

Understanding Why Players Engage in Massively Multiplayer Online Role-Playing Game (MMORPG) Guilds: From the Perspective of Core Community Commonalities

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Abstract

Purpose – This study investigates the effects of social influence on members’ engagement behaviors in MMORPG guilds, a goal-oriented community, where members interact with each other in a fictional and dissociative virtual world. In this environment, engagement behaviors are crucial to members’ continuous participation. While most studies focus on players’ pathological engaging behaviors in MMORPGs, little information is available on whether social identity and social influence are still important to players’ engagement behaviors when they are helping and supporting the group and other members in guilds, and whether players are inclined to be more socially motivated or more self-interested when they interact behind fictional masks or personas.

Design/methodology/approach – This study proposes a theoretical model of social identity and social influence to verify the effects of the core community commonalities and individuals’ intrinsic and extrinsic motivations on players’ engagement behaviors in MMORPG guilds. An online survey on MMORPG forums was administered to 309 guild players.

Findings – The findings reveal that players’ social identity to the guild has a profound impact on three core community commonalities, and these core commonalities, in turn, affect engagement behaviors significantly. Additionally, social influence - especially shared moral responsibility - has a significant positive impact on players’ engagement behaviors than extrinsic motivations.

Research limitations/implications – Self-selected sampling methods and the participants, who were Chinese college students, might restrict generalizations regarding the results.

Practical implications/Social implications – This study demonstrates that social influence in fictional environments can inhibit personal behavior characterized by a good sense of responsibility and social regulations, and that guild leaders can apply their social identity and the core community commonalities to enhance members’ engagement behaviors in a virtual team.

Originality/value – This paper shows that individuals are still motivated by self-interest, which they tend to use in a social manner, when they interact in a dissociative and fictional environment.

Keywords – MMORPG Guilds, Core Community Commonalities, Engagement Behavior, Social Influence, Social Identity

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1. Introduction

Player engagement in MMORPG guilds is highly relevant to a player's participation, loyalty, and purchase behavior in the context of MMORPGs (Badrinarayanan, Sierra, and Martin 2015; Jin et al. 2017), and is also strongly correlated with a video game's financial success (Huang, Jasin, and Manchanda 2019). Players, when engaged, spend more time and energy on in-group activities; they have a close connection with the guild and other members and show highly distinctive engagement behaviors, such as sharing information with guild members, helping other members, and contributing to the guild (Badrinarayanan, Sierra, and Martin 2015; Chen et al. 2006; Rossi 2008; Sierra, Badrinarayanan, and Taute 2016). Engagement behavior represents players' sustained participation and commitment to the guild when engaged in games (Jin et al. 2017; Zhong 2011). Consequently, researchers conduct studies aimed at understanding how to enhance users' engagement behaviors.

Studies have examined that social identity and social influence are dominant theoretical measures which explain engagement behavior in brand communities and online social networks (Algesheimer, Dholakia, and Herrmann 2005; Badrinarayanan, Sierra, and Martin 2015; Cheung, Chiu, and Lee 2011; Dholakia, Bagozzi, and Pearo 2004; Moon et al. 2013). According to social identity theory, social identity refers to an individual's identification with the group; the individual comes to view himself or herself as a member of the group (Dholakia, Bagozzi, and Pearo 2004). Moreover, social influence indicates the extent to which an individual's behaviors in a social network are influenced by others, especially other members, coercing them to conform to community's behavior patterns. Social psychologists suggest that social influence is the perceived pressure to perform a certain behavior, while the influence can be exerted through messages and signals that highlight the value of the social network (Li 2013; Venkatesh and Brown 2001). Social identity theory and self-categorization theory explain that when individuals identify with, and categorize themselves as, group members, they will exhibit the behavioral traits of compliance and conformity in response to that group's pressure, such as norms, conventions, ideology, stereotypes, or the particular culture of the group, which defines the in-group members in contrast to out-groups (Cialdini and Goldstein 2004; Hogg and Terry 2000; Postmes, Haslam, and Swaab 2005; Turner and Oakes 1986); these two theories propose that social identity exerts social influence on individuals through the twin processes of social identification and self-categorization (Postmes, Haslam, and Swaab 2005). However, although the effects of social identity and social influence have been examined with regard to brand communities, their effects on participants in the fictional environments of an MMORPG guild are still not clear.

An MMORPG guild is a virtual community that has formalized memberships, rank assignments, and leadership structure, in which players play and collaborate with other players to accomplish game tasks and achieve collective goals (Ang and Zaphiris 2010; Badrinarayanan, Sierra, and Martin 2015; Zhong 2011). According to the research concerning virtual communities and social network sites (SNSs), scholars believe that an MMORPG guild is similar to other online communities and social network sites for the reason that it also has patterned social interactions and meaningful social relationships, such as shared rituals and social regulations, among members. Additionally, because participants in a guild typically engage in collaborative and collective actions and tend to develop strong emotional bonds with other members, a sense of belonging to the group, and self-awareness of group identification builds up over time (Ang and Zaphiris 2010; Jin et al. 2017; Moon et al. 2013; Parks 2011). Scholars further propose that social identity symbolizes social influence in the virtual communities. More specifically, this concerns the overlap between self-identity and social identity, in which participants see the social identity of the group as an extension of their own self-identity, and that encourages participants to regard the values of the group as an extension of their own personal values (Algesheimer, Dholakia, and Herrmann 2005; Badrinarayanan, Sierra, and Martin 2015; Jin et al. 2017). However, the virtual and fictional character and identification in an MMORPG guild represents a clear distinction between MMORPG guilds and other online social networks and communities (Billieux et al. 2013; Guegan, Moliner, and Buisine 2015).

