

The Different Attachment to Virtual Possession Between Young and Elder Adults

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Abstract. This research explores emotional relationship between individual among different ages and their virtual possessions. We conducted 24 in-depth interviews with younger adults (under 20-year-old) and elder adults (above 40-year-old) in Taiwan. Data were collected and analyzed following grounded theory coding method. By understanding usage behaviors and feelings about participants' important virtual possessions, we induced several differences of virtual possession attachment among different ages. We concluded four types of virtual possession, the causes of attachment development and usage behaviors among different ages. Finally, several similarities and dissimilarities between elder and young adults were discussed. Some guidelines of designing for improving virtual possession attachment for people in these two generations are proposed.

Keywords: Attachment · Virtual possession · Different generation

1 Introduction

We are surrounded by an enormous amount of objects in everyday life. As technology developing, the relationship between objects and us has become more and more complicated [1]. The interaction between an individual and his/her objects has not only involved functionality but also the perception and the entire context. In this regards, Bowlby [2] addressed the Attachment Theory, describing an emotional-laden target-specific bond between two persons. This concept has been echoed with studies in various fields, opening a novel perspective toward how we interact and develop relationship with our objects [3–6].

To date, we have increasingly acquired virtual objects in our daily life. New types of virtual objects have not only change our behavior and perception but also change the whole experience. New experience such as reading electronic books and playing video games that we may not even imagine in the past are possibly gained nowadays. Researchers in various domains have gradually focus attention on the relationship between human and their virtual possessions [7, 8]. However, rarely has researchers investigated how individual develop emotional relationship with their virtual possessions.

The attachment development to virtual possessions is based on how individual perceive their virtual possessions. Hence, there are many influencing factors of it.

Although Klein and Baker [9] had claimed that material possession attachment is a dynamic concept and might be influenced by age and gender, it might be different on virtual possession attachment. Odom (2011) investigated how teenagers preserve their virtual possessions and addressed several issues that are different from the material possessions [8]. Also, Cushing found age has an effect on some differences to her findings of personal digital information preservation [10]. Therefore, for getting better understanding of attachment to virtual possessions, it is necessary for us to learn how people in different age develop the emotional relationship to virtual possession.

2 Background and Related Works

In the following section we reviewed the background to the questions addressed in this article, including self-extension and attachment to virtual possession, virtual possession usage among different age, and related HCI researches.

2.1 Self-Extension and Attachment to Virtual Possession

Belk (1988) claimed that people are able to develop certain self-extension to their material possessions and feel attachment to them [11]. He proposed that self-extension is a perception that people transfer their personal identity to their possessions and consider the possessions could stand for their representation in the world. Therefore, we always feel a sense of losing ourselves when we accidentally loss our treasured possessions. For this reason, possessions seem to have stronger relationship than ordinary products with individuals [11, 12]. Hence, in this study we focused on the emotional relationship to possessions instead of products. On that account, self-extension would be a vital factor when we explored the relationship.

As we acquiring more and more virtual possessions nowadays, the issue of how we consider virtual objects has become important. Cushing (2012) addressed four characteristics of digital possessions and claimed that digital objects could be able to be considered as a possession [10]. However, as we know the characteristics of virtual possessions are very different from physical ones, the virtual attachments with individual may be also different. Belk (2013) updated his theory of self-extension, presenting the differences of extended self in digital world. He reviewed the relevance studies and claimed that people indeed extend their selves to virtual possession [13]. However, there are some slightly differences between them. As a conclusion, the notion of “attachment to virtual possession” here is yet a complicated concept and has various characteristics. Belk’s self-extension is one of the characteristics of the attachment to virtual possession and will continually need to be improved.

2.2 The Usage of Virtual Possessions Among Different Ages

Based on the literature, age may be a factor influencing self-extension and attachment to virtual possessions [10, 13], Thus, we refer the theory Digital Native and Digital Immigrant for our theoretical sampling.

