantly related to the dependent variable (functional impairment), (b) the independent variable (OCD symptom severity) significantly correlates with the mediator variable (family accommodation), (c) the mediator variable (family

accommodation) has a unique effect on the dependent variable (functional impairment) when the independent variable (OCD symptom severity) is controlled, and (d) the effect of the independent variable (OCD symptom severity) on the dependent variable (functional impairment) decreases significantly when the mediator (family accommodation) is taken into account.

Results of Pearson's correlations presented previously provide preliminary support for the initial two criteria of a mediational model. Subsequent regression analyses were conducted to verify these relations and test the remaining criteria for mediation. First, parent-rated functional impairment was regressed on the OCD symptom severity measure. Second, the measure of family accommodation was regressed on the OCD symptom severity measure. Finally, parent-rated functional impairment was regressed on both the OCD symptom severity and family accommodation measures to test whether family accommodation score was related to functional impairment and an estimate of the relation between the family accommodation measure and functional impairment controlling for symptom severity. To demonstrate that family accommodation acted as a mediator, the strength of the relation between symptoms severity and parent-rated functional impairment should either be eliminated or significantly decreased.

Results of the regression analyses indicate that OCD symptom severity was significantly related to parent-rated functional impairment, $B = 2.93$, $\beta = .68$, $p < .001$, $R^2 = .46$. Family accommodation was also significantly associated with OCD symptom severity, $B = .22$, $\beta = .35$,
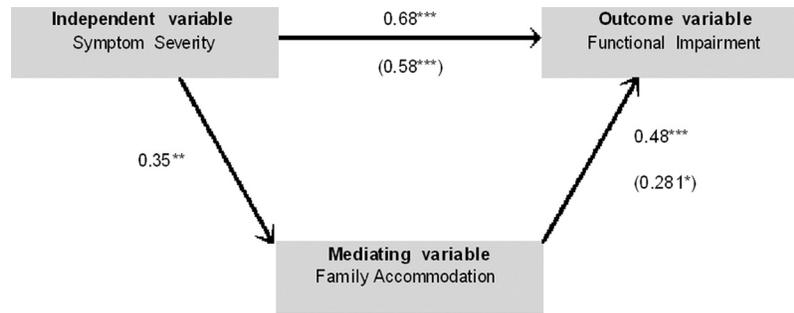
Figure 1. Depiction of mediation analysis including zero-order and semipartial correlation coefficients.

$p < .007$, $R^2 = .12$. Finally, family accommodation was significantly associated with parent-reported functional impairment, controlling for OCD symptom severity, $B = .75$, $\beta = .28$, $p < .007$. This model accounted for approximately 53% of the variance in parent-rated functional impairment. If the resulting relation between symptom severity and parent-reported symptom severity were zero, then support would be provided for complete mediation. Results, however, suggest partial mediation (see Figure 1). OCD symptom severity remained significantly related to functional impairment, $B = 2.50$, $\beta = .58$, $p < .001$; however, the standardized beta weight of symptom severity decreased by approximately .10, whereas the amount of variance predicted increased by 7% with the addition of family accommodation to the model. Mediation was further confirmed by the Sobel (1982) significance test for mediational models, $z = 2.00$, $p < .05$.

Discussion

The primary goal of this study was to extend the literature on family accommodation in OCD to pediatric patients and their families using a reliable and valid measure of the accommodation construct. Consistent with the adult OCD literature (Calvocoressi et al., 1995; 1999), parents reported high rates of family accommodation, most frequently by offering their children reassurance about unsubstantiated obsessions or fears and participating in their child's rituals. As expected, family accommodation was positively related to parent reports of child functional impairment within the home, with correlations slightly greater than those with school or social domains. This finding makes intuitive sense as parent involvement in symptoms is likely to contribute to impaired family relations by virtue of the frequent conflict centered around symptom expression, parental distress linked to engaging in symptoms, and the impact of seeing their child suffer.

To date, research has examined relations among family accommodation and OCD-related variables (Calvocoressi et al., 1999; Cooper, 1996) and changes in accommodation with treatment (Barrett et al., 2004; Grunes, Neziroglu, & McKay, 2001). In this pediatric sample, family accommodation was also significantly related to both OCD symptom severity and child functional impairment. In addition, as hypothesized, family accommodation mediated the relation between OCD symptom severity and parent-rated child functional impairment. This study builds on the extant literature by elucidating a possible mechanism through which OCD symptom severity could result in greater impairment. The finding that family accommodation contributes to the relation between child OCD symptom severity and parent-rated functional impairment points to the increasing need identified in the literature (e.g., Freeman et al., 2003; Renshaw, Steketee, & Chambless, 2005) for families to play an active role in treatment. For instance, results of the Barrett et al. clinical trial, which included extensive family participation and specific attention to accommodation, reported greater OCD symptom reduction than controlled studies in which families were not as centrally involved in treatment (e.g., Pediatric OCD Study Team, 2004). Although differing methodology may partially account for such differences (e.g., the Pediatric OCD Study Team involved a multi-site, multimodal trial vs. the cognitive–behavioral therapy specific nature of Barrett et al.; the Pediatric OCD Study Team sample consisted of treatment naïve youth, whereas Barrett et al. included 18 youth who were concurrently taking psychotropic medication), it is clear that pediatric OCD patients are not solely responsible for the exacerbation of their symptoms within the family system; thus, such problematic interactions should be addressed in treatment to ensure optimal gains.