MMORPG players interact through fictional characters in a virtual world, in which players choose an avatar and adopt an in-game name to represent their characters in MMORPGs. An avatar is a fictional and digital representation of a character from one of a wide range of races (e.g., human, elf, dwarf, orc), classes (e.g., warrior, mage, rogue, priest), or either genders. Players recognize and interact with others through fictional avatars and in-game names. Therefore, they are not able to know the real identity (even gender) of other players (Billieux et al. 2013; Yee and Bailenson 2007). Players create guilds and enroll other players as members, while the use of avatars and the virtual and fictional environments in MMORPG guilds are the features which attract our interest. Unlike other online communities such as Facebook and Instagram, the fictional avatars and environments in MMORPG guilds may require and facilitate dissociative anonymity, dissociative imagination, and the reduction of real personal and social cues (Billieux et al. 2013; Guegan, Moliner, and Buisine 2015). Indeed, some scholars posit that leads to *the online disinhibition effect* (Suler 2004), which allows players the freedom to create virtual selves to escape real-world norms, conducive to social loss, and reduce group pressure and regulations, then to subsequently reconstruct their interactions and processes of membership (Cole and Griffiths 2007; Guegan, Moliner, and Buisine 2015). *The online disinhibition effect* could help to explain why people share very personal and sensitive matters about themselves, show unusual

acts of kindness, or express rude language, harsh criticisms, and hatred on the Internet, displaying the behaviors they would strenuously avoid in the real world (Guegan, Moliner, and Buisine 2015; Spears 2017; Suler 2004).

However, the *social identity model of deindividuation effects* (SIDE) proposes a different viewpoint which states that dissociative anonymity and the absence of social cues in computer-mediated communication environments depersonalize social perception of others and self, thereby enhancing group salience, and consequently leading to a focus on social identity and strong social regulation (Guegan, Moliner, and Buisine 2015; Spears 2017). These conflicting effects of dissociative features interest us from the perspective of whether social influence and social regulation are still influential in enhancing players' engagement behavior in guilds' fictional environments as they are in real-world communities; we are curious about whether players are inclined to be disinhibitory or be motivated by self-interest to undertake the engagement behavior when they interact behind fictional masks or imaginary personas within the environments which engender those dissociative features.

There are more than 50 million MMORPG players worldwide; increasingly more people have a "second life" in MMORPGs and guilds (Badrinarayanan, Sierra, and Martin 2015). The border between what exists in the real world and what is virtual is becoming more and more blurred. As virtual worlds become a recognizable part of everyday life for millions of people around the world, and future environments of organizations become more intensely digital and virtual, investigating the effects of social influence and social regulation on engagement behavior in virtual environments for developing beneficial actions will become significantly more vital (Badrinarayanan, Sierra, and Martin 2015; Jin et al. 2017).

Although previous studies concerning MMORPGs have provided valuable findings, we have discerned some gaps in the body of literature. Firstly, we have found that prior studies primarily have focused on interactions between MMORPGs and individual players in terms of players' pathological engaging behaviors in MMORPGs. Although studies have agreed that social interactions are of paramount importance in MMORPGs, an understanding of those social interactions among guild members and the influence of social interactions on members' engagement behavior in MMORPG guilds is still lacking (Badrinarayanan, Sierra, and Martin 2015). It is not yet clear how social identity and social influence affect members' engagement behavior in MMORPG guilds, or whether they are still as influential in dissociative fictional environments as they are in the real world. Furthermore, whether there could exist any difference in the effects of social influence between guilds and real-world communities is also vague. Secondly, most studies have emphasized the social dimensions in MMORPGs. However, MMORPG guilds are not only highly social "playgrounds" but also fora full of goal-oriented missions (Badrinarayanan, Sierra, and Martin 2015; Cole and Griffiths 2007). According to social exchange theory, studies agree that individuals' intrinsic and extrinsic motivations, such as enjoyment and benefit exchanges, are powerful incentives for players' continuous intentions in MMORPGs as well as in knowledge sharing communities and social network communities (e.g., Cheung, Chiu, and Lee 2011; Hsiao and Chiou 2012; Jin et al. 2013; Liu, Cheung, and Lee 2016; Zhao, Detlor, and Connelly 2016; Zheng et al. 2015). Nonetheless, few studies verify the importance of the effects of social influence and individuals' intrinsic and extrinsic motivations on engagement behavior in MMORPG guilds, something which would clarify whether individuals become more socially motivated or more self-interested under the conditions of a fictional environment with the dissociative features.

The goal of this study is to address the two aforementioned gaps in research and try to make the following contribution. Firstly, this study proposes a theoretical model of social identity and social influence to explore the question of whether the core community commonalities, which are essential social influence in brand communities (Muniz and O'Guinn 2001), do actually affect players' engagement behavior in MMORPG guilds, and whether players' group identity fosters these core community commonalities. Secondly, we aim to clarify the importance of the influence of social motivations and individuals' intrinsic and extrinsic motivations on players' engagement behavior by means of empirical comparison. As such, we hope this study will lend conclusive evidence to the question of whether individuals become more socially motivated or, rather, more self-interested when they interact behind fictional masks, and, in doing so, further provide practical implications for managers and group leaders to encourage members to engage in group activities, even in a virtual environment, in which leaders have limited power and authority.

