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## Characteristics of Hoarding in Older Adults

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### Abstract

**Objective**—This study determined the clinical characteristics of late-life hoarding disorder (HD).

**Methods**—Older adults (age 60) with HD ( $n = 55$ ) and without psychiatric diagnoses ( $n = 39$ ) were compared on psychiatric, functional, cognitive, and health-related measures. Associations between age and clinical characteristics in a large sample of mixed age ( $n = 210$ , age range 20–78) participants with HD were also determined.

**Results**—Individuals with late-life HD were characterized by substantial impairments in psychiatric, functional, cognitive, and medical status. Health risks (e.g., risks of falls, fire) were also common. However, older age was generally not associated with increased severity of hoarding or other clinical correlates (with the exception of one global clinician-rated measure of severity).

**Conclusions**—Late-life HD is characterized by considerable morbidity and health risks, and these characteristics may be consistent across the lifespan in cross-sectional mixed-age samples of individuals with HD.

### Keywords

hoarding; clutter; older adults

### Objective

Hoarding disorder (HD) is being proposed as a new diagnosis, characterized by urges to save and difficulties discarding items regardless of their inherent value, resulting in accumulations of possessions that clutter and inhibit functional living space<sup>1</sup>. The projected prevalence of HD is 5.8% in the general population<sup>2</sup>, and evidence suggests that hoarding is more common, severe, and treatment refractory in older adults<sup>3–5</sup>. Negative consequences of HD may also be particularly salient for older adults who are at increased risk for social

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Previous Presentations: Portions of these data were presented at the Gerontological Society of America's annual conference, Boston, MA, November, 2011.

isolation, falls, cognitive impairment, and medical complications, all of which could affect and be affected by hoarding. Thus, research characterizing hoarding in late life is of substantial clinical importance.

Despite a recent surge in studies on hoarding, very few have focused on geriatric samples. Studies have indicated that older adults report a progressive course of symptom severity<sup>3</sup>, and elder care workers report functional impairments and health risks in their clients with HD<sup>6</sup>. However, only one study has compared older adults with and without HD<sup>7</sup>, and none has compared older and younger/middle-aged adults with HD.

The aim of the present study was to determine the clinical characteristics of late-life HD. The study enrolled the largest sample to date ( $n = 55$ ) of older adults (age 60) with HD, and compared this sample with a nonclinical group. Older adults with HD were predicted to report more severe symptoms and impairments compared to older adults without HD. Associations between age and hoarding symptoms and correlates were also determined utilizing a mixed-age sample, and older age was predicted to be positively associated with hoarding severity and impairments.

## Methods

### Participants

Participants were 210 adults ( $M$  age = 52.84,  $SD$  = 9.99, range = 20–78) who met criteria consistent with those proposed for HD<sup>8</sup>. A subset of 55 older adults with HD (age 60,  $M$  age = 64.07,  $SD$  = 4.06) and a nonpsychiatric comparison (NC) sample of 39 older adults (age 60,  $M$  age = 68.51,  $SD$  = 6.43) were included for some analyses. All participants were recruited as part of a larger study on the psychopathology of hoarding, and additional details of recruitment and assessment of the HD group are reported elsewhere<sup>8</sup>. Community participants were recruited through the same venues used to solicit hoarding participants with ads requesting adults age 18 and older without a history of significant psychological problems or treatment.

Exclusion criteria were 1) high risk of suicide or other risk factor requiring immediate attention, 2) current psychotic symptoms, 3) substance abuse or dependence in the last 3 months, and 4) significant gross cognitive impairment as assessed by the Orientation-Memory-Concentration test.

The most common comorbid diagnosis in the combined HD sample was major depressive disorder ( $n = 108$ , 51.4%), followed by generalized anxiety disorder ( $n = 49$ , 23.3%), social phobia ( $n = 49$ , 23.3%), obsessive-compulsive disorder ( $n = 38$ , 18.1%), specific phobia ( $n = 29$ , 13.8%), posttraumatic stress disorder ( $n = 15$ , 7.1%), and dysthymic disorder ( $n = 10$ , 4.8%). Additional data regarding diagnostic comorbidity is reported elsewhere<sup>8</sup>.

