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Prevalence of Childhood Obsessive-Compulsive Personality Traits in Adults with Obsessive Compulsive Disorder versus Obsessive Compulsive Personality Disorder

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Abstract

Identifying risk factors of psychopathology has been an important research challenge. Prior studies examining the impact of childhood temperament on adult disorder have largely focused on undercontrolled and inhibited presentations, with little study of overcontrolled traits such as obsessive-compulsive personality traits (OCPTs). We compared rates of childhood OCPTs in adults with OCD (without OCPD) (n = 28) to adults with OCPD (without OCD) (n = 27), adults with both OCD and OCPD (n = 28), and healthy controls (HC) (n = 28), using the Childhood Retrospective Perfectionism Questionnaire, a validated measure of perfectionism, inflexibility, and drive for order. Adults with OCPD (both with and without comorbid OCD) reported higher rates of all three childhood OCPTs relative to HC. Individuals with OCD (without OCPD) reported higher rates of inflexibility and drive for order relative to HC, suggesting that these traits may presage the development of OCD, independent of OCPD. Childhood OCPTs were associated with particular OCD symptom dimensions in adulthood (contamination/cleaning, doubt/checking, and symmetry/ordering), independent of OCD onset age and OCPD diagnosis. Longitudinal prospective studies evaluating OCPTs in children are needed to better understand the progression of these traits from childhood to adulthood and their ability to predict future psychopathology.

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Keywords

obsessive compulsive disorder; obsessive compulsive personality disorder; perfectionism; inflexibility; rigidity; overcontrolled

1. Introduction

Identifying risk factors of psychopathology has been an important challenge for researchers since it can provide a window for early detection and treatment, which would reduce the morbidity, disability and mortality associated with mental illness. Research suggests that early appearing temperamental differences have a pervasive influence on life-course development and are predictive of adult personality structure, interpersonal relations, and psychopathology. For example, Caspi et al. (2000) reported that undercontrolled 3-year-olds grew up to be impulsive, unreliable, and antisocial, and had more conflict with members of their social networks and in their work, whereas inhibited 3-year-olds were more likely to be unassertive and depressed and had fewer sources of social support. In another study (Caspi, Moffitt, Newman, & Silva, 1996), undercontrolled 3-year-olds were more likely at 21 years to meet diagnostic criteria for antisocial personality disorder and to be involved in crime, whereas inhibited 3-year-olds were more likely at 21 years to meet diagnostic criteria for depression. Further about one-third of children born with a temperamental bias that predisposes them to be highly reactive to unfamiliar stimulation as infants and to be fearful or avoidant of unfamiliar events and people as young children show signs of serious social anxiety by adolescence (Kagan & Snidman, 1999). Preliminary data on a brief parent education program for the reduction of inhibited temperament in preschool children show promise that it may be possible to modify early risk for anxiety disorders (Rapee, 2002). Based on this literature, measures of childhood temperament may prove valuable in investigating chains of influence on adult disorder.

The focus on undercontrolled and inhibited temperaments in prior studies raises the question of what impact overcontrolled traits in childhood, such as perfectionism, inflexibility, and drive for order, would have on later psychopathology. To date research on the impact of these childhood obsessive compulsive personality traits (OCPTs) has largely focused on eating disorders, where they have been identified as key risk factors (Jacobi, Hayward, de Zwaan, Kraemer, & Agras, 2004). For example, Anderluh et al. (2003) collected retrospective accounts of childhood OCPTs in an eating disorders sample using the EATATE semi-structured interview. Patients with eating disorders were much more likely to endorse childhood OCPTs compared to healthy controls (HC), and these traits were highly predictive of the development of eating disorders. In fact, the odds of developing an eating disorder increased nearly sevenfold with every additional trait reported, suggesting a strong dose-response relationship. In addition, patients with eating disorders who endorsed childhood OCPTs were more likely to develop adult OCPD, indicating that OCPTs may persist from childhood to adulthood.