We have organized this paper in the following way; firstly, we have reviewed the theoretical background and literature next, a summary of the literature review is presented in Appendix Table A1 to provide an overview of prior research concerning community engagement behavior and the motivating antecedents; then, we have constructed a conceptual model and verified this model with objective data collected from an online survey in MMORPG guild forums; and finally, we conclude with a discussion of theoretical and managerial implications.

2. Literature Review

2.1 MMORPGs and Guilds

MMORPG guilds could be regarded as the most striking feature of online games, bearing in mind that long-term relationships among players are encouraged, and also that players develop meaningful interactions and relationships with other members through avatars in a virtual environment (Cole and Griffiths 2007; Moon et al. 2013; Yee 2006). This means that players interact with virtual identity (Yee and Bailenson 2007). Indeed, the question of the influence of virtual identity on individuals' social interactions in cyberspace has attracted researchers' attention (Guegan, Moliner, and Buisine 2015; Suler 2004; Whitty, Young, and Goodings 2011; Yee and Bailenson 2007), while those previous studies have shown two different perspectives. One perspective assumes that people use the virtual world to escape from real-life stress and problems temporarily. In this scenario, players apply game-reality-distinction strategies or disengagement strategies to completely separate cyberspace from mundane real life (Suler 2004; Whitty, Young, and Goodings 2011; Yee and Bailenson 2007). Another perspective presumes that the virtual world offers a safe place for people to form deeper social relationships. The cyberspace and the real world are not distinct but parallel worlds, in which people create identities, societies, and meaningful relationships. This view contends that the effects of the experiences in a virtual world are comparable or sometimes more salient than real-life experiences (Cole and Griffiths 2007; Yee 2006).

The currently available literature on MMORPGs could be classified roughly into four streams by research focus. **First**, studies focused on the features of MMORPGs explore design features and functionality of games to understand players' preferences (Chen et al. 2006; Lin, Lin, and Jhan 2015). **Second**, studies focused on the players verify how players' characteristics and motivations affect their playing intention, satisfaction, and loyalty to MMORPGs (Moon et al. 2013; Williams et al. 2006). **Third**, studies focused on players' behavioral and psychological influence attempt to examine the effects of players engaging in MMORPGs, especially regarding negative impacts such as addiction, aggression, and violence (Charlton and Danforth 2007). **Finally**, some researchers make appeals for a more balanced perspective, arguing that not only the negative impacts, but also the benefits are worth studying (Zhang and Kaufman 2015; Granic, Lobel, and Engels 2014). Most studies focus on relationships between MMORPGs and individual players, i.e., a player-game dyadic relationship (Hsiao and Chiou 2012; Lin, Lin, and Jhan 2015), and an MMORPG guild is considered as a group of players, there is little understanding of interactions among members in a guild environment (Badrinarayanan, Sierra, and Martin 2015; Zhang and Kaufman 2015). An MMORPG guild is not merely a group of players who play regularly together. Guilds have formalized memberships, leadership structures, and goal-oriented missions (Badrinarayanan, Sierra, and Martin 2015; Sierra, Badrinarayanan, and Taute 2016). Guilds and game missions for various objectives complicate members' interactions and leadership in guilds (Billieux et al. 2013; Sierra, Badrinarayanan, and Taute 2016). Moreover, MMORPG guilds are fictional environments where individuals are in a state dissociative anonymity and lack any real personal and social cues, physical power, and authority (Cole and Griffiths 2007; Guegan, Moliner, and Buisine 2015; Zhong 2011). A guild leader cannot force members to behave in a prescribed way except expelling the guild (Rossi 2008). In this regard, an intriguing question is how guild leaders engage members in a goal-oriented virtual community with limited power and authority.

2.2 Core Community Commonalities

The idea of brand community, introduced by Muniz and O'Guinn (2001), might help to answer this question. They proposed that while there are many definitions of a community, a review of sociology literature reveals that there are at least three core community commonalities found in both face-to-face and online brand communities (Laroche et al. 2012; McAlexander, Schouten, and Koenig 2002; Muniz and O'Guinn 2001). The core community commonalities represent an interaction process of developing members' feelings of connection and a sense of responsibility to the brand community and other members (Muniz and O'Guinn 2001). Sierra, Badrinarayanan, and Taute (2016) stated that MMORPG guilds parallel brand communities; the prominent brand community principles, such as sustained brand admiration, traditions and rituals, and moral obligations to the brand and members, are present within MMORPG communities as well (Badrinarayanan, Sierra, and Martin 2015). However, the use of avatars, as well as the fictional environment in MMORPG guilds, are of primary concern to us. Yee and Bailenson (2007) showed that the appearance of avatars has a significant and instantaneous impact on how members interact with others. Additionally, the fictional environments in MMORPG guilds may cause dissociative anonymity and the reduction of real personal and social cues that are highly likely to result in *the online disinhibition effect* (Suler 2004). In this situation, players loosen up, feel less restrained, and say or do things that they would not ordinarily do in a face-to-face scenario in the real world (Cole and Griffiths 2007; Guegan, Moliner, and Buisine 2015; Suler 2004). The question is, do the players reconstruct social interactions in guilds?

