

## Digital Possessions, Extrinsic Aspirations, and the Role of Gender

### Dijital varlıklar, dışsal istekler ve cinsiyetin rolü

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*This paper examines the effects of extrinsic aspirations (i.e. materialistic) and gender on value ascribed to digital possessions. Another aim of this paper is to examine the mediating role of self-extension tendency in these relationships. It is found that females have higher levels of emotion associated with their favorite digital possessions compared to males. The findings show that the effect of extrinsic aspirations on value ascribed to digital possessions is dependent on gender. It is found that females having higher scores in extrinsic aspirations had higher willingness to pay for the digital good compared to those having lower scores in extrinsic aspirations. Self-extension tendency mediated the value ascribed to the good. These effects are not valid for males. Under high levels of extrinsic aspirations, female consumers value the digital good more than male consumers. Under low levels of extrinsic aspirations, male consumers value the digital good more than female consumers.*

**Keywords:** Digital possessions, Extrinsic aspirations, Gender

**Jel Codes:** M31.

*Bu makale, dışsal isteklerin ve cinsiyetin dijital varlıklara verilen değere etkisini incelemektedir. Bu makalenin diğer bir amacı da bu ilişkide öz-uzanım eğiliminin arabulucu etkilerini incelemektir. Bulgular, dışsal isteklerin (materyalist) dijital varlıklara verilen değere etkisinin cinsiyete bağlı olduğunu göstermektedir. Kadınlar, sevdikleri dijital varlıklara karşı daha fazla hisler beslemektedirler. Dışsal istek puanları yüksek olan kadınların puanları düşük olanlara göre dijital ürün için ödeme isteklerinin daha fazla olduğu bulunmuştur. Öz-uzanım eğilimi, ürüne atfedilen değer için ara bulucusudur. Bu etkiler erkekler için geçerli değildir. Dışsal istekler yüksek düzeylerdeyse kadın tüketiciler dijital ürüne erkek tüketicilerden daha fazla değer atfetmektedirler. Dışsal istekler düşük düzeylerdeyse, erkek tüketiciler dijital ürüne kadınlara göre daha fazla değer atfetmektedirler.*

**Anahtar Kelimeler:** Dijital varlıklar, Dışsal istekler, Cinsiyet

**Jel Kodları:** M31.

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## 1. INTRODUCTION

Imagine a young man, lying down on a sofa in his room and streaming music via Spotify, and uploading photos to his Instagram page. After a while, he clicks into the online game which he likes to play, changes his avatar and collects the items he has accumulated since his last visit. A few minutes after, he navigates to an e-book and begins reading it. All these activities are connected to the virtual world. These possessions do not actually exist in the physical world. He can't touch the photos, hold the book, or feel the online game items he earned. As Greengard (2012: 14) indicated, these are simply bits and bytes which have been arranged to look and sound like objects.

Nevertheless, since the emergence of the Internet, the notion of consumption has been extended to digital domains. This transformation is more apparent among younger generation who were born in the digital age. Yet, a question remains: how do consumers experience ownership of digital virtual goods? Recent research has shown that digital goods serve similar functions to those dispensed by material possessions (Denegri-Knott et al., 2012: 88; Kirk and Sellen, 2010: 1). Indeed, a new concept in consumer behavior named as "liquid consumption", tries to understand the types of consumption-related phenomena surrounding the digital, access-based practices, and global mobility (Bardhi and Eckhardt, 2017: 582). Liquid consumption also argues for an attachment to digital consumption, though the nature of attachment differs between liquid and solid consumption (Bardhi and Eckhardt, 2017: 586). Attachment to solid objects is long-standing whereas attachment to access-based, digital ones is fluid. However, attachment may be higher to particular products if they provide access (Bardhi and Eckhardt, 2017: 586). Thus, one of the purposes of this study is to address the research gap in our understanding of meanings attached to possessions and the boundary conditions in the context of liquid consumption. Researchers have suggested that feelings of possession influence the valuation of personal possessions (Walasek et al., 2015). However, research has not identified whether valuation of liquid possessions are also affected by feelings of possession (e.g. self-extension tendency). Thus, another aim of this research is to shed light on the processes of valuation of liquid possessions.

