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Research Paper

Unpacking Digital Hoarding: Psychological Mechanisms and Parallels with Physical Hoarding

Usha Barahmand[1]*, Amal Bhalli[2], Sholeh Livarjani[3], Andrea Weyhing[4]

ABSTRACT

Digital hoarding, defined as the excessive accumulation and difficulty discarding digital files, is a growing concern in the digital age, yet its psychological underpinnings remain underexplored. This study examined whether digital hoarding shares psychological mechanisms with physical hoarding, focusing on attachment insecurity, emotion dysregulation, perfectionism, and indecisiveness. A total of 225 participants (57.3% female, 36.9% male, 5.8% non-binary; aged 18–63 years) completed measures assessing digital hoarding, attachment, perfectionism, and indecisiveness. Data were analyzed using PROCESS model 80 to test mediation effects. Results revealed that digital file hoarding was significantly positively correlated with attachment to objects, perfectionism, and indecisiveness, but not with the anxiety and avoidance dimensions of attachment. Notably, attachment anxiety demonstrated significant positive correlations with all other variables, with effect sizes ranging from small (r = .16) to large (r = .56). Mediation analyses indicated that both attachment to objects and indecisiveness individually mediated the relationship between attachment anxiety and digital file hoarding, but not when tested sequentially. Furthermore, perfectionism and indecisiveness sequentially mediated the relationship between attachment anxiety and digital hoarding. No significant indirect effects were found for attachment avoidance. These findings support the applicability of the cognitive-behavioral model of physical hoarding to digital hoarding, highlighting the roles of attachment anxiety, perfectionism, and indecisiveness. The study underscores the importance of understanding digital hoarding as a distinct yet related phenomenon to physical hoarding, with implications for assessment, prevention, and intervention strategies in digital environments.

Keywords: *Digital Hoarding, Attachment Anxiety, Perfectionism, Indecisiveness, Cognitive-Behavioral Model*

[1]The City University of New York, New York, USA & Columbia University, New York, USA
Usha Barahmand https://orcid.org/0000-0003-3049-2854
[2]The City University of New York, New York, USA
Amal Bhalli https://orcid.org/0009-0008-3757-715X
[3]Family Services of the North Shore, Vancouver, Canada
Sholeh Livarjani https://orcid.org/0000-0002-7021-7956
[4]Columbia University, New York, USA
*Corresponding Author

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Digital hoarding has been defined as the nature of an individual to constantly acquire digital content, feeling difficulty discarding the digital content, and accumulating digital content without an intended purpose (Sedera et al., 2022). The excessive accumulation of digital files or data and a refusal to delete them may then result in cluttered and disorganized digital spaces. Some researchers (Sweeten et al., 2018; Thorpe et al., 2019) have suggested that that digital hoarding shares features of physical hoarding disorder (HD) as chronicled in the DSM-5. A thematic analysis produced a list of various themes in digital hoarding (in both work and home contexts) that relate to those in physical hoarding: the over-accumulation of digital materials, difficulties in deleting said materials, and feelings of anxiousness relating to this accumulation/difficulty deleting.

Research has established a connection between insecure attachment and hoarding behaviors (Ma et al., 2024), with hoarders often experiencing significant emotional distress, such as grief, when trying to discard possessions (Lawrence & Elphinstone, 2019; Norberg et al., 2018). Kehoe and Egan (2019) found that individuals with anxious or avoidant attachment styles are more likely to display hoarding behaviors. Emotional attachment to objects may act as compensatory mechanisms for deficient interpersonal attachments (Dozier & Ayers, 2021; Norberg et al., 2018; Norberg & Rucker, 2021). Building on this foundation, Mathes et al. (2020) explored hoarding disorder (HD) and found a positive correlation between various dimensions of object attachment and hoarding symptoms. They theorized that individuals with HD might be compensating for unmet interpersonal needs by forming strong attachments to possessions in their quest for security. David and Norberg (2022) further refined the concept of object attachment, defining it as the emotional bond individuals establish with their possessions and indicating that excessive attachment can exacerbate compulsive buying and hoarding tendencies. Extending the cognitive-behavioral model, Yap and Grisham (2019) propose that individuals with compromised senses of self and security due to early emotional neglect or trauma develop anthropomorphic tendencies, fostering attachments to possessions for comfort and safety. These attachments, in turn, drive compulsive acquisition, as the permanence of objects compensates for the instability of human relationships.