2.3 Community Engagement

The term “engagement” has been extensively used in social science, management, psychology, and marketing academic research and, not surprisingly, there have been various applications and definitions of it. Brodie et al. (2011) have proposed a general definition of customer engagement as “a psychological state that occurs by virtue of interactive and co-creative customer experiences with a focal agent/object in focal service relationships,” after summarizing the definitions of engagement in all research areas. They posit that customer engagement plays a central role as a dynamic and iterative process in service relationships with customers, in which customer involvement and participation are antecedents and also consequences in the engagement process. The iterative concept of engagement attracts scholars to apply the term “engagement” to dynamic computer networking services. Huang, Jasin, and Manchanda (2019) follow Brodie et al.’s definition and propose that video game players’ engagement is an unobservable psychological state, and players’ participation is both a consequence of the current condition and, also, an antecedent of subsequent player engagement processes. They utilize the iterative relationship between players’ engagement and participation to build a hidden Markov model to capture the latent players’ engagement state and to observe players’ participation decisions “on the fly”, as it were. Scholars also consider that user engagement could be a critical evaluation of information systems for improving customer retention, employee performance, and achieving corporate objectives (Liu, Santhanam, and Webster 2017). Liu, Santhanam, and Webster (2017) apply the concept of meaningful engagement to building gamified information systems, a context in which the term refers to using game design elements and principles to make information systems more engaging. Their study concludes guidelines that enhancing both experiential outcomes and instrumental outcomes of a gamified information system would result in meaningful engagement for users (Liu, Santhanam, and Webster 2017).

Other studies associate consumer engagement behavior with economic performance, a link which based on the premise that although consumer engagement is a complex construct of consumers’ cognitive and psychological states, which are not easy to measure, the behavioral focus of consumer engagement makes it an appropriate proxy for consumer preference and can be used to predict economic performance (Oh et al. 2017). Oh et al. (2017) have proposed two dimensions of customer engagement behavior - personal and interactive engagements - with regard to a new movie in the social media context of Facebook, YouTube, and Twitter. They found that a significant positive correlation occurred between these two customer engagement behaviors and the movie’s opening-weekend box-office gross revenue. Wu, Fan, and Zhao (2018) define customer engagement as customers’ prosocial contributions to the online brand community and, in their examination of this subject, discovered that customer engagement positively affects word-of-mouth behaviors, including generating post-purchase reviews and posting positive ratings. They also find that customer tenure has a positive moderating effect on the relationship between customer engagement and word-of-mouth behaviors (Wu, Fan, and Zhao 2018).

Although numerous studies show that customer engagement is positively related to participation, purchase behavior, and many other economic performances, Zhang et al. (2017) present a caveat of the conventional strategy that practitioners leverage social interactions to influence consumer behaviors. Their research found that a certain degree of social connection and interactions among players can provide informational support for increasing players’ goal attainment and spending, but too many of them will cause an information overload problem for players and have a diminished marginal effect (Zhang et al. 2017).

Given the factors highlighted above, we wish to investigate whether players are inclined to be disinhibitory and motivated by self-interest to undertake in altruistic and benevolent behaviors in the group when they interact behind fictional masks, while our study focuses on the behavioral dimension of engagement. According to Algesheimer, Dholakia, and Herrmann (2005), community engagement refers to the consumer’s intrinsic motivation to interact and cooperate with community members. Community engagement suggests that members are interested in sharing information, supporting and helping other members, and participating in collective activities volitionally to enhance the value of the community and others in it (Pan, Lu, and Gupta 2014; Ray, Kim, and Morris 2014), and indeed, the behaviors of engaged members depicted by Algesheimer, Dholakia, and Herrmann (2005) are consistent with those observed in MMORPG guilds (Badrinarayanan, Sierra, and Martin 2015; Jin et al. 2017). Therefore, our study adopts the definition of community engagement proposed by Algesheimer, Dholakia, and Herrmann (2005) to delineate the engagement behavior players enact in MMORPG guilds. Additionally, Algesheimer, Dholakia, and Herrmann (2005) have illustrated that community engagement results from the overlaps between members’ self-identity and their perceived group-identity. Bearing this in mind, it is logic to assume that social identity should play a vital role in affecting members’ engagement behavior.

2.4 Social Identity

According to Tajfel’s (1982) definition, social identity is an individual’s self-concept which derives from his knowledge of the membership of a social group, together with the value and emotional significance of that membership (Hogg and Terry 2000). Individuals, who define themselves based on a particular social identity, tend to enhance the positive evaluation of the group by positively distinguishing their in-group allegiance, as opposed

to out-groups, on some valued dimension to maintain and increase their self-esteem (Cornelissen, Haslam, and Balmer 2007; Stets and Burke 2000; Tajfel 1982). Studies manifest that social identity influences social interactions in communities greatly (e.g., Algesheimer, Dholakia, and Herrmann 2005; Badrinarayanan, Sierra, and Martin 2015; Dholakia, Bagozzi, and Pearo 2004; Moon et al. 2013). Moreover, Muniz and O'Guinn (2001) noted that a community is more than a place; it is a group of people having common understanding of a shared social identity and performing the core community commonalities, which represent an interaction and social influence process of shaping shared connection, meaning, and responsibility to the community and other members (Laroche et al. 2012; Muniz and O'Guinn 2001). Accordingly, we presume that members' social identity to the group has a close connection to the core community commonalities which foster group cohesion and members' engagement behavior. This phenomenon leads to our previous concern regarding whether social identity and social influence still affect members' engagement behavior in MMORPG guilds as strongly as they do in the real world when members perceive self-identity with fictional characters and group-identity with fictional guilds.