Childhood OCPTs may also be a risk factor for developing OCD. In an adult OCD sample ($n = 18$), Coles et al. (2012) retrospectively studied the symptom phase, defined as the

period characterized by the presence of obsessions and compulsions without significant interference or distress. They reported that, among other factors, perfectionism and preoccupation with details/order frequently emerged after initial obsessions and compulsions but before (on average, 2-3 years before) full-criteria for OCD were met. However, this study was limited by sample size, not controlling for the presence of OCPD in the OCD sample, given the high comorbidity between these conditions (Albert, Maina, Forner, & Bogetto, 2004; Garyfallos, et al., 2010; Lochner, et al., 2011; Pinto, Mancebo, Eisen, Pagano, & Rasmussen, 2006; Samuels, et al., 2000), and the absence of a validated measure of childhood OCPTs.

To date, no study has specifically examined rates of childhood OCPTs in those who develop OCD as adults versus those who develop OCPD as adults. To address this gap in the literature, we compared rates of childhood OCPTs in adults with OCD (without OCPD) to adults with OCPD (without OCD), adults with both OCD and OCPD, and healthy controls (HC), using the Childhood Retrospective Perfectionism Questionnaire (CHIRP), a validated brief self report measure (Southgate, Tchanturia, Collier, & Treasure, 2008). We hypothesized that adults with OCPD would have the highest rates of childhood OCPTs among these groups and that childhood OCPTs would occur more frequently in adults with OCD than in healthy controls. Further we explored the impact of such traits on OCD symptomatology in adulthood.

2. Method

2.1 Overview of Study Design

This study was conducted at the Anxiety Disorders Clinic at the New York State Psychiatric Institute, Columbia University, and approved by the Institutional Review Board. Participants provided written consent prior to study participation. Fifty-six adult outpatients with a principal diagnosis of OCD (28 with comorbid OCPD and 28 without comorbid OCPD), 27 outpatients with a principal diagnosis of OCPD, and 28 HC completed the CHIRP. Independent evaluators assessed OCD symptom content and severity.

2.2 Participants

Participants were 111 adults (> 18 years of age). Fifty-six patients met DSM-IV OCD criteria as their principal diagnosis for at least one year and had at least moderate symptoms (Yale-Brown Obsessive Compulsive Scale (YBOCS) total score ≥ 16). This group was subdivided into those with comorbid OCPD and those with no history of OCPD. Twenty-seven patients met DSM-IV/5 OCPD criteria as their principal diagnosis and had no history of OCD. Patients were excluded for other psychiatric problems needing immediate treatment (e.g., mania, psychosis, suicidality) or an unstable medical condition. Other comorbid conditions were permitted only if OCD (or OCPD) was the most severe and impairing condition. The HC group consisted of 28 individuals with no history of OCD, OCPD, or other psychiatric diagnoses and no history of psychotropic medication use. Psychiatric diagnoses were determined by a senior clinician (MD or PhD) and confirmed by an independent rater using the Structured Clinical Interview for DSM-IV (First, Spitzer, Gibbon, & Williams, 1996). OCPD was assessed using the OCPD module of the Structured

Clinical Interview for DSM-IV Axis II Personality Disorders (SCID-II) (First, Gibbon, Spitzer, Williams, & Benjamin, 1997).