Attachment to objects significantly influences individuals' decision-making abilities regarding their possessions. Research by Timpano et al. (2020) found that the strong emotional connection that hoarders exhibit to their possessions often results in difficulties making decisions about what to keep or discard. This emotional connection can manifest as a fear of loss, not only of the objects themselves but also of the memories and identity tied to them, causing individuals to struggle with the idea of letting go. Cognitive processes also play a crucial role in the indecisiveness observed in individuals with hoarding tendencies. Crone et al. (2019) found anxious attachment but not avoidance attachment associated with indecisiveness. Research by (David et al., 2019) indicates that individuals with hoarding disorder often hold distorted beliefs about their possessions and tend to automatically interpret discarding situations as threatening which may lead them to avoid discarding altogether. These distorted beliefs contribute to a sense of urgency in holding onto items, further complicating their ability to make decisions about discarding possessions. These findings imply that emotional attachment to belongings can lead to significant indecisiveness, particularly when individuals confront the possibility of discarding items. Thus, the emotional dependence on objects ultimately fails to satisfy the underlying need for connection, instead exacerbating interpersonal conflict and psychological distress, thereby reinforcing a maladaptive cycle (Yap & Grisham, 2021).

The cognitive behavioral model of hoarding (Frost & Hartl, 1996; Steketee et al., 2003) also highlights that the emotional attachment to objects is a key feature of hoarding while also suggesting that an avoidance or delay in making decisions about discarding stems from a high level of evaluative concerns, an aspect of perfectionism, because any decision might involve a mistake. Perfectionism involves setting high personal standards, engaging in significant self-criticism, and feeling deeply concerned about how one's performance is evaluated (Frost et al., 1990). Evaluative concerns may be linked to indecisiveness in that fears about failure and mistake making may create an inability to make decisions (McCabe-Bennett et al., 2025). The evaluative concerns component of perfectionism which is characterized by self-criticism, fear of failure, and difficulty in making decisions has been associated with hoarding behaviors (Burgess et al., 2018b). Not only is perfectionism associated with hoarding pathology, but Muroff et al. (2014) found that high levels of perfectionism interfere with treatment outcome for individuals with HD.

Previous research has shown that the evaluative concerns component of perfectionism, which is characterized by self-criticism, fear of failure, and difficulty in making decisions are associated with hoarding behaviors (Burgess et al., 2018a). A cognitive-behavioral model of hoarding (Frost & Hartl, 1996) suggests that a high level of evaluative concerns leads to avoidance or delay in making decisions about discarding because any decision decision-making problems might involve a mistake. Confirming indecisiveness in individuals with hoarding problems, Wheaton and Topilow (2020) explain indecisiveness by a disposition for a decision-making style characterized by maximizing value, a style that leads individuals to pursue the "best" possible solution by systematically comparing all available alternatives. Examining the triple vulnerability model of hoarding (Raines et al., 2016), Crone et al. (2019) linked the indecisiveness seen in hoarding to attachment insecurity and emotional reactivity, suggesting that individuals with hoarding may benefit from interventions aimed at increasing their self-regulation skills.

Present Study

In the present study we expected digital hoarding behavior to share similarities with physical hoarding behavior in terms of overlapping psychological mechanisms and motivations. Scientifically, digital hoarding may also be rooted in attachment insecurity, emotion dysregulation, perfectionism, and indecisiveness, as observed in studies examining hoarding disorder. Digital possessions, like physical items, can serve as sources of attachment and emotional regulation, fulfilling psychological needs for security and control. Moreover, the ease of acquiring and storing digital content in the digital age can exacerbate compulsive acquisition tendencies, similar to the acquisition of physical possessions. Research on digital hoarding has also identified cognitive biases such as obsessions and ordering (Thorpe et al., 2019) and neurobiological factors that parallel those observed in physical hoarding, further supporting the expectation of similarities between the two types of hoarding behavior. We anticipate that the cognitive-behavioral model of physical hoarding to be applicable to digital hoarding as well.