### Measures

Diagnostic status was established using the Anxiety Disorders Interview Schedule for DSM-IV Lifetime Version. Hoarding symptoms were assessed using the Hoarding Rating Scale Interview (HRS), Saving Inventory-Revised (SI-R), and the Saving Cognitions Inventory (SCI). Global severity of illness was assessed using the Clinical Global Impressions-Severity scale (CGI). Psychiatric symptoms were assessed using the Beck Depression Inventory-II (BDI-II), Beck Anxiety Inventory (BAI), and Anxiety Sensitivity Index (ASI). Because attention problems predict hoarding symptom severity<sup>9</sup>, the inattentiveness subscale of the Attention Deficit/Hyperactivity Disorder Symptoms Scale (ADHDSS) was examined. Functional impairment was assessed with the Sheehan Disability Scale, the Activities of Daily Living Scale-Hoarding, and the frequency of family and friends visiting

the home rated from 0 = *never* to 4 = *9 or more times per month*. Medical status was operationalized as the number of self-reported chronic medical conditions. Health risks caused by hoarding were assessed with the question “Do you or other people think the clutter presents a problem for your health or safety?” Six health risks were assessed with a yes/no response format: falling, fire hazard, hygiene, nutrition, medical problems, and insect infestation.

## Procedure

This study was approved by the Institutional Review Boards of Boston University, the Institute of Living/Hartford Hospital, and Smith College and recruitment occurred at the first two sites. All participants provided written informed consent prior to study enrollment. Research assistants, masters-level clinicians or postdoctoral fellows (supervised by licensed clinical psychologists) administered clinician measures. Participants completed self-report measures. Home visits were conducted when possible ( $n = 156$ , 74.3% of the hoarding sample).

## Results

### Comparison of Older Adults With and Without HD

Participants with HD averaged about 5 years younger than controls, but groups were otherwise well matched on demographic variables and gross cognitive status (see Table 1). As expected, older adults with HD reported more severe hoarding, psychiatric symptoms, functional impairment, medical comorbidity, and attention problems than did controls (See Table 1).<sup>1</sup> HD participants were also more likely to endorse health risks including risk of falling (59.6%), fire (53.8%), poor hygiene (32.7%), poor nutrition (19.2%), medical problems (28.8%), and insect infestations (21.2%). In contrast, these health risks were endorsed by 0%–2.6% of participants in the NC group.

### Associations between Age and Hoarding Symptoms and Correlates

Pearson correlation coefficients using the total HD sample ( $n = 210$ ,  $df = 208$ ) indicated that age was not significantly associated ( $p > .05$ ) with hoarding severity (HRS  $r = 0.04$ , SI-R total  $r = 0.01$ , SI-R subscales  $r$  range =  $-0.03$  for discarding to  $0.12$  for clutter), SCI total score  $r = -0.12$ , depression severity (BDI  $r = -0.12$ ), functional impairment (SDS  $r$  range =  $-0.06$  for family functioning to  $-0.08$  for work functioning, ADL  $r = 0.01$ , frequency of family/friend visits  $r = -0.07$ ), attention problems (ADHDSS  $r = -0.13$ ), medical status ( $r = 0.13$ ), or health risks ( $r$  range =  $-0.04$ – $0.11$ ). Older age was associated with less severe anxiety (BAI  $r = -0.16$ ,  $p = .021$ , ASI  $r = -0.17$ ,  $p = .016$ ), and fewer current mood ( $r = -0.14$ ,  $p = .041$ ) and anxiety disorders ( $r = -0.16$ ,  $p = .018$ ). Older age was also associated with higher therapist-rated global severity (CGI  $r = 0.21$ ,  $p = .003$ ).<sup>2</sup>

## Discussion

Late-life HD participants were characterized by substantial impairments in psychiatric, functional, medical, and attention symptoms. These findings are in contrast to previous research comparing older HD and nonclinical participants wherein fewer negative effects of

<sup>1</sup>Results were similar using analysis of covariance controlling for age. We chose to present the original findings given that false results can occur when controlling for preexisting demographic characteristics. To ensure that the  $t$ -test findings were robust to violations of statistical assumptions for parametric tests, we reran analyses using nonparametric (Mann Whitney U) tests and found the same pattern of statically significant between-group differences.