As defined by Belk (1984, p. 291), materialism is "the importance a consumer attaches to worldly possessions." Materialists place a high value on their possessions, particularly those that can be used to show personal success (Cleveland et al., 2009: 123). Extrinsic goals are closely related to the construct of materialism (Otero-López and Villardefrancos, 2015: 166) and are characterized by financial success, social recognition, and appealing appearance (Kasser and Ryan, 2001: 116). Yet, there remains more to investigate about how materialistic goals affect value attached to digital possessions. The current empirical studies are insufficient to make a causal link between materialism and digital ownership. Can extrinsic goals (i.e. materialistic goals) predict the value attached to digital possessions? The current study aims to answer this question.

Extant literature indicated that women and men relate differently to possessions (Dittmar et al., 1995: 495). Women tend to value symbolic and emotional possessions whereas men tend to value functional and leisure items (Dittmar et al., 1995: 165; Wallendorf and Arnould, 1988: 539). Thus, the value attached to digital possessions may differ by gender. Hence, it is

worth examining how females and males are attached to digital possessions. This study examines how value attached to digital possessions is related with extrinsic aspirations, and gender.

Previous research argues that individuals form a meaningful attachment toward possessions through the process of self-extension and people attribute important aspects of their self to the persons, places, things, and events symbolized by their possessions (Belk, 1988: 186,187). Means for self-extension differed in the digital world (Belk, 2013: 481). Thus, the current study tests the mediating role of self-extension as a process mechanism that forms the basis of the findings in this paper. This paper contributes to current discussions concerning the relationships between the self, digital possessions, and gender, and thereby provides a richer explanation that extends previous work on possessions and the extended self.

In order to understand the aforementioned concepts, a literature review is given. Then, the research rationale is discussed, and the hypotheses are stated.

## **2. LITERATURE REVIEW**

### **2.1. Digital Possessions**

People acquire more and more digital possessions day by day. Digital possessions can be defined as personal digital artifacts including game accounts, photos, music, e-books, emails, messages, and videos which are stored on computers, phones, etc. According to Watkins and Molesworth (2012: 156), digital possessions are neither imaginary nor material but potentially contain aspects of both.

Consumers form meaningful attachments to possessions, regardless of their immaterial nature. A study by Odom et al. (2009: 1062) has shown that digital possessions can have a symbolic meaning and can be personalized. Digital possessions may trigger attachment just like material possessions (Odom et al., 2011: 1491; Watkins and Molesworth, 2012: 153). Indeed, Bardhi and Eckhardt (2017) indicated that liquid consumption also argues for an ephemeral attachment to digital consumption, which is valued temporarily and because of the access it provides. Attachment possessions do not need to have a significant monetary value. Ordinary objects that develop personal significance over time may also serve attachment functions (Kleine and Baker, 2004: 3; Ferraro et al., 2011: 176). Attachment possessions do not require legal ownership; however they need to be perceived by the individual as 'mine' a process known as psychological appropriation (Kleine and Baker, 2004: 6). Once psychological appropriation is established for a possession, an attachment to that possession is formed (i.e., a possession-self link), whereby the possession is associated with and incorporated into the self-concept (Atasoy and Morewedge, 2017: 7). The extent to which a possession is able to represent the self is a critical component of possession attachment (Ferraro et al., 2011: 175).

Few researchers explored attachment to digital possessions. Siddiqui and Turley (2006: 647) indicated that consumers value virtual possessions for functional benefits (low cost and ease-of-use) rather than for emotional reasons. However, (Odom et al., 2011: 1491) found that teenagers identified blog entries, SMS messages, digital music collections and self-made digital artworks as 'special possessions'. In another study, participants were able to possess and form emotional attachments to 'irreplaceable' digital virtual goods within videogames

despite the goods' immaterial nature and their own lack of legal ownership (Watkins and Molesworth, 2012: 153). Furthermore, Kirk and Sellen's (2010: 16) study suggested that digital objects served similar functions to those carried out by material possessions such as defining our sense of self, honoring those we care about, connecting with past, and fulfilling our sense of duty. Based on these findings, it can be said that consumers may value digital possessions for both functional benefits and emotional reasons.