METHOD

Participants

A total of 225 individuals (57.3 % females, 36.9% males, 5.8% non-binary individuals) aged 18–63 years participated in this study. The majority were White (57.8%) and single (64%). Table 1 and 2 show a complete description of the participants' characteristics.

Measures

- **Revised Adult Attachment Scale (RAAS-CRV; Collins, 1996):** The Revised Adult Attachment Scale – Close Relationships Version (RAAS-CRV) is designed for assessing adult relationships that are non-romantic but still considered significant. It consists of 18 items aimed at gauging attachment feelings, focusing on two types of insecure attachment styles: attachment anxiety (concerning oneself) and attachment avoidance (concerning others). Respondents rate each item using a five-point Likert-type sale, ranging from "strongly disagree" to "strongly agree." The scale assesses attachment anxiety and avoidance. The avoidance subscale measures discomfort levels with intimacy and closeness as well as a lack of reliance on others', and the anxiety subscale gauges concerns about rejection or feeling unloved. Acceptable internal reliability (Cronbach's α) has been reported (Pahlevan Sharif et al., 2021) for the subscales, ranging from .71 to .79. In the current study, the reliability coefficients (Cronbach's α) for attachment anxiety and attachment avoidance were .91 and .85, respectively.
- **The Possessions as Memories and Self-Extensions Scale (Yap & Grisham, 2018)**: The Possessions as Memories and Self-Extensions Scale comprises 14 items aimed at gauging the degree to which individuals perceive their belongings as an extension of their self-identity. This scale encompasses two distinct subscales: the 6-item Possessions as Memory (PAM) subscale, which evaluates the extent to which objects symbolize personal autobiographical memories of past people and events, and the 8-item Possessions as Identity (PAI) subscale, which assesses the degree to which objects reflect one's self-concept and aspirations. Respondents provide their agreement or disagreement on a 7-point Likert scale ranging from 1 (strongly disagree) to 7 (strongly agree). Notably, both the PAI and PAM exhibit robust psychometric properties as demonstrated by Yap and Grisham (2018), and they demonstrate excellent internal consistency reliability in their study (α = .91 and .93, respectively). In this study, the PAI (Cronbach's α = .89), PAM (Cronbach's α = .85) subscales and the full scale (Cronbach's α = .89) had high internal consistency
- **Almost Perfect Scale-Revised (APS-R) (Slaney et al., 2001)**: The Almost Perfect Scale-Revised (APS-R) comprises 23 items and 3 subscales Standards (7 items), Order (4 items), and Discrepancy (12 items). The APS-R was developed by Slaney and colleagues in 2001. Items are ranked on a Likert Scale from 1 (Strongly Disagree) to 7 (Strongly Agree). The subscale Standards was used as an indicator to determine whether individuals prefer to complete tasks independently ("I have high standards for my performance at work or at school") and has 7 items on the test. The subscale Order ("I think things should be put away in their place") has 4 items included in the test and is used as determinant of the participant's need for organization. Lastly, the subscale Discrepancy consists of 12 items and is used as a measure for adaptive or maladaptive perfectionism. Internal reliability of the Almost Perfect Scale-Revised ranges from .85 to .92 (Slaney et al., 2001). In this study the internal reliability of the scale was .92.
- **The Revised Indecisiveness Scale (RIS) (Lauderdale & Oakes, 2021)**: The RIS is the most recent version of the 15-item Indecisiveness Scale developed by Frost and Shows (1993). The RIS consists of 10 items that assess the frequency of indecisiveness. Items are rated using a 1 (Never) to 6 (Always) response scale. The RIS is represented by two subscales, labeled aversive ("After I have chosen or decided something, I often believe I've made the wrong choice or decision") and avoidant ("I avoid making decisions") indecisiveness. Internal reliability for the total

RIS and for the two subscales was found to be between .76 (Lauderdale & Oakes, 2021).