The concept of digital natives and immigrants was proposed by Prensky [14], an American education consultant, investigated two types of generations to explain the gap between American teachers and their modern students. The Digital Native was defined as people who were born after the existence of digital technologies. They are familiar with technology and have different brain activities when they are using digital device. On the contrary, Digital Immigrants are those people who born before the existence of digital technologies and adopted it to some extent later in life. In Prensky's article, there are many differences between these two generations. For example, instead of digital books, Digital Immigrants still prefer material books although they also use Internet. Digital Natives are used to interact with people and search information on Internet. The different attitudes of these two generations may influence how they consider and preserve their virtual possessions. Therefore, in this study, both Digital Natives and Digital Immigrants were included in sampling so as to investigate the difference between people in different ages. Nevertheless, the exact age boundary between these two generations was not clearly defined in Prensky's research. But, children born after 1980 was later applied as Digital Native because computer bulletin board systems and Usenet has already been in use at the time.

However, in this study, because the different technology development of Eastern and Western culture, we considered 1985, five years later than America, as our boundary of Digital natives and Digital immigrants. Moreover, in order to distinguish the differences, we tried to increase the gap between these two generations by adding and cutting ten years of them. Consequently, the two generations of participants in this study were participants who are elder than 40 years old and participants who are younger than 20 years old.

3 Method

Our goal is to explore the emotional relationship between individuals and their virtual possessions among different ages by Grounded Theory. Figure 1 shows the process of this research [15].



Fig. 1. Research process of this study

3.1 Data Collection

The study conducted 24 in-depth interviews with younger adults (13–20 years old; coded as capital Y) and elder adults (40–51 years old; coded as capital E). Participants were all Taiwanese and the gender was selected equally. All participants were recruited from Internet. People were asked to fill a prescreen questionnaire to make sure their qualification in this study. Eventually, 24 participants were selected. Emails were sent to schedule in person interview with the researcher. Every participant was offered 300NTD

and a MUJI notebook. All interviews were audio recorded and transcribed. Field notes and photos were taken when necessary during the interview. Participants could choose their preferred interview places as long as they are quiet enough for audio recording. Therefore, most of interviews were conducted in public café or restaurant. Five of them were conducted in participants' home and work place. The interviews were conducted in semi-structure and approximately 1.5 to 2 h. Participants were encouraged to bring and share their virtual possessions while answering the questions.

3.2 Data Analysis

All vocal data from the interview were transferred into transcripts in order to be analyzed by coders. There were three stages in data analyzing: open coding, axial coding and selective coding. First, the interview data were labeled by a code team with open coding process. The code team consisted of three graduate students from different backgrounds and the first author. All data were reviewed and discussed by coders repeatedly so as to be more objective.

4 Findings

4.1 Four Types of Possession

Based on the characteristics of possessions, we classified virtual possessions into four types: valuable memory, personal creation, collectible and utility item. A virtual possession might be classified into more than one type. For example, digital photos could simultaneously be a valuable memory and a personal creation. For instance, Participant E09 and Y12 regarded their digital photos both as record and creation. Therefore, we will focus on the type of possessions in the following discussion, instead of each single possession that was mentioned in the interview.

Type 1: Valuable Memory

Almost all participants indicated that their "most important virtual possession" contains valuable memories. Among our participants, such virtual possessions included digital photos, messages and records in videogames.

Figure 2 shows mostly digital photos are attached to elder participants and chat logs and screenshots are attached to young participants in this study. Although the possessions are distinct, the main reason of attachment is similar: the valuable memories contained in the possessions are mostly about their treasured significant others, feelings and events.

Type 2: Personal Creation

Personal creations and works such as Facebook posts, personal writings and photographs were categorized into this type. Most possessions in this type were from elder participants. All elder participants presented certain ability and passion of creating something to manifest their personality. Figure 3 shows only elder participants attach to their Facebook posts and writings and both elder and young participants attach to their photographs. To clarify, photograph here is regarded as personal creation instead of valuable memories in the previous section.