## **2.2. Possessions and Gender**

Extant literature indicated that women and men relate differently to possessions (Dittmar et al. 1995: 495). Women tend to value symbolic and emotional possessions whereas men tend to value functional and leisure items (Dittmar et al., 1995: 165; Wallendorf and Arnould, 1988: 539). Consistent evidence has emerged in previous British and American studies that women and men relate differently to their material possessions (e.g., Csikszentmihalyi and Rochberg-Halton, 1981; Kamptner, 1991; Wallendorf and Arnould, 1988). As Dittmar et al. (1996: 190) indicated "Dittmar (1989, 1991) classified lists of subjects' favorite possessions into different categories of material objects, and found some gender differences in choices: women listed more objects of sentimental value, while men chose more items relating to leisure and finances. By comparison, women saw their possessions as important because of the emotional comfort they provide and the relationships with others they symbolize, while men referred more to use-related, activity-related and self-expressive features of possessions." Still, previous research has not examined how men and women differ in value attached to digital possessions.

## **2.3. Extrinsic Aspirations and Possessions**

According to the Self-determination Theory (SDT), people can be motivated by extrinsic or intrinsic goals (Ryan and Deci, 2000: 71, 72). Intrinsic goals (i.e. aspirations) include self-acceptance, affiliation, community feeling, and physical health whereas extrinsic goals include financial success, social recognition, and appealing appearance (Kasser and Ryan, 2001: 116). Extrinsic aspirations are closely related to the construct of materialism (Otero-López and Villardefrancos, 2015: 166). Indeed, psychology researchers studying materialism are largely influenced by extrinsic (vs. intrinsic) aspirations (Unanue et al., 2016: 11). Previous research indicated that when the relative importance of extrinsic aspirations is high, then materialistic orientations are strong (Unanue et al., 2016: 11).

Materialism can be viewed as a personality characteristic as suggested by Belk (1985: 265). Ball and Tasaki (1992) measured materialism as a trait using a scale derived from Belk (1985) and found that trait materialism does not correlate with attachment (1992: 167). Ball and Tasaki (1992) assessed attachment to cars in their study. On the other hand, materialism can also be conceptualized as a unique set of values (Richins and Dawson, 1992: 303). Dingus (2014: 38) measured materialistic values using Richins and Dawson's (1992) Scale, and found that attachment can be explained by three factors of materialism (centrality, happiness, and success). The attachment was with respect to the T-shirt as the product. A third approach evaluates materialism in the domain of extrinsic life goals (Kasser, 2018). Reflecting Kasser's (2002: 1) description, the current study defines materialism as "general focus on attaining material possessions and social renown." Research has not yet investigated whether or not materialistic aspirations predict value ascribed to digital possessions.

### 3. RESEARCH RATIONALE AND HYPOTHESES

Although previous research has not examined the effect of materialistic aspirations (i.e. extrinsic) on digital possession attachment or the value ascribed to digital possessions, there are few studies on aspirations and consumption. For instance, Truong et al. (2010: 346) has shown that extrinsic aspirations are positively related to the consumption of luxury goods and intrinsic aspirations are negatively related to it. In another study by Otero-López and Villardefrancos (2015: 166), participants with a high compulsive buying propensity showed a life aspiration system characterized by high scores in extrinsic personal aspirations. Supporting these studies, a paper by Cleveland et al. (2009) on materialism and ownership determined that materialism was positively associated with the ownership importance for eight consumer electronic products (personal portable stereo, VCR, CD player, videogame console, DVD player, television set, digital camera, and computer), and seven electronic media/communication behaviors (DVD purchasing, television watching, mobile phone and computer usage, Internet surfing and e-mailing, and automated teller machine [ATM] usage). Materialism also positively predicted the importance of owning five appliances (clothes dryer, dishwasher, hair dryer, microwave oven, and food processor) and automobiles. Based on these evidences, the following hypothesis is proposed:

H1: There is a positive relation between extrinsic aspirations and value ascribed to digital possessions.

As Ferraro et al. (2011: 171) indicated, positive emotions are an important part of possession attachment. Therefore, this study includes positive emotions as a measure of possession attachment, and of value attached to digital possessions. As Dittmar et al. (1996: 190) indicated, Dittmar (1989, 1991) found that, women see their favorite possessions as important because of the emotional comfort they provide and the relationships with others they symbolize, while men refer more to use-related, activity-related features of possessions. Based on these evidences it is proposed that:

H2: Females have higher levels of positive emotion associated with their favorite digital possessions.