3. Development of Hypotheses

3.1 Social Identity, Shared Consciousness of Kind, and Engagement Behaviors

Consciousness of kind is the intrinsic connection that members feel toward one another, and the collective sense of difference from others not in the community (Muniz and O'Guinn 2001). Members of the same group typically share a sense of "we-ness" which amounts to the perceived similarities and links between in-group members. This bonding reinforces the idea of "we are the same kind," and consequentially members feel a close connection to other members, as well as to the brand. Members feel like they know each other, even if they have never met (Laroche et al. 2012; Muniz and O'Guinn 2001). Thus, consciousness of kind could be regarded as the members' shared awareness of connection among in-group members and sense of difference from out-groups. According to social identity theory, people tend to classify themselves and others into various social categories, and social identity is a salient, indeed activated, social category or identification that an individual perceives himself or herself to be an actual group member, by virtue of group membership (Ashforth and Mael 1989; Moon et al. 2013). Individuals with salient social identity seek to establish positive ingroup-favoring evaluative distinctiveness between in-group and out-groups because of an underlying need for self-esteem (Cornelissen, Haslam, and Balmer 2007; Stets and Burke 2000; Tajfel 1982). This positive in-group favoring evaluative distinctiveness maximizes similarities within the group and accentuates differences from other groups, enhancing members' feelings of a strong connection among members (Hogg and Terry 2000). Muniz and O'Guinn (2001) also proposed that consciousness of kind is illustrated in community members' recognition of a distinct social category, like for instance, social identity.

Players join a MMORPG guild although such a group is fictional and only exists in the online game, and in doing so, players play competitively in games and fight against other guilds alongside their guild's other members to win trophies and loot. This helps a player to have a salient social identity within the guild with other members. When players identify themselves as members of the guild, they associate themselves with the guild, strengthen the similarities within the guild, and amplify its difference from other guilds. Although players interact with other players through avatars, which are virtual and fictional characters, and do not know the real personal and social cues of each other, their actions also create a stronger connection with the guild and members. They likewise share a sense of "we-ness" and the feeling that "we are the same kind" in the guild; in other words, they share a consciousness of kind. Thus, we hypothesize the following:

H1. Social identity of the MMORPG guild positively influences shared consciousness of kind.

Community engagement energizes members with a sense of connection and belonging which benefit other members and the group (Algesheimer, Dholakia, and Herrmann 2005; Ray, Kim, and Morris 2014). Additionally, Laroche et al. (2012) further has explained that the concept of engagement goes beyond participation; members sharing common goals and connections with members and the community, meaning shared consciousness of kind, will work collaboratively with other members and perform helpful deeds on behalf of the community and members (Ray, Kim, and Morris 2014).

In the context of MMORPG guilds, when guild members have a shared consciousness of kind, which means they have strong sense of connection to other members, they will associate their goals and interests with other members and the guild (Rossi 2008), and be more likely to undertake engagement behaviors such as sharing information with other members, helping other members, and supporting the guild. Thus, we hypothesize the following:

H2. Shared consciousness of kind positively influences guild engagement behaviors.

3.2 Social Identity, Shared Rituals and Traditions, and Engagement Behaviors

Shared rituals and traditions represent a vital process which ensures the meaning of the community is transmitted, understood, and accepted by all members. These rituals and traditions are a visualized symbolic form of communication designed to perpetuate the community's goal and culture by celebrating its history, sharing stories, using jargon, and performing normative rituals (Muniz and O'Guinn 2001). They delineate the boundaries and define the rules of the community so that members know that "this is the way our community operate" to identify with the group and real members (Laroche et al. 2012; Muniz and O'Guinn 2001). According to SIDE and social identity theory, the depersonalization process occurs when an individual's social identity is activated (salient) (Spears 2017; Stets and Burke 2000); an individual assimilates into the group by following the normative and collective behavior of the group, meaning shared rituals and traditions, and their self-perception transforms to become in line with the group and be associated with the group (Hogg and Terry 2000; Stets and Burke 2000; Tajfel 1982). Algesheimer, Dholakia, and Herrmann (2005) also proposed that members' identification with the group means they will agree (or feel they want to agree) with the group's norms, rituals, and traditions.

Consequently, when MMORPG players identify themselves with the guild, although the guild is fictional in the online game, they may form shared rituals and traditions such as using jargon to communicate and adopting unique group names, logos, and color to identify with their guild and let the other members know "this is the way our guild operates." Thus, we hypothesize:

H3. Social identity of the MMORPG guild positively influences shared rituals and traditions.

Rituals and traditions ensure that the meaning, goals, and culture of the community are understood and accepted by all members. Members tend to feel a unity with, and closeness to each other, and have a common and clear objective to work collaboratively to support the community and other members, displaying engagement behaviors (Algesheimer, Dholakia, and Herrmann 2005; Laroche et al. 2012; Muniz and O'Guinn 2001). Thus, we assume that shared rituals and traditions, such as the jargon and unique group names, logos, as well as color in MMORPG guilds, continues to remind members of the guild when they play together and unite members more closely, intensifying their support and engagement to the guild and with other members. Thus, we hypothesize:

H4. Shared rituals and traditions positively influence guild engagement behaviors.