- **The Digital Hoarding Questionnaire (DHQ) (Neave et al., 2019)**: The DHQ contains items divided into four sections. Section 1 consists of a series of 10 statements that assess the propensity to hoard digital items. These items focus on accumulation/clutter, difficulty discarding, and distress (with sample items including 'I find it extremely difficult to delete old or unused files' and 'I tend to accumulate digital files, even when they are not directly relevant to my job'. Items are scored on a 7-point Likert scale from 1 (does not apply to me at all) to 7 (applies to me very much so). Section 2 assesses deletion behaviors for a list of files, offering 5 options from 'daily' deletion to 'hardly ever' deleting. Each option was assigned a numerical value (1–5), allowing for a total score of 40, indicating hoarding behavior. Section 3 focuses on reasons for not deleting digital files, with respondents rating 8 possible reasons on a 7-point Likert scale (1 = not at all, 7 = very much so). An example item is I don't delete them because they may come in useful in the future No total score is generated as the aim is to identify common reasons. The final section explores individuals' perceptions of the consequences if stored files were made public or stolen. Respondents rate consequences on a 7-point Likert scale (1 = no consequence at all, 7 = very severe consequences). No total score is generated, as the aim is to identify perceptions of consequences. All sections have been reported to possess adequate internal reliability (Neave et al., 2019). In the present study, the scale was found to have an internal consistency (Cronbach's α) of .92.

Procedure

Prior to distributing the survey, ethical approval was obtained from the Ethical Committee. An informed consent form was presented to potential participants at the outset of the survey, detailing the research aims, ethical considerations, including the confidentiality and voluntary nature of participation, and anticipated time commitment.

Data Analysis

Data analysis was conducted using SPSS version 29, with the PROCESS 4.2 macro (Hayes, 2022) applied to examine the chain mediation in this study. Specifically, Model 80 of the PROCESS macro was used to assess complex relationships involving multiple mediators arranged in a sequential pathway. The analysis began by exploring the basic relationships among the key variables—attachment dimensions, attachment to objects, perfectionism, indecisiveness, and digital hoarding of files—using Pearson's correlation. This step established the strength and direction of the linear relationships between the variables, serving as the foundation for subsequent analyses. Next, we employed Model 80 to conduct the chain mediation analysis. This model is particularly suited to testing hypotheses where multiple mediators are linked sequentially. In this study, we hypothesized that the relationship between attachment and digital hoarding is mediated in sequence, first by attachment to objects and perfectionism, and then by indecisiveness. The model assessed whether attachment impacts digital hoarding through this sequential pathway. Separate analyses were performed for each attachment dimension—attachment anxiety and attachment avoidance—and digital hoarding of files. To estimate the indirect effects of the mediators, we used a bootstrapping approach with 5,000 resamples. This non-parametric method approximates the sampling distribution of the indirect effects, allowing for the calculation of bias-corrected 95% confidence intervals. If the confidence interval for an indirect effect excluded zero, the mediating effect was considered statistically significant at $p < 0.05$. This indicated that the observed effect was unlikely to be due to chance, lending

support to the hypothesized mediation model. In summary, the use of Hayes's Model 80 within the PROCESS 4.2 macro enabled a comprehensive and statistically rigorous examination of the hypothesized chain mediation effects. This approach not only ensured robust statistical analysis but also provided a detailed understanding of the complex interplay between attachment dimensions, perfectionism, indecisiveness, and digital hoarding.

RESULTS

The descriptive statistics of the study variables and the correlation matrix between all the study variables are presented in Table 3. Digital file hoarding displayed significant positive correlations with attachment to objects, perfectionism and indecisiveness, failed to correlate with the anxiety and avoidance dimensions of attachment. However, the anxiety dimension correlated positively with the rest of the variables. All significant correlations ranged from r = .16 (a small effect, the positive correlation between perfectionism and digital file hoarding) to r = .56 (a large effect, the positive correlation between attachment anxiety and indecisiveness). The categorization of effect sizes is based on Cohen (1992).

Multiple serial mediation analysis

Model 80 from Hayes' (2022) PROCESS macro was used to examine the mediation model proposed in this study. Two separate mediation analyses were run for each of the dimensions of attachment. In the first analysis, adult attachment anxiety was used as the input variable and adult attachment avoidance was used in the second. In all the analyses, attachment to objects and perfectionism were entered as the parallel first stage mediators, and indecisiveness as the second stage mediator.