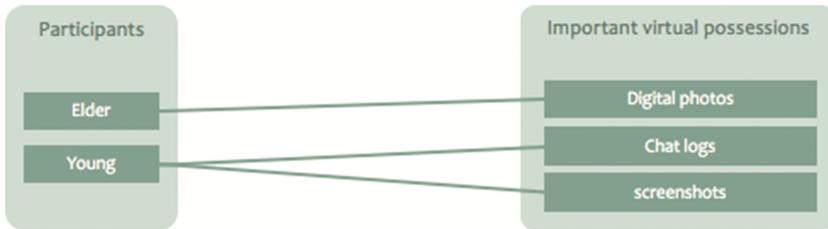


Fig. 2. Relationships between participants and their valuable memories

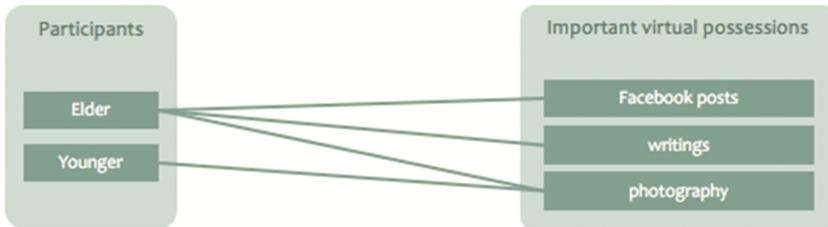


Fig. 3. Relationship between participants and their personal creations

Type 3: Collectible

Collectible is defined as a set of perceived valuable items that are collected by an individual including music collections and pictures of a specific idol. Figure 4 shows all possessions in this type were from young participants. Young participants collected virtual objects that they are interested in and keep them in a good order. They expressed that those collectibles can not only inspire and encourage them to become who they want to be but also help them feel a sense of belonging.

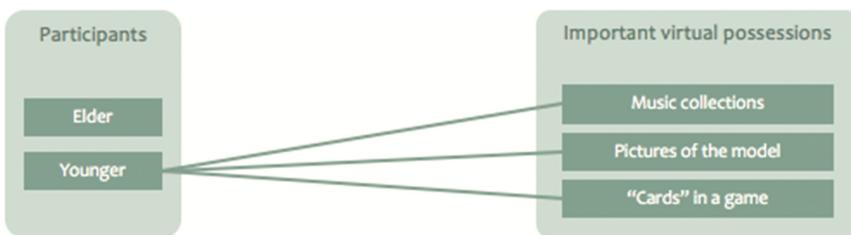


Fig. 4. Relationship between participants and their collectibles

Type 4: Utility Item

Items collected for some functional purposes were categorized into this type, such as screenshots and bookmarks of useful information. Also, some social interaction records by screenshots and embarrassing photos of friends, which used as social tools for teenagers, were also classified into this type.

Figure 5 illustrate both elder and young participants attach to their screenshots. Only one elder participant shared attachment to her bookmarks and the other one young participant expressed her attachment to a specific video application on her iPod. People preserve this type of possessions because they want to prepare for their future needs.

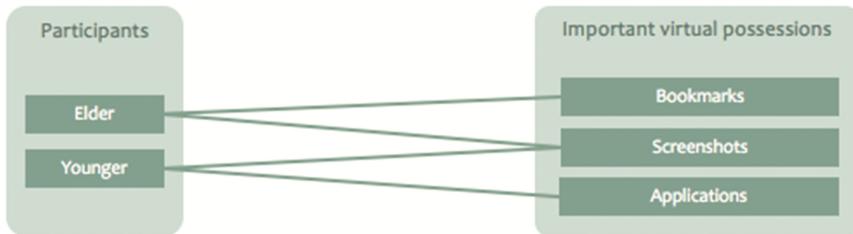


Fig. 5. Relationship between participants and their utility items

4.2 Usage Behavior

We observed four major usage behaviors in our data. We introduce each of them and presented some similarities and dissimilarities between two age groups in the following section.

Creating a Controllable Place to Preserve the Possessions. We observed all of the participants have tried to create a controllable and safe place for preserving their possession. However, there are still some differences between different ages.

(1) *Elder participants: backup and duplicate in multiple places*

This phenomenon was found mostly in elder participants who have preserved their digital photos for at least 8 years. They all preserve the photos in good order and duplicate them in multiple places such as Cloud and portable hard-drive. “*These are gradually... I always feel they are important to me, so I keep looking for better places to preserve them. To avoid losing them*” (E10). On the contrary, surprisingly, young participants in this study seldom backup their possessions. It seems that they are very unfamiliar with the digital technology. Several young participants expressed that they even do not know how to import information from their mobile to desktop. Some of them revealed they would love to do the backup if they had had the ability. “*I don't preserve them (chat logs) on purpose. But I don't delete them on purpose, either. Because it (Facebook) doesn't provide the function... If I had choice, I would love to do that*” (Y02).