3.3 Social Identity, Shared Moral Responsibility, and Engagement Behaviors

Moral responsibility refers to a sense of duty and commitment to the community and individual members as a whole. Members feel shared obligations to ensure long-term community survival and contribute to the group and members without punitive strictures (Laroche et al. 2012; Muniz and O'Guinn 2001). The social identity theory suggests that individuals who identify with the group will positively evaluate the group and maximize its differences from other groups to enhance a feeling of self-esteem (Cornelissen, Haslam, and Balmer 2007; Hogg and Terry 2000), that is, they will commit themselves to cooperating with members to support and help the group to become better, exhibit a shared moral responsibility while doing so (Ashforth and Mael 1989; Stets and Burke 2000; Tajfel 1982). Algesheimer, Dholakia, and Herrmann (2005) also posited that identification means that members will accept the groups' objectives and promote their well-being (Moon et al. 2013).

Hence, we posit that when players identify themselves with the guild, they are more likely to take the responsibility for perpetuating the guild and supporting the guild and other members to enhance their self-esteem as guild members. Thus, we hypothesize:

H5. Social identity of the MMORPG guild positively influences shared moral responsibility.

Shared moral responsibility has two critical missions in communities: it entails integrating and retaining members for long-term community survival by recognizing what is right and what is wrong in the community; equally, it requires the sharing information and assisting other members for the proper use of the community (Laroche et al. 2012; Muniz and O'Guinn 2001). Laroche et al. (2012) found that with a sense of strong shared moral responsibility to the community, members are more likely to preach on behalf of the community, help each other, and participate in the collective activities of the community, which tend to be collaborative value creation practices.

Consequently, we could postulate that shared moral responsibility in MMORPG guilds encourages or forces members into those engagement behaviors which safeguard the guild's long-term survival. In this scenario, guild members would take the responsibilities for sharing important information about the game and supporting other members to enhance the skills and abilities of their characters in the game. Members would also be more willing to participate in the activities of the guild and recommend their guild to other players, recruiting good players to join their guild to help it to reach a higher level of achievement. Thus, we hypothesize:

H6. Shared moral responsibility positively influences guild engagement behaviors.

3.4 Benefit Exchange, Normative Motivations, and Engagement Behaviors

Besides social identity and social influence, Muniz and O'Guinn (2001) also remarked that this form of exchange has always been part of communities. Based on social exchange theory, people's interaction in groups pre-supposes the fulfillment of psychological, social, or economic benefit exchanges or reciprocal benefits. Previous studies have found evidence that intrinsic motivations (enjoyment in helping others) and extrinsic motivations (benefit exchanges, reputation enhancement, and norms of reciprocity) are paramount driving forces for people's continuous participation, knowledge-sharing, and engagement behavior in brand communities and online knowledge-sharing communities, such as open-source software communities and social Q&A sites (e.g., Jin et al. 2013; Lai and Chen 2014; Liu, Cheung, and Lee 2016). Intrinsic benefits refer to the pursuing of a certain activity because it is inherently interesting or enjoyable (Sun, Fang, and Lim 2014). These benefits could be explained as being psychological rewards; people seek to receive enjoyment, entertainment value, and a sense of achievement and self-worth (Cheung, Chiu, and Lee 2011; Jin et al. 2013). Extrinsic benefits refer to the compensation, or monetary rewards, for players' time and effort expended on tasks (Sun, Fang, and Lim 2014; Zhao, Detlor, and Connelly 2016).

MMORPG players look for rewards to exchange equipment and avatar appearance as well as to be promoted to a higher rank and level (Yee 2006). Consequently, we presume that enjoyment, achievement, meaning, intrinsic benefits, and monetary rewards, meaning extrinsic benefits, encourage guild members to engage in engagement behaviors. Thus, we hypothesize:

H7. Intrinsic benefits positively influence guild engagement behaviors.

H8. Extrinsic benefits positively influence guild engagement behaviors.

Reciprocity is another extrinsic benefit that involves people helping others in the expectation that they will be helped in the future (Jin et al. 2013; Lai and Chen 2014). However, there is no firm contract to specify reciprocal future benefits. To forego the temptation to receive a free ride, generalized norms of reciprocity are developed to guide sharing and foster and aid interactions (Zhao, Detlor, and Connelly 2016). Reputation is an alternative set of rewards that goes beyond monetary ones. Reputation enhancement represents the particular feeling that individuals believe they could obtain and maintain their social status and respect within a community for more beneficial opportunities by conducting a certain behavior (Jin et al. 2013; Liu, Cheung, and Lee 2016). Therefore, we postulate that when members attach importance to their reputation and believe that displaying engagement behavior helps them to gain a better reputation within a guild environment, and when members feel norms of reciprocity in this setting, they will undertake engagement behaviors. Thus, we hypothesize:

H9. Reputation enhancement positively influences guild engagement behaviors.

H10. Reciprocity positively influences guild engagement behaviors.

4. Research Methodology

4.1 Development of Measures

We derived measures for nine constructs from existing scales used in prior relevant studies and all measures used a 5-point Likert scale, with categories ranging from "strongly disagree" to "strongly agree". The total measurement consists of 29 items (see Appendix Table A2). Seven items adopted from Pan, Lu, and Gupta (2014) were used to measure guild members' engagement behavior. These items comprised the concept of community engagement proposed by Algesheimer, Dholakia, and Herrmann (2005). Three items for measuring social identity were adapted from Cornelissen, Haslam, and Balmer (2007) and Dholakia et al. (2009) since they were considered to provide an integrated definition of social identity, organizational identity and corporate identity. The original Dholakia et al. study (2009) used only two items to measure social identification. In order to prevent failure in the measurement of reliability and validity, this study includes Cornelissen, Haslam, and Balmer's (2007) measurement item. Six items for the core community commonalities were adopted from Laroche et al. (2012). Their scales are derived from the definition proposed by Muniz and O'Guinn (2001). Four items for participants' intrinsic benefit (enjoyment and achievement) and three items for extrinsic benefit (monetary rewards) were adopted from Sun, Fang, and Lim (2014). Items measuring reputation enhancement and reciprocity were adopted from Jin et al. (2013). These scales are chosen from studies that are relevant to the topic of this study and have a similar research context and construct definitions.