PROCESS analyzes indirect effects by empirically generating a sampling distribution to construct a confidence interval for the effect (Hayes, 2022). The original sample becomes a representation of the population, and samples are drawn from it with replacement in an iterative process called bootstrapping that uses ordinary least squares regression to estimate the coefficients for the indirect effects. In simple mediation, the indirect effect is the product of (a) the path coefficient from the independent variable to the mediator and (b) the path coefficient from the mediator to the outcome variable. In the multiple mediator model used for this study, additional paths between mediators become additional terms in the calculated product. The resulting estimates of the indirect effect are sorted low to high to create the lower and upper limits of the confidence interval at the percentiles calculated to produce the specified confidence interval, e.g., 95%. The point estimate of the indirect effect is considered to be statistically significant if its confidence interval does not contain zero (Hayes, 2017). In the current research, 5,000 bootstrap resamples were used to estimate the confidence intervals.

The specific indirect effects for each of the two input variables are reported in Table 4. For Adult Attachment Anxiety, attachment to objects and indecisiveness both individually, but not sequentially together, mediated the relationship with digital file hoarding. Also, perfectionism together with indecisiveness sequentially mediated this relationship between Attachment Anxiety and digital file hoarding (Table 4).

When Adult Attachment Avoidance was the input variable, no significant indirect effects through the mediators were observed in the relationship with digital file hoarding. Each of the direct and indirect paths for both input variables examined are depicted graphically in Figures 1 and 2, with coefficients presented in Table 4

DISCUSSION

The purpose of this study was to investigate whether attachment dimensions (anxiety and avoidance) predict digital file hoarding via object attachment, indecisiveness, and perfectionism. While no direct effects of attachment anxiety or avoidance on digital hoarding emerged, indirect effects of attachment anxiety, but not avoidance, on digital file hoarding through attachment to objects, indecisiveness, and perfectionism followed by indecisiveness were observed.

The non-significance of attachment avoidance in digital file hoarding implies that avoidant individuals may not attach any emotional significance to digital possessions. This was not unexpected as attachment avoidance is characterized by interpersonal closeness and dependence, accompanied by an exaggerated emphasis on self-reliance (Mikulincer & Shaver, 2003)**.** Individuals with attachment avoidance do not seem to utilize external objects to compensate for relational deficits or to attain a sense of security. However, previous research on attachment avoidance and hoarding has reported mixed findings. Some research (Liu et al., 2023; Ma et al., 2024) has found attachment avoidance to be linked to object hoarding, while others (Danet & Secouet, 2018) have not. Avoidant attachment may be linked to hoarding through the mediation of other variables, not included in our model. Further research on this is warranted.

In contrast, the significant role of attachment anxiety in digital hoarding behaviors reflects the association of attachment anxiety to physical hoarding (David et al., 2021). Individuals with anxious attachment to engage in digital hoarding as a means of compensating for unmet emotional needs (Mathes et al., 2020). The absence of a direct effect of attachment anxiety suggests that digital hoarding is not an automatic response to or an inevitable outcome of attachment anxiety but instead, develops through specific psychological mechanisms associated with attachment anxiety.

One such mechanism linking attachment anxiety to digital hoarding is attachment to objects. Our findings imply that insecure preoccupied attachment is significantly linked to digital hoarding behaviors, with attachment to objects serving as a key mediating factor. This finding aligns with the theoretical models that suggest that individuals with insecure attachment styles may form compensatory emotional bonds with their possessions (Frost & Hartl, 1996; Mathes et al., 2020) in response to unmet interpersonal relatedness needs (Yap & Grisham, 2021). Our findings reveal that individuals with insecure attachment may form attachments to digital objects such as files in a manner like physical hoarding (David et al., 2021; Kehoe & Egan, 2019). These digital objects may offer a sense of security, continuity, or control in the absence of stable interpersonal relationships. This pattern is consistent with previous research linking insecure attachment to object attachment in physical hoarding (Chia et al., 2021) and it extends these findings into the digital domain. The results underscore the psychological continuity between physical and digital hoarding (Luxon et al., 2019; Sweeten et al., 2018), emphasizing the need to address attachment-based vulnerabilities in interventions for digital hoarding behaviors (Kehoe & Egan, 2019). Individuals with attachment anxiety may overvalue digital possessions due to fear of loss or need for security. Just as with compulsive acquiring behavior (Norberg et al., 2018), anthropomorphism and distress intolerance may predispose, individuals with anxious attachment to engage in digital hoarding. Emotion regulation difficulties may impair the capacity for empathic concern, thereby undermining the ability to sustain strong and supportive social relationships (David et al., 2021). This interpersonal dysfunction can lay