2.3 Measures

2.3.1 Childhood Retrospective Perfectionism Questionnaire (CHIRP)

(Southgate, et al., 2008)—The CHIRP is a 20-item self-report questionnaire (with yes-no format) designed to assess the presence of childhood (up to age 12) behaviors, across various domains (e.g., schoolwork, hobbies), that are indicative of the following OCPTs: perfectionism, inflexibility, and drive for order. Following scoring procedures in Southgate et al. (2008), perfectionism was deemed present if at least one behavior was endorsed in any two of the following areas of the child's life: schoolwork, self-care (i.e., appearance), looking after his/her room, and recreational activities. Inflexibility was deemed present if at least one behavior was endorsed in each of the following domains: rigid behaviors (e.g., finding periods of transition difficult) and rule-bound behaviors (i.e., excessive obedience to rules). Drive for order was deemed present if relevant behaviors were endorsed in both of the following domains: appearance (i.e., clothes or hair) and looking after his/her room. 'Childhood' is operationalized as up to 12 years of age to ensure that the behaviors assessed were present during a time preceding the onset of OCD for the vast majority of the clinical population (Ruscio, Stein, Chiu, & Kessler, 2010). In the present study, the CHIRP was scored both categorically (presence/absence of each OCPT) and dimensionally [number of OCPTs (0-3) and number of OCPT-related behaviors (0-20)]. In our sample, the CHIRP demonstrated excellent internal consistency reliability (Cronbach's alpha = .91).

The behavioral indicators on the CHIRP were all derived from the EATATE semi-structured interview, which also assesses childhood OCPTs. These behavioral examples were developed for the EATATE based on a process that included a panel of experts with extensive clinical and research experience, literature reviews of personality traits, and a patient focus group (Anderluh et al., 2003). Southgate et al. (2008) reported substantial agreement between self-report ratings on the CHIRP and interviewer-collected data on the EATATE, as well as with the reports of informants, individuals who had good knowledge of the proband in childhood and could report on behavioral indicators of childhood OCPTs. In their study, patients with eating disorders endorsed more childhood OCPTs on the CHIRP than HC; more childhood OCPTs were associated with greater eating disorder severity in adulthood.

2.3.2 Yale-Brown Obsessive Compulsive Scale (YBOCS) (Goodman, Price, Rasmussen, Mazure, Delgado, et al., 1989; Goodman, Price, Rasmussen, Mazure, Fleischmann, et al., 1989)

—The YBOCS is a 10-item semi-structured interview of current OCD severity, based on domains of time, distress, interference, resistance, and control, yielding a total score ranging from 0 to 40. The YBOCS Symptom Checklist (YBOCS-SC) was administered to gather information on specific current obsessions and compulsions. The YBOCS-SC was used to generate scores for each OCD patient along five different symptom dimensions (taboo thoughts [aggressive, sexual, religious obsessions], contamination/cleaning, doubt/checking [includes obsessions about overresponsibility for harm], hoarding, and symmetry/ordering) using previously published

procedures (Pinto et al., (2007; 2008; 2009). The YBOCS was only administered to participants with OCD.

2.4. Data Analysis

Demographic variables and rates of childhood OCPTs for OCPD, OCD+OCPD, OCD–OCPD, and HC were compared using ANOVA for continuous variables and χ^2 for categorical variables. Significant effects of group were explored further using protected least significant difference (LSD) tests or χ^2 , as appropriate. Non-parametric tests (Kruskall Wallis H tests) were used to compare the three groups on ordinal (number of childhood OCPTs) and non-normal (CHIRP total score) variables, followed by pairwise Mann-Whitney U tests. Univariate linear regression models were used to test number of childhood OCPTs as a predictor of the five OCD symptom factors, controlling for OCD onset age and OCPD diagnosis. We controlled for OCD onset age in these analyses because of an association between age of onset and symptom content in prior OCD studies (Maina, Albert, Salvi, Pessina, & Bogetto, 2008; Pinto, et al., 2006; Tukul, et al., 2005). All statistical tests were conducted at two-sided level of significance, $\alpha = .05$.

3. Results

3.1 Description of Sample

OCPD, OCD+OCPD, OCD–OCPD, and HC did not differ on gender, age, race, years of education, employment status, or current use of psychiatric medication (see Table 1). The OCD+OCPD and OCD–OCPD groups did not differ in the number of participants with OCD as the only current Axis I disorder, in OCD severity on the YBOCS, and in age of OCD onset. In these two groups, OCD severity was in the markedly ill range and average OCD onset was in late adolescence/early adulthood. Relative to the other groups, there was a higher rate of anxiety disorder in the OCPD group and a higher rate of depressive disorder in the OCD–OCPD group.