To ensure face validity and content validity, three IS scholars and four graduate students evaluated the measurement items with respect to the construct definitions and provided suggestions for each item. Slight wording modifications were applied to fit the research context. Finally, a pilot study prior to the formal survey was conducted.

Twenty MMORPG players tested the questionnaire, while IS scholars reviewed the results to fine-tune and ensure that the items and language of questions were appropriate and clear to target respondents and had reasonable validity.

4.2 Participant Recruitment

The research setting of this study was players in MMORPG guilds. We posted the URL link of the online questionnaire on MMORPG guild forums on the most popular game website (www.gamer.com.tw) in the Chinese market and Taiwan MMORPGs players' Facebook pages. The survey lasted for five weeks, while a total of 321 self-selected players completed the survey. Twelve participants, who were not currently part of a guild nor currently playing MMORPGs, were eliminated from the dataset, therefore the final sample was $n = 309$.

4.3 Sample Characteristics and Measures

The sample's demographics were as follows; 68.3% were male, 31.7% were female, over 80% of the respondents were under 28 years of age, and most respondents were current university students studying for an undergraduate. This last group made up 55.3% of the total amount of respondents. Players were asked how many hours (on average) per day and how many days per week they played MMORPG. 53.7% of players spent 2-5 hours per day playing MMORPG. 79% of players played at least three days per week, while 47.9% of players reported that they had played in the current guild for less than two years.

According to NewZoo.com (2018) research for 2018 mobile games in Taiwan, the male population accounted for more than 52% of Taiwanese players, and the female population accounted for less than 48%. The main portion of players were between the ages of 21 and 35, and they made up 40% of the overall number of players. Compared to the sample's demographics in our research, we examined a higher proportion of male MMORPG players and more players whose ages were under 22. Table 1 profiles the respondents.

Table 1 Demographic Profile of the Respondents (n = 309)

	Options	Frequency	Percentage (%)
Gender	Female	98	31.7
	Male	211	68.3
Age	12-22	162	52.4
	23-28	100	32.4
	29-34	30	9.7
	34+	17	5.5
Education	High school or below	109	35.3
	Undergraduate	171	55.3
	Graduate of higher	29	9.4
Time spent per day	Less than 2 hours	51	16.5
	2-5 hours	166	53.7
	More than 5 hours	92	29.8
Frequency of guild actions	Less than 3 days per week	65	21.0
	3-4 days per week	37	12.0
	More than 4 days per week	207	67.0
Guild history	Less than 2 years	148	47.9
	2-3 years	97	31.4
	3-4 years	20	6.5
	More 4 years	44	14.2

Source: Summarized by the Authors

5. Results

The partial least squares (PLS) approach was employed to analyze the measurement and structural models by following the recommended two-stage analytical procedure (Anderson and Gerbing 1988). The PLS methodology is appropriate to our study since PLS is considered more suitable for causal-predictive analysis in situations of high complexity but low theoretical information, and for its ability to model latent constructs under the conditions of non-normality and with small to medium sample sizes (Chin, Marcolin, and Newsted 2003).

5.1 The Measurement Model

We followed Hair, Ringle, and Sarstedt's (2013) suggestions to conduct an evaluation of reflective measurement models. **First**, indicator reliability was checked using standardized indicator loadings which we expected to exceed 0.70. **Second**, Cronbach's α was used as the lower bound of the internal consistency reliability and composite reliability (CR) was used as the upper bound for the true reliability. Both measures were expected to exceed 0.70. **Third**, convergent validity was assessed based on the average variance extracted (AVE) which were expected to be greater than 0.50. **Finally**, the square roots of the AVEs from constructs were expected to be greater than all the inter-construct correlation coefficients to verify the discriminant validity (Hair, Ringle, and Sarstedt 2013). Table 2 shows that all loadings, values of Cronbach's α , CRs, and AVEs of all constructs satisfy their criteria. As seen in Table 3, diagonal elements are the squares of AVEs. They are all greater than any other corresponding row or column entries. These evaluations suggest that all the measures of constructs in the measurement model achieve reliability and validity.

The use of a common scaling approach on measures derived from a single data source may have raised a concern regarding common method variance (CMV) and bias (CMB) (Fuller et al. 2016). However, to address the concern, Harman's single-factor test was conducted by entering all the indicators into a principal component factor analysis. Testing results demonstrated that no factors account for a threshold of 50% of the variance with all indicators entered, which indicates that common method bias was not a problematic issue in the data set (Cegarra-Navarro, Soto-Acosta, and Wensley 2016; Fuller et al. 2016).

