



# Impact of avatar identification on online gamer loyalty: Perspectives of social identity and social capital theories



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## ABSTRACT

Online games have created significant opportunities for electronic commerce managers. The degree to which online gamers regard their avatars—their gaming representations—as themselves is known to be influential to gamers' behavior but little is known about how such identification impacts online gamer loyalty (i.e., gamers' continued intention to play). This study filled this gap by developing its research framework from the perspective of the social identity theory and the social capital theory. Responses from 1384 online gamers were collected, and structural equation modeling was used to test the hypotheses. The analytical results indicate that avatar identification (the degree to which users regard avatars as themselves) is positively related to participation in gaming communities and social presence (the degree of awareness of other persons and interpersonal relationships). These were further positively related to online gamer loyalty. This study is the first using the two theories, i.e., the social identity and social capital theoretical perspectives, to clarify the mechanism underlying the impact of avatar identification on online gamer loyalty, assisting electronic commerce managers to create a loyal user base.

## 1. Introduction

Online games are popular electronic commerce applications. Globally, online gaming communities have attracted more than 217 million gamers (ComScore, 2017). The total revenue of the global online gaming market reached \$99.6 billion in 2016, an increase of 8.5% on 2015 (NewZoo, 2016). Moreover, such revenues can be rapidly accumulated, evidenced by the record that one online game, Diablo III, sold 3.5 millions copies in the 24 h after its release (Statista, 2017). Such figures indicate the importance of research into online gamer participation and loyalty (the intention to repeatedly play games), i.e., linking the important real-world phenomena to the research constructs.

Online gamers use avatars, i.e., user in-game representations, to interact with other gamers. Online games provide numerous avatars with varied appearances (e.g., Riot Games, 2017), indicating that avatars are important to gamers. Avatars are important for forming impressions (Westerman, Tamborini, & Bowman, 2015) and thus users choose or customize their avatars according to their self-image or perceived expectation of the context (Vasalou & Joinson, 2009). Moreover, avatars assist users to be identified by team members (Midha & Nandedkar, 2012), and should have a strong impact on user's

gaming and social behavior. This makes avatars an ideal focus for further study of gaming communities.

The relevant literature on avatars has focused on avatar similarity (i.e., the similarity between the avatar and its user). Specifically, avatar similarity is related to less deceptive behavior in online games (Hooi & Cho, 2013), a high in-game perceived risk to the physical body (Kim & Sundar, 2012), and strong exercise intention (Waddell, Sundar, & Auriemma, 2015). Avatar similarity was recently found to be related to avatar identification (the degree to which users regard avatars as themselves), which is further related to users' flow experience (i.e., experiencing intrinsic enjoyment with total concentration) (Soutter & Hitchens, 2016).

Moreover, recent scholars (e.g., Banks & Bowman, 2016), have studied the antecedents of avatar identification, including gamer openness, gamer extraversion (Soutter & Hitchens, 2016), and self-presence (a user's embodiment in the avatar) (Christy & Fox, 2016). However, the relevant literature has not sufficiently examined the impact of avatar identification, particularly by what mechanism avatar identification impacts online gamer loyalty (i.e., gamers' continued intention to play), indicating a research gap, or what we did not know before. This gap has not been filled by the pertinent literature. Specifically, avatar

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identification may lead to addiction (Smahel, Blinka, & Ledabyl, 2008), showing a possible link between avatar identification and loyalty. Moreover, identification (with a social networking site) has been shown to be related to customer loyalty (Wang, Yeh, & Yen, 2015), but the underlying mechanism was insufficiently examined. Moreover, customer-perceived value is related to loyalty (to mobile instant messaging) (Deng, Lu, Wei, & Zhang, 2010). In sum, this gap has not been filled, even when considering the recent studies on online gamer loyalty (e.g., Hamari & Keronen, 2017; Liao et al., 2016; Teng, 2017).

Research filling this gap (or what we did not know before) should supply insights for online game providers to effectively utilize avatars to build loyal gamer communities, indicating its practical importance. Moreover, such research should enrich our understanding of the impact of avatars, breaking new ground in studies on fueling online gamer loyalty. To fill this gap, the social identity and social capital theories were used to justify the inclusion of participation in gaming communities and social presence (the degree of awareness of other persons and interpersonal relationships) in this study.

Therefore, the purpose of this study is to examine how avatar identification impacts participation in gaming communities and social presence, and subsequently contributes to online gamer loyalty. The overall contribution of this study is its being the first to explain whether and how avatar identification influences online gamer loyalty.

Specifically, this study made four contributions to the recent literature. First, while Hamari and Keronen (2017) have summarized reasons for playing online games as enjoyment, ease of use, attitude, perceived usefulness, subjective norm, flow, and playfulness, the present study contributes novel reasons for playing online games, including avatar identification, participation in gaming communities, and social presence.