the groundwork for the development of hoarding disorder. Individuals may increasingly rely on digital possessions as a compensatory strategy to meet emotional needs, fostering strong object attachment and facilitating hoarding behaviors. Digital files may serve as tangible reminders of past experiences or significant relationships. For individuals with heightened anxiety about relational loss, the retention of such files functions as a means of preserving emotional memories. Consequently, deleting a file may be experienced as a loss of a meaningful aspect of the past or even of the self. Digital files may serve as symbolic representations of interpersonal relationships. Individuals with anxious attachment tendencies may retain digital content as a means of maintaining a perceived connection to others, particularly in the context of heightened fears of abandonment.

This emotional attachment to digital possessions and the anxiety associated with potential relational loss can overlap with cognitive factors that further reinforce hoarding behaviors. Specifically, individuals with heightened intolerance of uncertainty may find it even more challenging to let go of possessions, whether physical or digital, due to the distress associated with the uncertainty of their future value or significance. According to Castriotta et al. (2019) higher intolerance of uncertainty is linked to increased acquisition and difficulty discarding, suggesting that decision avoidance may serve to reduce distress over future utility and potential errors. Alternately, individuals with hoarding disorder (HD) develop an intensified psychological ownership of belongings, perceiving them as extensions of the self rather than merely legal possessions (Chu, 2018; Peck & Luangrath, 2023). Burgess et al. (2018b) further suggest that anthropomorphism strengthens emotional attachment, promoting acquisition to preserve social connection and reluctance to discard due to guilt or perceived harm to the object. Together, these findings underscore the role of psychological ownership and anthropomorphic thinking in reinforcing hoarding symptoms, indicating the need to examine such cognitive patterns to better address discarding difficulties.

Consistent with the above findings, a potential mechanism linking attachment anxiety to digital hoarding in the current study is indecisiveness. This finding implies that anxious individuals may fear making "wrong" decisions about what to delete, causing accumulation. Crone et al. (2019) found a similar association and reasoned that the emotionally reinforcing nature of possessions may hinder decision-making, as individuals with anxious attachment often prioritize subjective attributes, such as sentimental value, over objective characteristics. This focus amplifies the distress associated with sorting and categorizing items, intensifying the anxiety surrounding decisions to retain or discard possessions. These findings lend support to the notion that the dispositional tendency to maximize in decision-making may constitute a specific factor relevant to hoarding behaviors (Wheaton & Topilow, 2020).

The sequential mediation of perfectionism followed by indecisiveness in linking attachment anxiety to digital hoarding suggests that anxiously attached individuals may either set unrealistically high standards for digital organization which they find difficult to meet or use clutter as a coping mechanism and, consequently, appear disorderly. Perhaps, holding on to digital objects even though it results in clutter serves as a psychological buffer. Or it might be that high attachment anxiety results in procrastination (Berber Çelik & Odaci, 2022). That is, attachment anxiety may result in difficulty making decisions regarding how the files should be categorized, organized and stored due to unrealistically high standards (perfectionism), or which files should be kept and which files should be discarded due to fear of making an imperfect choice. This overthinking or maladaptive perfectionism about how best to achieve digital order and organization may result in decision paralysis. That is,

cognitive overload and the need for flawless outcomes may may result in procrastination and consequent clutter or digital hoarding. This nuanced pathway highlights that digital hoarding may not stem solely from fear of loss, thereby differentiating it from general compulsive hoarding.

Theoretical and Practical Implications

Findings support the cognitive-behavioral and attachment-based models of hoarding. Affective regulation and decision-making biases both contribute to the distinct phenomenon of digital hoarding. Interventions targeting indecisiveness and perfectionism may reduce digital hoarding in anxious individuals. Cognitive restructuring may also be beneficial in addressing attachment to objects.

