Journal of Affective Disorders 237 (2018) 10–17

Contents lists available at ScienceDirect

Journal of Affective Disorders

journal homepage: www.elsevier.com/locate/jad

Research paper

The relationship between schizotypal traits and hoarding symptoms: An examination of symptom specificity and the role of perceived cognitive failures

Marc J. Weintraub[a,b], Caitlin A. Brown[a], Kiara R. Timpano[a,*]

[a] Department of Psychology, University of Miami, Coral Gables, FL, United States
[b] Department of Psychiatry, Semel Institute, University of California, Los Angeles, CA, United States

ARTICLE INFO

Keywords:
Hoarding
Schizotypy
Cognitive dysfunction
Odd speech
Magical thinking

ABSTRACT

Background: Hoarding disorder presents significant individual and interpersonal consequences. Because hoarding has only recently been added to the DSM, relatively little is known about associated comorbidity patterns. Several researchers have postulated a relationship between hoarding and schizotypy. To date, however, no investigations have considered which specific types of schizotypal traits relate to hoarding symptoms.

Methods: We examined the association between hoarding and schizotypal symptoms using multivariate analyses in two samples—a sample of 120 young adults and a community sample of 291 individuals recruited from Mechanical Turk's online crowdsourcing system.

Results: Individuals who fell within the clinical range on the Saving Inventory Revised endorsed significantly greater levels of schizotypal symptoms compared to those with normative saving behaviors. Odd speech, magical thinking, and social anxiety were the most consistent schizotypal correlates of hoarding symptoms. Perceived cognitive dysfunction mediated the effects between odd speech and social anxiety and hoarding symptoms, suggesting that shared abnormalities in cognitive functioning may help explain the relationship between hoarding and schizotypy.

Limitations: This study examined the spectrum of schizotypy and hoarding symptoms via self-report in two nonclinical populations.

Conclusions: Findings underscore the importance of assessing schizotypal traits in patients with hoarding, and suggest future avenues of research to better understand the underlying causes explaining the overlap, as well as potential treatment implications.

1. Introduction

Hoarding disorder (HD) is characterized by excessive acquiring tendencies and difficulties with discarding possessions, which jointly contribute to debilitating clutter in 3–5% of the population (DSM-5; American Psychiatric Association, 2013). Hoarding symptoms are dimensionally distributed (Timpano et al., 2013), ranging from normative saving behaviors to extreme manifestations of the syndrome (Rodriguez et al., 2012; Tolin et al., 2008). A hallmark feature of hoarding is elevated psychiatric comorbidity. Nearly three quarters of individuals with HD meet criteria for a comorbid mood or anxiety disorder (Frost et al., 2015). Common comorbidities include major depressive disorder, social anxiety, generalized anxiety disorder, and attention-deficit hyperactivity disorder (Frost et al., 2015; Hacker et al., 2016; Hall et al., 2013).

Though less thoroughly researched or understood, the overlap between schizotypy and HD has been observed in both samples with psychotic-spectrum disorders, as well as samples of hoarding probands. Schizotypy, or schizotypal personality disorder, is a significant risk factor for schizophrenia (Barrantes-Vidal et al., 2015). It involves symptoms such as social and interpersonal deficits, odd speech and behavior, strange beliefs, magical thinking, and blunted affect (APA, 2013). Hoarding symptoms are estimated to affect between 5.6% (Novara et al., 2016) and 47% (Chiu et al., 2003) of patients with psychotic spectrum disorders. Four extant studies considered the relationship from a hoarding-focused perspective, relying on more well-validated symptom measures (Grisham et al., 2007; Grisham et al., 2008; Rasmussen et al., 2013; Samuels et al., 2007). Results uniformly supported a positive relationship between elevated psychotic-spectrum symptoms and hoarding, as well as greater schizotypal symptoms in

* Corresponding author.
E-mail address: kiaratimpano@gmail.com (K.R. Timpano).

https://doi.org/10.1016/j.jad.2018.04.121
Received 28 November 2017; Received in revised form 21 February 2018; Accepted 8 April 2018
Available online 04 May 2018

those with hoarding relative to non-hoarding controls.

The aforementioned research on HD and psychotic-spectrum disorders is marked by several limitations that temper any firm conclusions about the overlap of these symptoms. First, the studies all examined this comorbidity in samples of individuals with obsessive-compulsive disorder (OCD). Historically considered a symptom dimension of OCD (Mataix-Cols et al., 2005), hoarding is now recognized a discrete disorder with distinct phenomenology and etiological factors (Pertusa et al., 2010). Therefore, research on hoarding symptoms in OCD samples may not necessarily generalize to individuals with primary HD. An additional limitation is that, with the notable exception of Samuels and colleagues (2007), previous investigations of the hoarding-schizotypy connection have focused on composite symptom measures. This is problematic because both hoarding and schizotypal symptoms reflect heterogeneous psychiatric constructs (APA, 2013; Frost et al., 2004; Raine, 1991).

Building on the extant research, there is a strong theoretical basis for examining relationships between hoarding and schizotypy at the symptom level. Both syndromes are marked by magical thinking, which involves firm beliefs in ideas such as thought transmission and psychic energy (e.g., (Eckblad and Chapman, 1983; Samuels et al., 2007). Research in primary OCD samples suggests that hoarding is related to greater magical thinking and odd behavior (Samuels et al., 2007). An additional phenotypic overlap involves unusual speech patterns. Unusual or tangential speech reflects the core feature of “disorganized speech” in a DSM-5 schizophrenia diagnosis (APA, 2013). Though not formally investigated, clinical reports and observations indicate that patients with HD also display a distinct speech style characterized as overly verbose and tangential (Steketee and Frost, 2010). Patients with HD exhibit significant circumlocution, which involves an overly verbose and tangential communication style, marked by telling long, detailed stories that do not necessarily stay on point. Several researchers have likened speech patterns in HD, which reflect a limited ability to prioritize important information, to behavioral deficits in sorting and categorizing possessions (Tolin et al., 2017).

