Clinical characteristics and predictors of hoarding in children with anxiety disorders

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ABSTRACT

Objective: This investigation was conducted to describe the clinical of characteristics of anxious children with significant hoarding behavior and to examine the contributions of anxiety, obsessive compulsive, and inattentive and hyperactive/impulsive symptoms in the prediction of hoarding.
Method: One hundred nine children seeking treatment for an anxiety disorder and their parents completed clinician-administered and parent-report measures of emotional and behavioral symptoms, functional impairment, and hoarding symptoms.
Results: Elevated levels of hoarding were reported for 22% of the sample. Children with elevated hoarding scored significantly higher on measures of anxiety, obsessive–compulsive, attention, social, and thought problems, rule-breaking, aggression, and overall functional impairment and had higher rates of major depressive disorder than children without hoarding. Attention problems predicted hoarding symptomology over-and-above the contributions of either anxiety or obsessive–compulsive symptoms.
Conclusions: Findings suggest a pattern of behavioral and emotional dysregulation for children who hoard and provide further insight into the relationships between anxiety, attention problems, and hoarding.

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1. Introduction

Hoarding disorder is characterized by difficulty discarding material possessions resulting in excessive accumulation of belongings and disorganized, cluttered living spaces, which in turn creates substantial risks to health or safety or functional impairment (American Psychiatric Association [APA], 2013). Despite an estimated prevalence rate of 2–5% among adults, the phenomenological characteristics of hoarding are not well understood (Samuels et al., 2008; Iervolino et al., 2009; Mataix-Cols et al., 2010). Additionally, while most adults report symptom onset in childhood and an unremitting illness trajectory, there are very few data available on the clinical characteristics of hoarding in children

(Grisham, Frost, Steketee, Kim, & Hood, 2006; Tolin, Meunier, Frost, & Steketee, 2010). Investigation of the clinical characteristics of hoarding among children is a necessary first step toward a better understanding of the etiology, developmental course, and phenotypic expression of the disorder.

Hoarding was previously conceptualized as a symptom dimension of obsessive–compulsive disorder (OCD), but is now regarded as a distinct disorder due to findings that, in contrast to OCD, hoarding is not always performed in response to intrusive thoughts or to relieve anxiety (Mataix-Cols et al., 2010). Hoarding is less responsive to cognitive behavioral therapy for OCD and to serotonergic drugs than is OCD (Steketee, Frost, Tolin, Rasmussen, & Brown, 2010; Abramowitz, Franklin, Schwartz, & Furr, 2003; Mataix-Cols, Rauch, Manzo, Jenike, & Baer, 1999). Additionally, initial evidence suggests that hoarding is related to disrupted activity in the anterior ventromedial prefrontal and cingulate cortices whereas OCD is associated with activity in the orbitofronto–striatal–palladal thalamic circuits (Abramowitz et al., 2003; Frost, Steketee, & Tolin, 2011;

Mataix-Cols et al., 2010; Saxena, 2008). In light of these differences, alternative models have been proposed to identify factors culpable in the etiology and maintenance of hoarding. The most prominent model posits that deficits in executive functioning result in impulsive, excessive acquisition of objects and difficulty organizing and discarding unneeded items, which over time lead to accumulation of clutter (Grisham, Norberg, Williams, Certoma, & Kadib, 2010; Tolin & Villavicencio, 2011).

The executive function deficit theory for hoarding is supported by findings that adult hoarding patients demonstrate problems in memory, decision-making, and attention (Grisham, Brown, Savage, Steketee, & Barlow, 2007; Hartl et al., 2004; Lawrence et al., 2006). Hoarding also has high comorbidity with attention-deficit/hyperactivity disorder (ADHD), which is characterized by executive function deficits including impaired behavioral inhibition and emotion regulation (hyperactive/impulsive symptoms), and difficulty planning, organizing, and initiating and completing activities (inattentive symptoms) (APA, 2013; Sheppard et al., 2010; Tolin & Villavicencio, 2011). Inattentive, but not hyperactive/impulsive symptoms have been associated with hoarding in adults with OCD and/or hoarding after accounting for OCD symptoms (Sheppard et al., 2010; Tolin & Villavicencio, 2011). In contrast, among a sample of children with ADHD, hyperactive/impulsive symptoms predicted item acquisition and hoarding-related distress, and inattentive symptoms predicted difficulty discarding and clutter. Obsessive–compulsive symptoms did not significantly predict any hoarding domains after controlling for ADHD symptoms (Hacker et al., 2012).