Research has shown that extrinsic aspirations also predict shopping activity and that genders are differently motivated to shop. Shopping activity is positively related to appealing appearance for men, and for women to appealing appearance and (negatively) to financial success. Also, women reported higher shopping scores than men did (Goldsmith et al., 2011: 283). Previous British and American studies demonstrated that women and men relate differently to their material possessions (e.g. Csikszentmihalyi and Rochberg-Halton, 1981; Kamptner, 1991; Wallendorf and Arnould, 1988). Thus, it is highly possible that men and women will differ in value ascribed to digital possessions. Therefore, the following hypothesis is proposed:

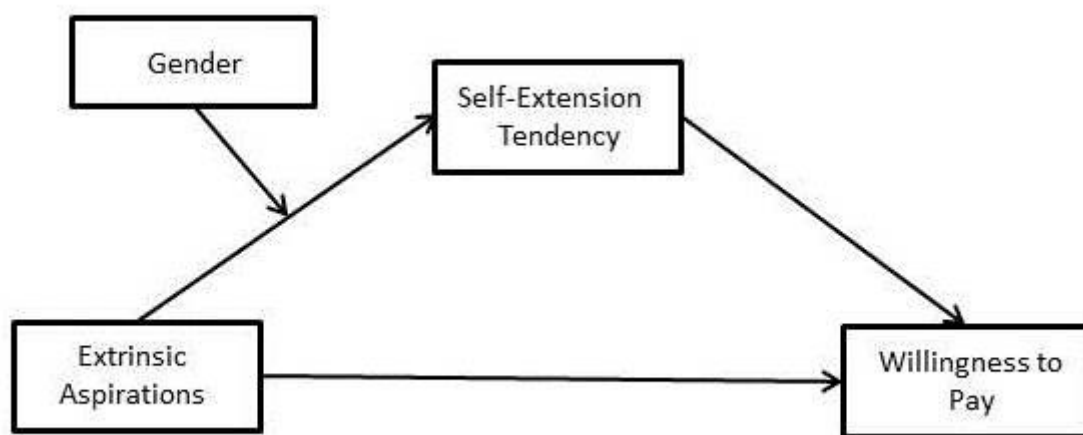
H3: Gender moderates the effects of extrinsic aspirations on value ascribed to digital possessions.

Belk (1988: 139) proposes that people regard their belongings as extensions of their selves. Digital possessions potentially form a part of the extended self in the same way that the tangible possessions can (Belk, 2014: 1106). The most meaningful possessions are those that

strengthen self-identity and thus construct and symbolize the self (Ferraro et al., 2011: 170). Research shows that one of the primary reasons that consumers develop strong attachments to the things they own is that possessions represent extensions of self (Ball and Tasaki, 1992: 156; Belk, 1988: 139). Ferraro et al. (2011) proposed that people vary in the extent to which they generally use possessions to define the self and referred to this individual difference as self-extension tendency, which reflects a general tendency not specific to any one possession. Hence, it is proposed that:

H4: Self-extension tendency mediates the interaction effect of extrinsic aspirations and gender on value ascribed to digital possessions.

The research model is shown in Figure 1 below.



**Figure 1.** Research Model

#### 4. METHODOLOGY

The aim of this study is to examine how value attached to digital possessions is related with extrinsic aspirations, and gender. This study also tests the mediating role of self-extension as a process mechanism that forms the basis of the findings in the study. The proposed effects were tested using t-test, regression analyses and the Process Macro (Hayes, 2013).

##### 4.1. Participants

Participants were 186 undergraduate students. Participants who failed to pass the 2 attention check questions (e.g. please select 5 for this question) were eliminated from the study (N = 22). A final sample of 164 respondents was included in the preceding analyses to test the relations. Of final participants, 102 were male and 62 participants were female. Mean age was 21, SD = 1.5.

##### 4.2. Design and Measures

A survey was created using online survey software. Informed consent was obtained from all participants. Participants first read brief information about digital possessions:

“Nowadays, digital technologies are increasingly becoming popular. With digitalization, some of our possessions are changing from material form to digital form (e.g. photographs). We call these possessions as digital or virtual. Among these possessions, there are photographs, books, music or tickets which have been digitalized lately and also electronic messages, social media profiles, game accounts or avatars and Meta data such as photo tags, listening history or purchasing history.”