Second, while Hamari, Hanner, and Koivisto (2017) found that various service quality dimensions contribute to intention to play online games, the present study extends efforts to examine antecedents of intention to play online games by examining the role of avatars as an antecedent. Such an examination may shed light on the likelihood that tangibles dimension also contributes to the intention to play online games. That is, the present study together with Hamari et al. (2017) creates a complete picture on the relations between service quality and intention to play online games.

Third, while Christy and Fox (2016) examined the relation between social presence and *wishful* avatar identification, the present study showed that *actual* avatar identification is also related to social presence. Such knowledge provides insights for practitioners who may enable gamers to design avatars that fit gamers' *actual* selves to improve their loyalty to the games.

Fourth, while Li and Lwin (2016) examined how avatar identification could be related to intention to use gaming applications and examined the mediator role of gaming enjoyment, the present study examined novel mediators in the relation between avatar identification and usage intention (i.e., participation in gaming communities and social presence). Such novel mediators deepen our understanding of how avatar identification impacts gaming behaviors. Moreover, such novel moderators contribute actionable insights for practitioners to design means for encouraging user participation in gaming communities and further contribute to practitioners' business success.

## 2. Literature review

### 2.1. Avatar identification

The definition of avatar identification may have its roots in the literature on "identification with media characters", which has been defined as imagining one is in the character's shoes and seeing the world through their eyes (Livingstone, 1998). It has further been defined as "increasing loss of self-awareness and its temporary

replacement with heightened emotional and cognitive connections with a character" (p. 251). This definition has previously been adopted for avatar identification (i.e., Li, Liao, & Khoo, 2013), and thus the present study defines avatar identification as the degree to which users regard avatars as themselves.

'Avatar identification' shares similar definitions with other terms in the literature, i.e., "player-avatar identification" (Li et al., 2013), "character identification" (Soutter & Hitchens, 2016), and "avatar-self connection" (Jin, 2010). Subsequent literature has used the term "avatar identification" (Christy & Fox, 2016; Kim et al., 2012; Li & Lwin, 2016), motivating the present study to use that term.

On the other hand, there are terms that are similar to "avatar identification" but that are distinct in subtle ways. For example, "perceived similarity with the avatar" (or avatar similarity) indicates the extent to which the gamer resembles the avatar (Hooi & Cho, 2013; Midha & Nandedkar, 2012). Although self-resembling avatars (or avatars mirroring the self, or self-reflecting avatars) (e.g., Kim & Sundar, 2012; Waddell et al., 2015) share visible similarities with the player, avatar identification may not automatically be present. In fact, gamers may identify with non-similar avatars, demonstrating the conceptual difference between avatar similarity and avatar identification. Furthermore, "avatar self-relevance" indicates the player's emotional connection to an avatar during use (Ratan & Dawson, 2016; Ratan & Sah, 2015). While a player may be emotionally connected to a target (i.e., have a strong attachment), they may not necessarily regard themselves as the target (i.e., identify with that target), indicating that self-relevance may differ from avatar identification.

Avatar identification can be regarded as a single construct (e.g., Christy & Fox, 2016; Li & Lwin, 2016) or a construct having four first-order constructs (e.g., Li et al., 2013) including feeling during play, absorption, a positive attitude toward the avatar, and importance to identity. "Feeling during play" indicates that gamers feel what avatars may feel during games; "absorption during play" refers to gamers' forgetting their real-world surroundings during play; "a positive attitude toward the avatar" is the approval and appraisal of the avatar; while "importance to identity" indicates the degree to which the avatar reflects the gamer (Li et al., 2013). The four first-order constructs may shed light on further research opportunities for scholars on avatar identification, motivating the present study to use them.

The literature on avatar identification has indicated its impacts in various contexts. Avatar identification enhances media effectiveness (Leyens & Picus, 1973), user-perceived enjoyment (Treppe & Reinecke, 2010), and flow (Soutter & Hitchens, 2016), and has antecedents such as young gamers (Blinka, 2008), gamer-alike avatars, gamer openness, low levels of gamer extraversion (Soutter & Hitchens, 2016), transportability, and self-presence (Christy & Fox, 2016). However, the literature has insufficiently examined the impact of avatar identification on online gamer loyalty. To explain the impact of avatar identification, the present study consulted the social identity theory to develop its hypotheses. Table 1 summarizes the studies on avatar identification.

### 2.2. Social identity theory

Social identity theory is one of the most well-known theories for explaining identity issues. It posits that human beings tend to identify themselves with some groups, i.e., hold specific social identities (Tajfel & Turner, 1986). This theory has been widely used in various areas, including consumer psychology (Dimofte, Goodstein, & Brumbaugh, 2015) and computer-mediated communication (Postmes, Spears, Sakhel, & de Groot, 2001). Broadly, the issue examined in the present study can contribute to electronic commerce by clarifying how consumer loyalty can be enhanced using avatars. Therefore, the social identity theory should be applicable for explaining the issues herein.

Social identity refers to individuals' awareness of the membership of a social group (Tajfel & Turner, 1986). Social identity is strongly linked

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