3.2 Rates of Childhood Obsessive Compulsive Personality Traits in OCD

OCPD (85%) and OCD+OCPD (75%) were the most likely to report at least one childhood OCPT, followed by OCD–OCPD (46%), and then HC (21%) ($[g548]^2 = 28.1, p < .001$). As shown in Table 2, a larger proportion of OCPD patients (both OCPD and OCD+OCPD) endorsed each of the three individual childhood OCPTs compared to OCD–OCPD and HC. The groups differed on number of childhood OCPTs endorsed ($H = 37.7, p < .001$) and CHIRP total score (total number of OCPT-related behaviors endorsed) ($H = 44.2, p < .001$), with OCPD highest, followed by OCD+OCPD, OCD–OCPD, and then HC.

3.3 Effect of Childhood Obsessive-Compulsive Personality Traits on OCD Symptom Expression

OCD patients who endorsed any childhood OCPTs reported an earlier age of OCD onset than patients who did not endorse these traits (patients with OCPTs, $n=34$: $M=16.1$ years ($SD=7.10$) vs. patients without OCPTs, $n=22$: $M=21.6$ years ($SD=11.00$), $t(54) = -2.30, p = .025$. However, these groups did not differ in OCD severity ($t(54) = .83, p = .408$). As shown in Table 3, number of childhood OCPTs predicted more symptoms on three factors,

controlling for OCD onset age and OCPD diagnosis: contamination/cleaning, doubt/checking, and symmetry/ordering.

4. Discussion

Prior studies examining the impact of childhood temperament on adult psychopathology have largely focused on undercontrolled and inhibited presentations, with little research devoted to overcontrolled traits such as OCPTs. To our knowledge, this is the first study to compare rates of childhood OCPTs in adults with OCPD, OCD, or OCD+OCPD. We used a validated self-report called the CHIRP, which assesses three childhood OCPTs: perfectionism, inflexibility, drive for order. Adults with OCPD (both with and without comorbid OCD) reported higher rates of all three childhood OCPTs relative to HC. Individuals with OCD (without OCPD) reported higher rates of inflexibility and drive for order relative to HC. OCD patients who endorsed childhood OCPTs reported earlier OCD onset but not greater OCD severity, compared to those who did not endorse these traits. Childhood OCPTs were associated with particular OCD symptom dimensions in adulthood (contamination/cleaning, doubt/checking, and symmetry/ordering), independent of OCD onset age and OCPD diagnosis.

Most individuals with OCPD (with or without comorbid OCD) in the present study reported at least one childhood OCPT. These data suggest that some OCPTs may emerge during childhood and adolescence, potentially impacting the onset and clinical expression of psychiatric disorders.

Our data point to a relationship between childhood OCPTs and adult OCD that is independent of whether the proband has OCPD. About half of our OCD–OCPD sample (46%) reported at least one of the three OCPTs as compared to 21% in the HC group. More specifically, rates of inflexibility and drive for order were elevated (relative to HC) across all OCD subjects, not just those with comorbid OCPD, suggesting that these traits may presage the development of OCD, independent of OCPD, and should be studied further. The prevalence of these childhood traits across OCD subjects is consistent with the literature on vulnerability factors for OCD. In particular, salient feelings of incompleteness or of things being not “just right” (also referred to as “not just right experiences”) have been identified as a core underlying feature of OCD (Lee, et al., 2009; Pietrefesa & Coles, 2008; Summerfeldt, 2004) and are believed to contribute to the onset of OCD (Coles et al., 2012). Similarly, Halmi et al. (2012) found that global childhood inflexibility or rigidity was the predominate feature that preceded all anorexia nervosa subtypes and considered it to be a transmissible factor that may significantly elevate an individual’s risk for developing that eating disorder. Given high rates of comorbidity between OCD and anorexia nervosa and similarities in their clinical presentations (Altman & Shankman, 2009), as well as initial evidence of a partial common genetic background (Mas, et al., 2013), it would not be surprising if these disorders shared a common temperamental risk factor.