Limitations and Future Directions

The study used a cross-sectional correlational design that limits causal inferences. Longitudinal or experimental designs are required to establish temporal precedence and allow for causal conclusions. Interventional studies aimed at reducing indecisiveness or perfectionism can confirm current findings. Reliance on self-report measures may have introduced bias such as social desirability or inaccurate recall. Future research could benefit from incorporating alternate ways of assessing digital hoarding tendencies. Sample characteristics may limit generalizability. The majority of the current sample was female and young. Subsequent studies with a more varied sample including digital literacy, work or academic demands, and emotion regulation strategies are encouraged. Future research should also differentiate between types of digital hoarding such as digital photo hoarding versus digital file hoarding or digital apps.

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Conflict of Interest

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APPENDIX

Table 1 Demographic Characteristics of the Sample (n = 225)

Categories	Characteristics	*f*	*%*
Gender	Male	83	57.3
	Female	129	36.9
	Non-binary	13	5.8
Marital Status	Married/in Relationship	70	31.1
	Separated/Widowed/Divorced	11	4.9
	Single	144	64.0
Employment	Employed Full-time	88	39.1
	Employed Part-time	62	27.6
	Retired	7	3.1
	Self-Employed	17	7.6
	Unemployed	51	22.7
Ethnicity	Asian	36	16
	Black or African American	4	1.8
	Latino	18	8
	Multiple races	17	7.6
	Other	20	8.9

	White	130	57.8
Education	Less than high school	2	6.9
	High school diploma/GED	50	22.2
	Some college or technical training	55	24.4
	Bachelor's Degree	62	27.6
	Master's Degree	40	17.8
	Doctorate or professional degree	16	7.1

Table 2 Characteristics of Technology Use in the Sample (n = 225)

Categories	**Characteristics**	***f***	***%***
Generation identified with	Baby Boomers (born mid 1940s to early 1960s)	5	2.2
	Generation X (born early 1960s to early 1980s)	41	18.2
	Millennials (born early 1980s to mid 1990s)	63	28
	Generation Z (born mid 1990s to early 2010s)	116	51.6
Length of use	1-2 years	1	0.4
	3-5 years	3	1.3
	6-10	32	14.2
	>10 years	189	84.0
Frequency of use	Occasionally (a few times a week)	3	1.3
	Frequently (multiple times a day)	201	89.3
	Regularly (almost all day)	21	9.3
	Employed Part-time	62	27.6
Confidence in using	Extremely confident	82	36.4
	Very confident	94	41.8
	Moderately confident	39	17.3
	Somewhat confident	10	4.4
Reliance on technology	Highly dependent	116	51.6
	Moderately dependent	94	41.8
	Neutral	10	4.4
	Moderately independent	4	1.8
	Highly independent	1	0.4
Experience with data loss	No, Never	52	23.1
	Yes, a few times	75	33.3
	Yes, many times	98	43.6

Table 3 Pearson Correlation Matrix among Scale Scores, Scale Reliability, and Descriptives

Variable	**Cronbach's α**	**1**	**2**	**3**	**4**	**5**	**6**
ANX	.91						
AV	.85	.482***					
ATOBJ	.89	.231***	.102				
PERF	.92	.514***	.312***	.206**			
IND	.92	.560***	.295***	.282***	.497***		
DIGFH	.92	.102	.123	.398***	.159*	.246***	
	M	24.57	47.35	50.70	105.71	44.50	31.65
	SD	9.25	12.03	16.53	23.99	12.50	14.16

*$p < 0.05$; **$p < 0.01$; ***$p < 0.001$

Note. ANX= Anxiety; ATOBJ= Attachment to Objects; PERF= Perfectionism; IND = Indecisiveness; AV = Avoidance; DIGFH = Digital File Hoarding.