In both schizotypy and HD, cognitive dysfunction is considered a significant factor in the onset and course of symptoms (Carrigan and Barkus, 2017; Timpano et al., 2014; Woody et al., 2014). In particular, perceived cognitive failures have been identified as a mechanism underlying symptoms of both schizotypy and HD (Grisham et al., 2010; Pfeifer et al., 2008). Cognitive failures refer to perceptual, memory or motor lapses that occur in daily life, and multiple aspects of subjective cognitive failures—including decision-making, attention, and memory—appear to be relevant to understanding schizotypy and HD symptoms. Difficulties in decision-making have been linked with greater reactivity to negative emotion in patients with HD (Shaw et al., 2015), as well as the primary symptom clusters of difficulty discarding and excessive acquisition (Frost and Hartl, 1996). Patients with HD also report low confidence in their memory and greater attentional difficulties, both of which predict greater symptom severity (Steketee and Frost, 2003; Tolin et al., 2011b). Perceived cognitive failures have been linked to greater difficulty categorizing and sorting objects in HD (Hartl et al., 2005), which has prompted recent investigations on the efficacy of making cognitive deficits a target in treatments for HD (DiMauro et al., 2014). In regards to schizotypy, subjective reports of cognitive dysfunction have been associated with global schizotypy symptoms (Corcoran et al., 2013; Laws et al., 2008), as well as negative symptoms in longitudinal research (Pfeifer et al., 2008). Since perceived cognitive failures are core elements of schizotypy and HD symptoms, it would be valuable to determine whether this shared deficit helps explain the relationship between specific symptoms of schizotypy and HD.

The literature reviewed highlights the need for research on the overlap between hoarding and schizotypy at the symptom level. The current study tested the associations between schizotypal symptoms and dimensionally-assessed hoarding symptoms in two independent samples. Sample 1 consisted of young adults at a university setting; Sample 2 was a larger community sample collected through an online crowd-sourcing website, Amazon's Mechanical Turk (MTurk) (Buhrmester et al., 2011). Investigations of psychiatric symptoms using MTurk have gained traction in part due to research demonstrating elevated levels of psychiatric symptoms in this population (Shapiro et al., 2013), including hoarding (Arditte et al., 2016) and psychotic-spectrum symptoms (Jaya et al., 2016; Lincoln et al., 2017).

Our first aim was to examine the associations between global hoarding and schizotypal symptoms, as well as specific symptom clusters of both disorders. Because we were interested in examining the specificity of relationships between hoarding and schizotypal symptoms, we controlled for general anxiety and depression symptoms in all models, as both hoarding and psychotic symptoms have been linked with these symptoms (Frost et al., 2011; Lewandowski et al., 2006). Based on clinical observations and empirical links between hoarding and schizotypy (Samuels et al., 2007), we predicted that odd speech, magical thinking, and odd behavior would be most strongly and consistently linked to overall hoarding symptoms, as well as the difficulties discarding and acquiring factors. Our second aim, which we examined in a subset of participants in sample 2, was to determine whether a subjective sense of cognitive dysfunction may partially explain the relationship between hoarding and psychotic symptoms. Given prior research demonstrating the role of cognitive deficits in both hoarding and schizotypy (Chan et al., 2011a; Chan et al., 2011b; Woody et al., 2014), we hypothesized that self-perceived cognitive failures may partially mediate the link between schizotypal and hoarding symptoms.

2. Methods

2.1. Participants

2.1.1. Sample 1

The sample included 120 young adults (*M* age = 19.0 years, *SD* = 1.14; 60.0% female) recruited from the university's undergraduate research pool. Participants identified their ethnicity as White/Caucasian (71.7%), Hispanic/Latino (25.8%), Asian-American (15.0%), Black (6.7%), or “more than one race” /” other” (6.4%).

2.1.2. Sample 2

The sample included 411 participants from across the United States recruited through MTurk's online crowd-sourcing system. Using recommendations for cleaning MTurk data (e.g., Behrend et al., 2011; Osborne and Blanchard, 2010), we excluded participants (*n* = 67) who finished the survey in less than 60% of the estimated/expected completion time or who answered less than 100% of five embedded validity checks correctly. The final sample included 291 participants (*M* age = 35.8 years, *SD* = 11.0; 56% female). Participants identified their ethnicity as White/Caucasian (82.8%), Hispanic/Latino (5.0%), Black (5.5%), Asian-American (6.5%), “more than one race” /other (2.4%), or declined to answer (2.7%).

2.2. Measures

All questionnaires described below exhibited good reliability across both samples, as measured by Cronbach's alpha (see Table 1).

2.2.1. Schizotypal Personality Questionnaire (SPQ; Raine, 1991)

The SPQ is a self-report measure of schizotypal personality traits consisting of 74 true/false items. The SPQ yields a total score and nine subscale scores, including: *ideas of reference, excessive social anxiety, odd beliefs or magical thinking, unusual perceptual experiences, odd or eccentric behavior, no close friends, odd speech, constricted affect, and suspiciousness*. The *no close friends* subscale reflects social avoidance, disinterest, and withdrawal (e.g., “I find it hard to be emotionally close to others,”). This is distinguished from the *social anxiety* subscale, which taps into