Our finding of an earlier OCD onset in OCD patients with childhood OCPTs is consistent with prior studies showing an earlier OCD onset for patients with comorbid OCPD (Coles, Pinto, Mancebo, Rasmussen, & Eisen, 2008; Garyfallos, et al., 2010; Maina, et al., 2008).

Further our findings of an association between OCPTs and particular OCD symptom domains are supported by studies characterizing OCD patients with comorbid OCPD. These studies report higher rates of symmetry/ordering (Coles, et al., 2008; Garyfallos, et al., 2010; Lochner, et al., 2011), checking (Garyfallos, et al., 2010; Lochner, et al., 2011), cleaning (Coles, et al., 2008; Garyfallos, et al., 2010), and overresponsibility for harm (Garyfallos, et al., 2010) in these patients. Furthermore, Wetterneck et al. (2011) recently demonstrated a significant relationships between perfectionism and the OCD symptom dimensions of checking and ordering, similar to our findings.

While this study was strengthened by the inclusion of a clinical comparison group (adults with OCPD) and a validated measure of childhood OCPTs, there are also several limitations. First, age of OCD onset and endorsement of childhood OCPTs were made retrospectively and are thus subject to recall bias. Although a prior study found that CHIRP ratings were in agreement with both semi-structured interviews (concurrent validity) and informant reports (inter-rater reliability) of childhood OCPTs (Southgate, et al., 2008), we did not validate our participants' memories with interviews or the observations of parents or siblings. Second, since the CHIRP assesses personality traits present before age 12 and approximately 20% of adults with OCD report onset of the disorder by age 12 (Pinto, et al., 2006), it is possible that some of our participants may have had difficulty differentiating traits from early onset OCD symptoms. Third, the CHIRP is a relatively new instrument and therefore further psychometric work may be necessary. Specifically, the correspondence between childhood OCPTs as rated on the CHIRP and adult OCPD traits as rated by diagnostic interview has not been established as has been done with the EATATE (Anderluh, et al., 2003). In addition, the unexpectedly high rate of childhood perfectionism in our HC group relative to other OCPTs raises the question of whether the CHIRP is assessing both adaptive and maladaptive aspects of this trait. On the other hand, an important advantage of the CHIRP is its time efficiency and cost effectiveness (removes the cost of interviewer training and administration), making it easy to use in a variety of research and clinical settings.

These findings have implications for future research. Longitudinal prospective studies evaluating OCPTs in young children are needed to better understand the progression of these traits from childhood to adulthood and their ability to predict future psychopathology. If childhood OCPTs predict a child's vulnerability to OCPD, OCD, or eating disorders, these traits can be targeted as potential risk factors in early intervention or prevention, including parent-training and school-based interventions, much like school-based psychoeducation programs targeting body image and eating attitudes have shown promise in reducing risk factors for eating disorders (Celio, et al., 2000). In addition, we recommend that the CHIRP be applied in treatment studies of child and adolescent OCD to investigate whether OCPTs predict treatment outcome; if so, OCPTs could provide important targets to personalize care (i.e., incorporating interventions into EX/RP that directly address OCPTs). More research is also needed to understand the relationship between childhood OCPTs and specific OCD symptom dimensions.

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Highlights

Prior studies examining the impact of childhood temperament on adult disorder have largely focused on undercontrolled and inhibited presentations, with little study of overcontrolled traits such as obsessive-compulsive personality traits.

This is the first study to compare rates of childhood obsessive-compulsive personality traits in adults with OCPD, OCD, or OCD+OCPD.

Rates of inflexibility and drive for order were elevated across all OCD subjects, suggesting that these traits may presage the development of OCD, independent of OCPD.

The presence of childhood obsessive-compulsive personality traits was associated with earlier OCD onset and particular OCD symptom dimensions in adulthood.

Longitudinal prospective studies evaluating obsessive-compulsive personality traits in children are needed to better understand the progression of these traits from childhood to adulthood and their ability to predict future psychopathology.