Participants then selected their favorite digital possession among 8 digital products provided (social media account, online game account, personal blog, emails, text messages, e-books, music files, photos stored digitally). After this, they responded to two items measuring positive emotions (i.e. I love this possession, this possession made me happy). The items were drawn from Ferraro et al. (2011). Cronbach’s alpha reliability was .78 and Spearman-Brown coefficient was .77 which exceeded the standard value of .70 (Nunnally and Bernstein, 1994). Then, they rated the questions measuring self-extension tendency, willingness to pay for a digital good and materialistic aspirations. In order to prevent for order effects, the scales were presented to participants in random order. The final part asked for demographic variables (i.e., age, gender).

Extrinsic (materialistic) aspirations were measured using the Aspiration Index by Kasser and Ryan (1996). The scale (measured on a 7-point scale ranging from “not important at all” to “very important”) comprised of 3 dimensions measuring financial success (5 items), social recognition (4 items), and appealing appearance (4 items). Cronbach’s alpha reliabilities were as follows: .77 (financial success), .77 (appealing appearance), and .84 (social recognition). Factor analysis was used in order to ensure that items correctly load on to the three dimensions. Principal component analysis was applied followed by Varimax rotation. This analysis revealed 3 factors with eigenvalues over 1. KMO measure of sampling adequacy was .89; Bartlett’s test of sphericity was significant ( $\chi^2 = 1108.22$ ,  $df = 91$ ,  $p = .000$ ) indicating the factor model was appropriate. The total variance explained by three factors was 64%.

Self-extension tendency was measured using a scale drawn from Ferraro et al. (2011). This measure includes 8 statements (e.g. I have a special bond with my favorite digital possessions) that should be answered on a scale ranging from 1 (strongly disagree) to 7 (strongly agree). Cronbach’s alpha reliability was  $\alpha = .92$ .

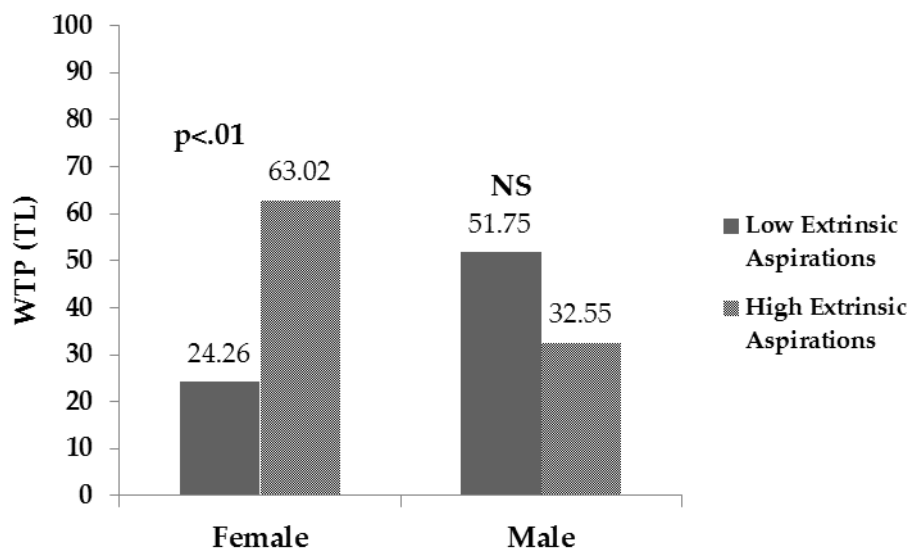
Value ascribed to the digital possession was measured by asking willingness to pay for the good. Participants indicated how much they would be willing to pay for annual subscription for a digital music service that gives access to millions of songs. An open-ended response box was provided for students to enter their willingness to pay for the good (Atasoy and Morewedge, In Press). Digital music service was selected as the focal product because it should appeal to both males and females. As said before, men prefer items related to leisure and women prefer items with emotional value. Music listening is one of the most popular leisure activities (Schäfer et al., 2013: 1). Also, music is an emotional tool and the essence of music is emotion (Thielemann, 2001: 7).

## 5. FINDINGS

Analysis of t-test yielded marginally significant effect of gender on positive emotions. Females had more positive emotions towards their favorite possessions compared to men ( $M_{\text{Female}} = 5.74$ ,  $M_{\text{Male}} = 5.31$ ;  $t(162) = 2.12$ ,  $p = .09$ ). This result supported H1.