The association between hoarding and ADHD/executive function deficits has been demonstrated for individuals presenting with OCD or ADHD, but hoarding often presents independent of either disorder and has been documented among other disorders as well. Individuals who hoard have higher comorbidity or symptom severity than non-hoarding individuals in a number of areas including learning disabilities, major depressive disorder, aggressive behavior, somatic complaints, social problems, and anxiety, with anxiety disorders the most frequently reported of these (Testa, Pantelis, & Fontenelle, 2011; Storch et al., 2007, 2011; Frost et al., 2011; Samuels et al., 2008). It is not known whether the correlation between ADHD and hoarding exists among these clinical populations. Additionally, although clinical characteristics of hoarding have been examined among individuals with OCD and/or hoarding, little is known about the presentation of hoarding symptoms with other comorbidities, and the vast majority of studies have focused on adults.

Investigations are needed to determine the incidence and clinical characteristics of hoarding across clinical populations and to examine the relative predictive strength of ADHD, OCD, and other symptom clusters among individuals with primary concerns other than OCD and ADHD. Anxiety disorders are the chosen starting point for expanding the populations of study because anxiety is the most commonly reported comorbid symptom domain for hoarding disorder aside from ADHD and OCD. This study focused on children given the dearth of information on the etiology and developmental patterns for this disorder. Additionally, children with anxiety disorders frequently present with comorbid ADHD and/or OCD, allowing for examination of the relationships between hoarding and all three symptom clusters (ADHD, OCD, and anxiety). Determining which symptom cluster most strongly predicts hoarding would further clarify the etiology and nosology of the disorder, perhaps facilitating the pathway for more effective treatment.

Accordingly, there were three study goals. The first goal was to describe the incidence of problematic hoarding behavior among a community sample of treatment seeking youth with anxiety disorders. Second, to examine the prediction of hoarding symptoms via ADHD, anxiety, and obsessive–compulsive symptoms while controlling for comorbidity and symptom overlap among these domains. The final goal was to describe the clinical characteristics (e.g., comorbidity and relationships to other domains including aggression, somatic complaints, depression, thought problems, and social problems) of children with problematic hoarding compared to those without.

Table 1
Sample characteristics.

Demographics	N
Female	48 (44%)
Caucasian	78 (72%)
Latino	14 (13%)
African American	12 (11%)
Asian	3 (3%)
Other ethnicity	2 (2%)
Primary diagnosis	
Generalized anxiety	44 (40.4%)
Social phobia	26 (23.9%)
Separation anxiety	26 (23.9%)
Specific phobia	9 (8.3%)
Disruptive behavior disorder	2 (1.8%)
Panic disorder	1 (0.9%)
Major depressive disorder	1 (0.9%)

2. Method

2.1. Participants and procedures

Participants were 109 children ages 7–13 years (average age = 9.89 years, SD = 1.83 years) seeking treatment as part of a study examining a computer-assisted cognitive behavioral therapy protocol for child anxiety disorders. Participants were recruited through one of three community mental health centers and were included if they met criteria for a major anxiety disorder as a primary or secondary diagnosis. Exclusion criteria included having a primary diagnosis of OCD or ADHD, suspected intellectual disability, and history of psychotic or bipolar disorder. Participant demographics are displayed in Table 1.

The local institutional review board approved recruitment and data collection procedures. Parents and children provided written informed consent/assent at one of three mental health centers located throughout Florida. Independent evaluators conducted clinical interviews remotely via video technology to standardize procedures across locations. Diagnoses and clinical severity ratings were determined by the clinician following administration of the Anxiety Disorders Interview Schedule for DSM-IV-Child and Parent Versions (ADIS-IV-C/P; Silverman & Albano, 1996) in separate interviews with the child and guardian. The child and parent completed self-report measures following the interviews.

2.2. Measures

ADIS-IV-C/P (Anxiety Disorders Interview Schedule for DSM-IV-Child and Parent Versions). The ADIS-IV-C/P (Silverman & Albano, 1996) are semi-structured clinician-administered interviews that assesses presence and severity of DSM-IV psychiatric disorders in children. The ADIS-IV-C/P assess anxiety disorders as well as commonly co-occurring conditions including mood, attention, and disruptive behavior disorders. The clinician assigns a Clinical Severity Rating (CSR) on a scale of 0–8 for each disorder; scores ≥4 indicate clinical significance.

Children's Saving Inventory–Parent Version (CSI-P; Storch et al., 2011) is a 23-item parent-rated measure of children's hoarding behavior. The CSI-P was developed based on the Saving Inventory-Revised (Frost, Steketee, & Grisham, 2004), a parallel (self-report) measure for assessing hoarding behavior in adults. Items assess