Table 1
Demographic and Clinical Characteristics of OCPD (n = 27), OCD + OCPD (n = 28), OCD – OCPD (n = 28), and HC (n = 28)

Characteristics	OCPD		OCD + OCPD		OCD – OCPD		HC		χ ²	p
	N	%	N	%	N	%	N	%		
Gender (female)	16	59.3	13	46.4	14	50.0	17	60.7	1.64	.651
Race (white)	15	55.6	19	67.9	21	75.0	15	53.6	3.73	.293
Working/in school at least part-time	22	81.5	18	64.3	19	67.9	23	82.1	3.66	.301
Current Axis I comorbidity										
OCD only	...	...	22	78.6	19	67.9	...	...	.82	.365
Depressive disorder	0	0	2	7.1	6	21.4	...	...	7.55	.023
Other Anxiety disorder	14	51.9	4	14.3	7	25.0	...	...	9.74	.008
Other	1	3.7	0	0	0	0	...	...	...	...
Psychiatric Medication	4	14.8	11	39.3	8	28.6	...	...	4.13	.127
SRI	3	11.1	6	21.4	6	21.4	...	...
SRI + non-SRI	0	0	5	17.9	1	3.6	...	...
Non-SRI alone	1	3.7	0	0	1	3.6	...	...
	M	SD	M	SD	M	SD	M	SD	F	p
Age	35.3	10.89	34.4	9.45	36.9	13.89	32.9	10.45	.613	.608
Years of education	16.7	2.30	16.9	2.26	15.5	2.29	16.8	2.11	2.53	.061
Age of OCD onset	...	...	16.4	7.97	20.1	10.0	...	...	2.41	.127
YBOCS total score	...	...	27.1	4.27	27.2	3.86	...	...	.01	.922

YBOCS = Yale-Brown Obsessive Compulsive Scale; SRI = serotonin reuptake inhibitor.

Table 2

Rates of Childhood Obsessive-Compulsive Personality Traits in OCPD (n = 27), OCD + OCPD (n = 28), OCD – OCPD (n = 28), and HC (n = 28)

Childhood OCPTs	OCPD		OCD + OCPD		OCD – OCPD		HC		χ^2	P
	N	%	N	%	N	%	N	%		
Perfectionism	23	85.2	19	67.9	12	42.9	6	21.4	26.10	<.001 ^a
Inflexibility	18	66.7	14	50.0	9	32.1	0	0	28.97	<.001 ^b
Drive for Order	18	66.7	13	46.4	5	17.9	0	0	33.10	<.001 ^c

Note. OCPTs = Obsessive-compulsive personality traits.

^a OCPD, OCD+OCPD > HC; OCPD > OCD–OCPD, HC

^b OCPD, OCD+OCPD > HC; OCPD > OCD–OCPD > HC

^c OCPD, OCD+OCPD > OCD–OCPD > HC

Table 3

Individual Linear Regression Models to Test Number of Childhood Obsessive-Compulsive Personality Traits as Predictor of OCD Symptom Factors in Adults with OCD (n = 56)

OCD Symptom Factors	β	R^2	F	t	p
Taboo Thoughts ^a	.02	<.01	.01	.11	.910
Contamination/Cleaning ^b	.30	.08	4.89	2.21	.031
Doubt/Checking ^c	.37	.12	7.50	2.74	.008
Hoarding ^d	.14	.02	.89	.94	.350
Symmetry/Ordering ^e	.30	.08	5.28	2.30	.026

Note. OCD onset age and OCPD diagnosis were entered as covariates in Step 1.

^a R^2 for Step 1 = .12, $F(2, 53) = 3.53$, $p = .036$.

^b R^2 for Step 1 = .04, $F(2, 53) = 1.17$, $p = .318$.

^c R^2 for Step 1 = .04, $F(2, 53) = 1.00$, $p = .376$.

^d R^2 for Step 1 = .01, $F(2, 53) = 0.33$, $p = .721$.

^e R^2 for Step 1 = .15, $F(2, 53) = 4.70$, $p = .013$.