Skewness and kurtosis index were used to identify the normality of the data. Bryne (2010: 104) argued that data is considered to be normal if skewness is between -2 to +2 and kurtosis is between -7 to +7. For willingness to pay (WTP) skewness value was 1.45 and kurtosis was 2.40. The results suggested the data can be considered normal as the value of skewness and kurtosis were below 2 and 7 respectively.

Multiple regression analysis was performed to test the hypotheses 2 and 3. The model included gender (0/1 coded), extrinsic aspirations, and the interaction of gender and extrinsic aspirations. To prevent multicollinearity issues, the independent variable (extrinsic aspirations) was mean centered before entering into analysis as suggested by Aiken and West (1991). Results revealed that the overall model was significant ( $R^2 = .1$ ,  $F = 3.16$ ,  $p < .05$ ). As expected, the gender x extrinsic aspirations interaction was significant in explaining willingness to pay ( $\beta = 19.32$ ,  $t(161) = 3.04$ ,  $SE = 6.36$ ,  $p < .005$ ). There was also a significant main effect of extrinsic aspirations ( $\beta = 12.92$ ,  $t(161) = 2.64$ ,  $SE = 4.90$ ,  $p < .05$ ). The interaction was investigated using Simple Slopes analysis at 1 SD above and 1 SD below the mean of the moderator. The results are presented in Figure 2.



**Figure 2.** Extrinsic Aspirations x Gender Interaction Predicting Willingness to Pay for a Digital Possession\*

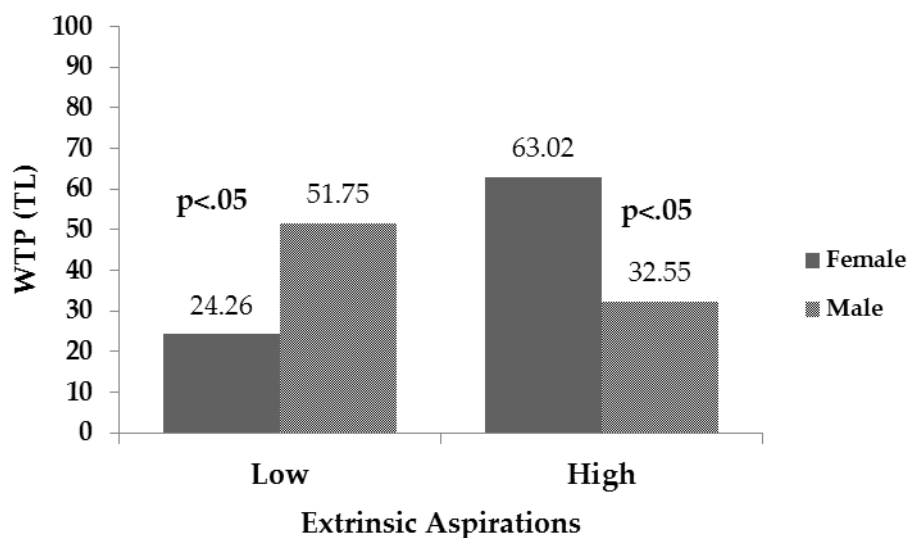
\*Gender as the Moderator

The results supported H2 and H3. There is a positive relation between extrinsic aspirations and value ascribed to digital possessions. As seen on Figure 2, gender moderates the effect extrinsic aspirations on willingness to pay such that female participants having higher scores



in extrinsic aspirations had higher willingness to pay for the digital good compared to those having lower scores in extrinsic aspirations (MHigh Extrinsic Aspirations = 63.02, MLow Extrinsic Aspirations = 24.26,  $t(161) = 2.64, p < .05$ ). However, no significant effects emerged for male participants (MHigh Extrinsic Aspirations = 32.55, MLow Extrinsic Aspirations = 51.75,  $t(161) = .81, p > .1$ ).

To examine whether there are differences between females and males, a spotlight analysis is performed (Aiken and West 1991; Fitzsimons, 2008). The results of spotlight analysis showed when extrinsic aspiration scores are low, male participants had higher willingness to pay for the digital good than female participants (MMale = 51.75, MFemale = 24.26,  $t(161) = 2.29, p < .05$ ). In contrast, when extrinsic aspiration scores are high, female participants had higher willingness to pay for the digital good than male participants (MMale = 32.55, MFemale = 63.02,  $t(161) = 2.51, p < .05$ ) (See Figure 3).