(2) *Young participant: mobile phone is the safest place*

Several young participants expounded that persevering all the virtual possessions on their mobile phone and carrying it with them everywhere can make them feel safe and convenient. On the contrary, several elder participants preserve their possessions on Cloud. However, none of them take Could as the safe place for the preservation. Participant E08 and E10 preserve their photo on Cloud in good order. They both expressed that accessibility is the main purpose to preserve photos on Cloud. “*I can look for the photo by application easily if I need to share to others*”

(E10). For these participants, everywhere in digital world is temporary for them. They believe the digital world is always changeable and insecure.

The Frequency of Reviewing and Organizing. In this study, our elder participants usually organize their possessions very well but seldom review. On the contrary, young participants seldom organize their possessions but review them a lot. Elder participants such as E02, E08 and E10 sort their digital photos files by date and event. “*I will name files as some interesting titles related to the events*” (E08). Also, they disclosed that they barely have time to review them since they need to work and raise families at the same time. As E07 said, “*I seldom review them. I am busy for fighting for my life recently (Laughing)*”. Therefore, in these cases, reviewing behavior always occurs with organizing and sharing. Elder participants seldom review the possessions simply because they do not eager to review. “*I can review them when I am home. It's not urgent. I believe they (the digital photos) will stay there stably and will not disappear*” (E02). However, there are still a few elder participants review their possessions very often. For example, participant E01 and E06 who publish their works on social media seem to review more frequently than the others. On the contrary, young participants review their possession very often. Since they have more spare time than elder participants, reviewing the important possessions becomes a relaxation and recreation in their daily life. They review the possessions when they have spare time or when they think of specific people and events. They usually review photos on mobile phone which they can access anytime, and anywhere.

Present Their Selves by Sharing. This study shows that elder participants enjoy share their selves in a digital environment and younger participants tend to share different selves in different digital environment. Elder participants share the possessions as spreading their thoughts to others. E06 considers his Facebook page as a platform spreading the positive thinking. “*I would like to share my positive power to everyone. I hope people would like to follow this (Facebook posts with his wife)...and it might help people to improve their relationship*”. Moreover, E07 shared her creations related to social issues and hopes they will have some slight influences to society. Both of them mentioned that they know they have followers on Facebook. It seems that this situation make them feeling influential. Also, they care about the comments and responses of their posts. As E01 said, “*It is boring if you posted something and there is no response. You make people satisfied and you feel satisfied too. This is the meaning of sharing.*” Even some participants would plan their activities for sharing. “*Sometimes it is like ...we go out in order to create new post*” (E06). For young participants, they tend to separate the content on different platform in order to share to different audiences. Sometime they even do not use their real name on Internet. “*Because I can share to everyone on YouTube. Sharing to strangers... I create a fictitious name so people would not know that is me*” (Y14).

5 Conclusion and Design Guidelines

This study explores attachment between individuals and their virtual possession among young and elder adults in Taiwan. We found people in different generations use and attach to their virtual possessions differently. The different backgrounds of generations, such as technology knowledge and personal values of the different generations, result in the different virtual possession attachment found in this study. Also, the type of virtual possessions could also result in the difference. Therefore, in order to customize digital service and virtual possession for different generations, the background of participants and the type of virtual possessions need to be concerned in the future design process. Here, we proposed several design guidelines for designing attachment to virtual possessions among different age.

For all users, consider the attribute (type) of virtual possession that user attaches to and create a controllable space for him/her to preserve it when designing virtual possession with attachment. For young users, consider the function of reviewing and selected sharing. Contrarily, for elder users, consider the function of organizing and public sharing. However, personal value and technology knowledge should be considered while designing attachment to virtual possessions for both generations.

Overall, this work contributes to our understanding of attachment development to virtual possessions among different ages. As noted, virtual possession attachment is a complicated concept and its influencing factors are interrelated. Therefore, in future work, more factors should be discussed together in order to understand the whole picture of attachment development to virtual possessions.

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