<sup>2</sup>Results were similar when correlations were conducted with duration of symptoms as opposed to age. The pattern of findings was also similar when analyses were conducted comparing older and younger HD participant groups using  $t$ -tests (two groups: ages 18–59 and ages 60) and analysis of variance (e.g., three groups: ages 18–44, ages 44–59, ages 60).

hoarding were noted<sup>7</sup>. Recruitment of participants with milder hoarding symptoms (mean SI-R = 44.0) in the previous study<sup>7</sup> may explain this discrepancy.

Unexpectedly, older age was not associated with hoarding severity or related symptoms and impairments as assessed by most measures. The only measure supporting the study hypothesis was clinician-rated global illness. Clinical impressions have suggested that hoarding is more severe in older adults, and a progressive course of hoarding was also reported by geriatric patients<sup>3</sup>. However, nearly three-quarters (73%) of a cross-sectional mixed-age sample of individuals with hoarding reported a chronic, stable course of symptoms<sup>10</sup>. The percentage of respondents reporting moderate or more severe hoarding increased until mid-age, with little change until after age 70 when severity became more variable<sup>10</sup>.

The present study is the first, however, to systematically investigate associations between age and hoarding characteristics. The largely null findings in this study were surprising. Perhaps the lack of association is attributable to sampling bias, as participants in this study were ambulatory and cognitively intact. Results may not generalize to older adults who are institutionalized, cognitively impaired, or homebound. Also, older HD participants in this study averaged age 64, a “young old” group with relatively few people over the age of 70 for whom hoarding might have levied a greater toll. It is also possible that older adults may have underreported their symptoms. The cross-sectional sampling procedure may also have limited the ability of this study to capture worsening severity in hoarding symptoms with age. Interestingly, the sole measure supporting the study hypothesis was a global clinician rating which may have been influenced by age bias or other variables not assessed in the current study. It was surprising that older age in the HD group was associated with *lower* psychiatric comorbidity and *less severe* anxiety symptoms, although these findings are consistent with epidemiological research. Whatever the reason, the present investigation by and large failed to support the hypothesis that hoarding severity increases with age.

This study contributes important information to an evolving literature on HD. The clinical significance of late-life HD was established in relation to a control group. In addition, data from the current study suggest that characteristics of HD may be consistent across the lifespan, at least within cross-sectional samples. Longitudinal methods are needed to outline the individual course (e.g., progression and slope of symptom change) of HD in future research.