Unlike parent report, child report of functional impairment was not significantly related to clinician-rated OCD symptom severity, despite similar average levels of child functional impairment

reported by parents and children. This might indicate that parents more consistently associate impairment with greater symptom severity, whereas children may be more variable in their reports. For example, a child with relatively minimal symptoms may experience a great deal of subjective distress and impairment, particularly if he or she exerts considerable effort toward hiding symptoms from others or attempting to continue life as if there were no problem. On the other hand, children with severe symptoms may experience less subjective distress and impairment due to significant family accommodation. This possibility was supported by the finding that parent-rated FAS scores were strongly related to parent-rated child functional impairment scores but were not related to child-rated functional impairment scores. Although this discrepancy could be influenced by the fact that parents completed both the FAS and the COIS (i.e., inflated correlations might result due to shared methods variance), previous research and clinical experience suggest that many children with severe symptoms do not view their OCD symptoms as problematic as their parents report. For example, one explanation of this discrepancy is that, in some cases, children may experience OCD symptoms as egosyntonic (Geffken et al., 2005) and therefore minimally impairing. Another explanation is that children's experience of functional impairment may decrease in a linear relation to the extent that their families accommodate symptoms. For example, if the family takes on the child's burdens for him or her and facilitates activities to minimize the child's distress, the child may not notice a significant decrease in functioning. Rather, the child may be relatively content with the less stressful lifestyle, whereas the family members may experience an increase in stress due to the added responsibility. As concluded by Piacentini et al. (2003), discrepancies between parent and child report highlight the importance of using both parent and youth report to most accurately understand a patient's degree of OCD-related impairment.

In this study, increased accommodation was also positively associated with internalizing and externalizing behavior problems, based on correlations with CBCL scores. In addition, parents in this study reported that their children became distressed and angry several times per week on average when accommodation was withheld. As many as 16% of parents indicated that child displays of anger and distress in response to parent refusal of accommodation occurred nearly every day. Although the directionality of the relation is not known, clinical experience suggests that when families who accommodate their children's

increasing demands attempt to refrain from doing so, the children begin to display increasingly disruptive or anxious behaviors. Moreover, comorbidity rates for pediatric OCD have been reported at 73% for major depression, 43% for other anxiety disorders, and 53% for disruptive behavior disorders (Geller, Biederman, Griffin, Jones, & Lefkowitz, 1996). The high comorbidity rates with internalizing and disruptive behavior disorders suggest a potential need for empirically supported parent behavior management strategies to be incorporated in treatment of pediatric OCD. Doing so may help parents reduce accommodating behaviors, even in the face of escalating disruptive behavior by their children. Indeed, Freeman et al. (2003) have delineated a family-based treatment for early-onset OCD in young children incorporating strategies such as positive reinforcement and "time-out" into treatment.

The results of this study have implications for clinical intervention. For example, given the high prevalence of accommodation reported in this sample, as well as empirical and anecdotal accounts linking family accommodation with significant distress (Barrett et al., 2001; Calvocoressi et al., 1999), it seems that assessment of family accommodation should be incorporated into all pretreatment evaluations of OCD. Moreover, having knowledge about the most common types of accommodating behaviors may guide clinicians in their assessment of family dynamics. For example, if a child endorses violent obsessions, clinicians should explore not only the specific content of the obsessions but also how the parents respond to these obsessions. If parents are accommodating the child, the next step is to understand how they are doing so (e.g., by providing excessive reassurance to the child that he or she will not behave violently despite his or her fears; by removing all knives and scissors from the home, and so on). Such information allows for more specific psychoeducation and development of exposures and other strategies aimed at reducing accommodation.

Although these findings have important clinical implications, limitations must be noted. First, though statistically significant, our mediational model accounted for a modest amount of variance, suggesting that additional variables should be examined. Furthermore, a major limiting factor of mediational analysis conducted in this manner is that it precludes inferences about the direction of the relation. It is possible that increased impairment may elicit increased levels of accommodation or vice versa. Future studies with larger samples may be able to address directional effects using structural equation modeling or other statistical techniques. An additional difficulty with using regression-based techniques to estimate

mediational models is the assumption that there is no measurement error in the mediator variable. Clearly, there is likely to be error in all questionnaire-type measurement. The effect of such error is often an overestimate of the effect of the independent variable and an underestimate of the effect of the mediator on the dependent variable. Thus, it is possible that the effect of family accommodation in this study may be larger than reported and the effect of symptom severity smaller than reported due to measurement error.

Second, although the sample examined was representative of patients receiving treatment through our clinic, families were homogeneous in terms of sociodemographic variables, such that a majority of participants were White. In addition, preschoolers were not represented in our sample. Given the high rates of family accommodation and comorbid behavior problems in this population, future studies should actively recruit children from more diverse backgrounds and ages. Third, conceptual overlap between the COIS and FAS items may have impacted the magnitude of the relations. Although the FAS focuses on family behaviors and the COIS on actual impairment related to OCD, the constructs overlap in that family accommodation impacts symptom severity and familial impairment. Finally, we adapted the FAS to be completed via parent report as opposed to clinician rated. Although Cronbach's alpha was high and correlational analyses within this study support the validity of using the FAS in this manner, parents may have under- or overreported rates of accommodation. Future studies should examine the utility of youth report of accommodation as parents and children tend to provide discrepant yet meaningful information about the child's disorder.

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