Table 4 Path Coefficients (standard error) and Indirect Effects for the Mediation Models

Effects	**Coefficient**	***SE***	***p***	**95% CI**	
				Lower	**Upper**
PREDICTOR: ANXIETY					
Total Effect *c*	.1563	.1020	>.05	-.0447	.3574
Direct Effect c'	-.1657	.1193	>.05	-.4009	.0695
Indirect Effects		***BootSE***		**Bootstrapping BC 95% CI**	
				Lower	Upper
Total Indirect Effects	.3220	.0973		.1367	.5224
ANX→ATOBJ→DIGFH	**.1281**	**.0452**		**.0443**	**.2201**
ANX→PERF→DIGFH	.0408	.0647		-.0814	.1747
ANX→IND→DIGFH	**.1066**	**.0549**		**.0043**	**.2207**
ANX→ATOBJ→ IND→DIGFH	.0087	.0068		-.0002	.0257
ANX→PERF→ IND→DIGFH	**.0378**	**.0224**		**.0013**	**.0887**
PREDICTOR: AVOIDANCE					
Total Effect *c*	.1441	.0782	>.05	-.0100	.2982
Direct Effect c'	.0541	.0767	>.05	-.0971	.2053
Indirect Effects		***BootSE***		**Bootstrapping BC 95% CI**	
				Lower	Upper
Total Indirect Effects	.0900	.0480		-.0023	.01898
AV→ATOBJ→DIGFH	.0425	.0335		-.0194	.1132
AV→PERF→DIGFH	.0031	.0280		-.0525	.0594
AV→IND→DIGFH	.0222	.0203		-.0053	.0720
AV→ATOBJ→ IND→DIGFH	.0028	.0036		-.0016	.0119
AV→PERF→ IND→DIGFH	.0194	.0139		-.0049	.0502

Note. ANX= Anxiety; ATOBJ= Attachment to Objects; PERF= Perfectionism; IND = Indecisiveness; AV = Avoidance; DIGFH = Digital File Hoarding

Figure 1 Hypothesized Serial Mediation Model Linking Attachment Anxiety and Digital File Hoarding through Object Attachment, Perfectionism, and Indecisiveness as Mediators. **(paths in bold are significant)**

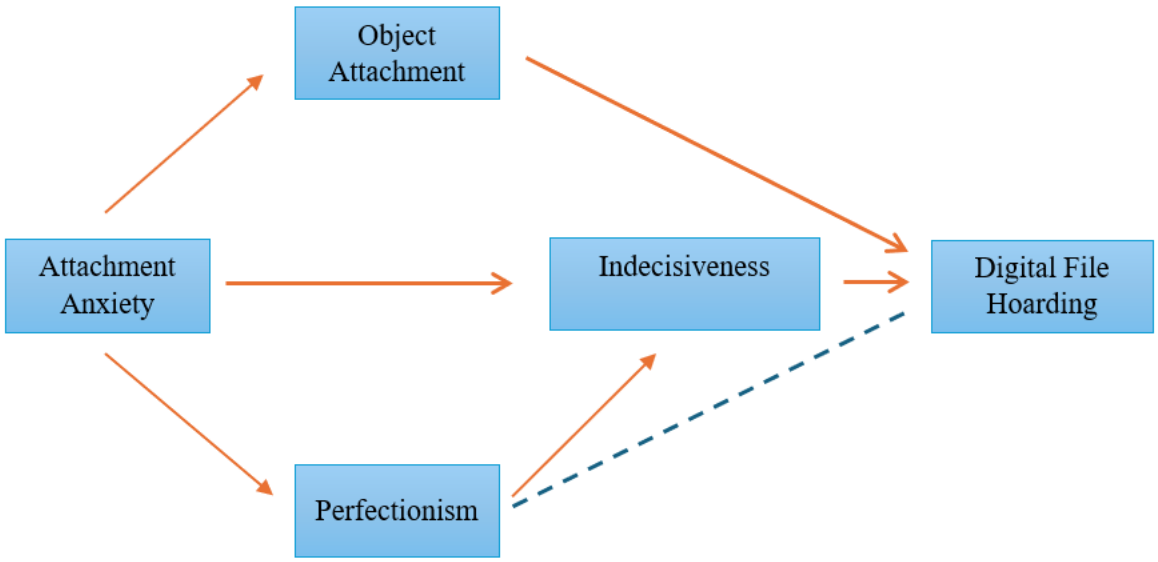

Figure 2 Hypothesized Serial Mediation Model Linking Attachment Avoidance and Digital File Hoarding through Object Attachment, Perfectionism, and Indecisiveness as Mediators. **(paths in bold are significant)**