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**Table 1**

Comparison of Older Adults with and without Hoarding Disorder

	<b>HD (<i>n</i> = 55)</b>	<b>NC (<i>n</i> = 39)</b>	<b>Statistical Test</b>
Age	64.07 (4.06)	68.51 (6.44)	$t(59) = -3.81^{**}$
Employment			$\chi^2(1, N = 90) = 0.12$
Employed or Student	20 (38.5%)	16 (42.1%)	
Unemployed	32 (61.5%)	22 (57.9%)	
Education			$\chi^2(1, N = 92) = 0.35$
College Graduate	35 (66.0%)	28 (71.8%)	
Not College Graduate	18 (34.0%)	11 (28.2%)	
Income			$\chi^2(2, N = 68) = 1.53$
\$10–30K	24 (61.5%)	15 (51.7%)	
\$40–69K	9 (23.1%)	6 (20.7%)	
\$70+K	6 (15.4%)	8 (27.6%)	
Marital Status			$\chi^2(1, N = 91) = 1.49$
Not Married	41 (77.4%)	25 (65.8%)	
Married	12 (22.6%)	13 (34.2%)	
Race			$\chi^2(1, N = 94) = 0.75$
Nonwhite	2 (3.6%)	3 (7.7%)	
White	53 (96.4%)	36 (92.3%)	
Type of Home			$\chi^2(2, N = 90) = 0.39$
Single-family	23 (44.2%)	19 (50%)	
Apartment	17 (32.7%)	12 (31.6%)	
Other	12 (23.1%)	7 (18.4%)	
Hoarding Symptoms			
HRS	25.49 (5.82)	3.62 (5.19)	$t(92) = 18.76^{**}$
SI-R	60.74 (14.89)	15.03 (16.05)	$t(92) = 14.20^{**}$
SCI-E	35.92 (14.91)	17.05 (12.48)	$t(89) = 6.66^{**}$
SCI-C	13.62 (3.67)	8.00 (4.22)	$t(92) = 6.86^{**}$
SCI-R	20.75 (7.78)	10.90 (6.98)	$t(92) = 6.31^{**}$
SCI-M	18.44 (8.27)	9.05 (5.88)	$t(92) = 6.44^{**}$
SCI Total	91.02 (29.69)	46.59 (26.82)	$t(92) = 7.44^{**}$
Psychiatric Symptoms			
CGI	4.98 (0.76)	1.26 (0.55)	$t(91) = 26.21^{**}$
BDI-II	17.73 (10.48)	3.23 (5.01)	$t(82) = 8.92^{**}$
BAI	10.88 (9.13)	1.72 (2.22)	$t(62) = 7.15^{**}$
ASI	21.81 (11.85)	11.13 (8.28)	$t(92) = 4.85^{**}$
Cognitive Functioning			
OMC	1.20 (4.00)	1.33 (3.06)	$t(91) = -0.17$

	<b>HD (n = 55)</b>	<b>NC (n = 39)</b>	<b>Statistical Test</b>
ADHDSS	11.30 (6.30)	2.59 (3.80)	$t(90) = 8.34^{**}$
Disability			
SDS-Work	5.02 (3.74)	1.03 (1.65)	$t(59) = 6.37^{**}$
SDS-Social	5.86 (2.94)	0.95 (1.70)	$t(89) = 10.22^{**}$
SDS-Family	6.30 (2.35)	0.54 (1.05)	$t(80) = 16.06^{**}$
ADLS Total	25.66 (8.71)	12.64 (1.72)	$t(60) = 10.80^{**}$
Visitors to home	1.04 (1.25)	1.89 (1.43)	$t(92) = -3.08^*$
Medical Status			
# Axis III Diagnoses	2.73 (1.63)	1.74 (1.27)	$t(92) = 3.14^*$

*Note.* Means are shown with standard deviations in parentheses. Frequencies are shown with percentages in parentheses. Frequencies of demographic variables do not total sample size due to missing data on some variables.

\*  
 $p < .01$ ,

\*\*  
 $p < .001$ .

HRS = Hoarding Rating Scale; SI-R = Saving Inventory – Revised; SCI = Saving Cognitions Inventory; SCI-E = Saving Cognitions Inventory – Emotion Subscale; SCI-C = Saving Cognitions Inventory – Control Subscale; SCI-R = Saving Cognitions Inventory – Responsibility Subscale; SCI-M = Saving Cognitions Inventory – Memory Subscale; CGI = Clinical Global Impression; BDI-II = Beck Depression Inventory-II; BAI = Beck Anxiety Inventory; ASI = Anxiety Sensitivity Index; OMC = Orientation-Memory-Concentration test; ADHDSS = Attention Deficit Hyperactivity Disorder Symptom Scale – Adult Attention Subscale; SDS = Sheehan Disability Scale; ADLS = Activities of Daily Living Scale; Visitors to home = frequency of friends and family visiting the home.