**Figure 3.** Gender x Extrinsic Aspirations Interaction Predicting Willingness to Pay for a Digital Possession\*

\*Extrinsic Aspirations as the Moderator

A moderated mediation analysis was conducted using the Process macro (Model 7; Hayes, 2013), testing whether self-extension tendency would mediate the observed differences in value for digital goods (See Figure 1 for the model). The bootstrap analysis with 5,000 samples indicated that the full model was significant ( $R^2 = .23, p < .05$ ). For female participants, the effect of extrinsic aspirations was significant through self-extension tendency (mean centered, indirect effect = 2.61; SE = 1.63; 95% CI = .33 to 6.99). For males, the indirect effect of extrinsic aspirations was not significant (indirect effect = .98; SE = .93; CI = -.29 to 3.58); the direct effect was also not significant (direct effect = -.20; SE = 3.21; CI = -6.54 to 6.14). These results supported H4.

## 6. DISCUSSION AND CONCLUSION

This paper examined the effects of extrinsic aspirations and gender on value ascribed to digital possessions. The paper also highlighted the mediating role of self-extension tendency in this relationship.

This research contributes by advancing the literature in various domains. First, the findings regarding the effect of extrinsic aspirations on value ascribed to digital possessions extends prior research on materialism and possessions by focusing on liquid consumption. This research tried to understand value ascribed to a product related to liquid consumption (i.e. digital music subscription). As said before, liquid consumption, a new concept in consumer behavior, is different from solid consumption. Liquid consumption is defined to be ephemeral, access based, and dematerialized (Bardhi and Eckhardt, 2017: 582). Thus, it was worth examining how consumers responded to it.

There are conflicting arguments on how liquid consumption is related to materialism. According to Belk (2010: 728), materialistic individuals may be less likely to engage in access-based consumption practices. However, Bardhi and Eckhardt (2012) suggest that materialism promotes adoption of access-based services because such services enable consumers to afford a luxury consumer lifestyle they could not afford otherwise. The findings of the current study show that similar to material possessions, extrinsic aspirations influence valuation of digital goods. The results also revealed that the effect of extrinsic aspirations (i.e. materialistic) on value ascribed to digital possessions is dependent on gender. It is found that females having higher scores in extrinsic aspirations had higher willingness to pay for the digital good compared to those having lower scores in extrinsic aspirations. Self-extension tendency mediated value ascribed to the good. These effects are not valid for males. Thus, this research adds to prior findings on self-extension tendency.

Second, this research contributes to the emerging stream of research on factors influencing possession of digital goods. This research highlights the role of gender in influencing value attached to digital goods. It is found that, under high levels of extrinsic aspirations, female consumers value the digital good more than male consumers. Interestingly, under low levels of extrinsic aspirations, male consumers value the digital good more than female consumers. Further, females had higher levels of positive emotion associated with their favorite digital possessions. This result supported the findings of Dittmar (1991) and Dittmar et al. (1995) on gender and possessions.

Results of the study inform future researchers by suggesting a potential theoretical framework (See Figure 1) and the findings of the current study suggest causal relationships to investigate.

This paper tries to fill the empirical and theoretical gap in digital possession research and more specifically in liquid possession research. The paper provides initial findings on gender, extrinsic aspirations and liquid possessions which can be further analyzed by researchers.

The study also provides functional insights to real world marketers. The findings provide necessary information for real-world marketers to understand how female and male consumers interact with liquid possessions. Thus, they may provide different promotion

strategies according to gender. Plus, by understanding how consumers possess digital products, they may better predict trends in consumption of such products.

Findings also suggest that possession of liquid products provides self-extension opportunities depending on gender. Therefore, strategies building on self-extension may produce positive responses for female consumers.

## **7. LIMITATION AND FUTURE STUDIES**

The findings of this study should be considered in the light of several limitations, some of which can be solved in future research. Although, younger generation fits well with the purpose of this study, the use of undergraduate students limits the generalizability of the findings. Also, the results for willingness to pay were limited to one definite type of possession (i.e. digital music service subscription). Future research should investigate responses to other types of digital possessions and the meanings attached to them.

It is plausible that culture functions as a major variable to understand how consumers possess digital goods, and the value attached to them. Thus, replication of the study with participants from various cultures might also be useful.

Examining the pattern for other possible mediators e.g. possession self-link or use value would also be an important direction for future research. Besides, it would be interesting to explore how the findings may differ for intrinsic aspirations.

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