Table 2 Factor Loadings, Cross-Loadings, Internal Reliability and Convergent Validity

Construct	Item	SI	SC	SRT	SMR	GE	IB	EB	RE	R	Mean	S.D.	Loading	Cronbach's α	C.R.	AVE
SI -	SI1	0.89	0.59	0.44	0.53	0.65	0.55	0.39	0.53	0.51	4.14	0.96	0.77	0.87	0.89	0.74
Social identity	SI2	0.89	0.56	0.40	0.52	0.62	0.57	0.38	0.46	0.49	4.27	0.94	0.90			
	SI3	0.91	0.62	0.52	0.58	0.72	0.61	0.47	0.51	0.53	4.22	0.97	0.90			
SC - Shared	SC1	0.68	0.93	0.50	0.53	0.66	0.58	0.47	0.43	0.54	4.07	0.94	0.92	0.73	0.88	0.79
consciousness of kind	SC2	0.47	0.86	0.51	0.43	0.52	0.46	0.45	0.43	0.43	3.36	1.16	0.86			
SRT - Shard	SRT1	0.50	0.52	0.93	0.47	0.50	0.43	0.43	0.41	0.43	3.39	1.34	0.93	0.83	0.92	0.86
rituals and traditions	SRT2	0.45	0.53	0.93	0.48	0.52	0.42	0.51	0.37	0.42	3.59	1.18	0.93			
SMR - Shared	SMR1	0.55	0.46	0.46	0.92	0.62	0.57	0.40	0.41	0.61	4.30	0.86	0.92	0.82	0.92	0.85
moral responsibility	SMR2	0.57	0.55	0.47	0.93	0.66	0.58	0.48	0.44	0.57	4.11	0.97	0.93			
GE -	GE1	0.55	0.58	0.48	0.63	0.74	0.60	0.43	0.51	0.57	4.18	0.87	0.74	0.91	0.93	0.67
Guild engagement behaviors	GE2	0.61	0.55	0.48	0.61	0.81	0.60	0.46	0.52	0.53	3.94	0.99	0.81			
	GE3	0.60	0.55	0.44	0.62	0.82	0.60	0.39	0.47	0.54	4.20	0.86	0.82			
	GE4	0.61	0.55	0.51	0.51	0.79	0.53	0.40	0.52	0.47	4.07	1.05	0.79			
	GE5	0.56	0.51	0.39	0.47	0.83	0.53	0.34	0.51	0.44	4.05	1.02	0.83			
	GE6	0.68	0.56	0.43	0.56	0.87	0.58	0.39	0.52	0.53	4.25	0.89	0.86			

	GE7	0.62	0.53	0.42	0.55	0.87	0.59	0.35	0.52	0.51	4.12	0.99	0.86			
IB - Intrinsic benefits	IB1	0.59	0.49	0.40	0.57	0.63	0.93	0.49	0.44	0.62	4.30	0.90	0.93	0.93	0.95	0.82
	IB2	0.58	0.50	0.38	0.59	0.64	0.93	0.49	0.44	0.61	4.34	0.88	0.93			
	IB3	0.59	0.55	0.39	0.56	0.64	0.91	0.51	0.51	0.58	4.19	0.93	0.90			
	IB4	0.58	0.59	0.50	0.55	0.65	0.87	0.56	0.54	0.60	3.93	1.01	0.86			
EB - Extrinsic benefits	EB1	0.50	0.52	0.54	0.49	0.49	0.50	0.91	0.44	0.48	3.52	1.16	0.90	0.86	0.91	0.78
	EB2	0.39	0.43	0.44	0.43	0.42	0.54	0.91	0.44	0.46	3.63	1.19	0.91			
	EB3	0.32	0.40	0.34	0.34	0.35	0.46	0.84	0.42	0.42	3.29	1.28	0.84			
RE - Reputation enhancement	RE1	0.47	0.42	0.38	0.36	0.54	0.44	0.44	0.94	0.49	3.59	1.08	0.94	0.93	0.95	0.88
	RE2	0.49	0.42	0.38	0.39	0.57	0.46	0.45	0.96	0.50	3.61	1.07	0.95			
	RE3	0.59	0.50	0.43	0.54	0.64	0.58	0.48	0.91	0.63	3.86	1.02	0.91			
R - Reciprocity	R1	0.57	0.49	0.44	0.63	0.62	0.61	0.48	0.55	0.90	4.13	0.89	0.90	0.91	0.94	0.84
	R2	0.50	0.49	0.41	0.57	0.56	0.61	0.47	0.56	0.94	4.12	0.91	0.94			
	R3	0.50	0.53	0.41	0.55	0.56	0.60	0.46	0.49	0.92	4.16	0.93	0.91			

Source: Summarized by the Authors

Table 3 Correlation Coefficient Matrix and Square Roots of the AVE in the Diagonal

	SI	SC	SRT	SMR	GE	IB	EB	RE	R
SI	0.86								
SC	0.65	0.89							
SRT	0.49	0.56	0.93						
SMR	0.61	0.54	0.51	0.92					
GE	0.74	0.67	0.55	0.69	0.82				
IB	0.65	0.59	0.46	0.62	0.71	0.91			
EB	0.46	0.51	0.51	0.48	0.48	0.56	0.88		
RE	0.55	0.48	0.42	0.46	0.62	0.53	0.49	0.94	
R	0.57	0.55	0.46	0.64	0.63	0.66	0.51	0.58	0.92

Source: Summarized by the Authors

5.2 The Structural Model

The relationships and hypotheses between the constructs were examined by formulating structural models by means of SmartPLS. Two critical pieces of information specifying how well the relationships were predicted by the structural model were the standardized coefficients (β), which demonstrated the strength of the relationship between two variables, and the squared multiple correlation (R^2) value for all endogenous variables, which measured the predictive power of the model. The hypothesized model and examining results are summarized in Figure 1.

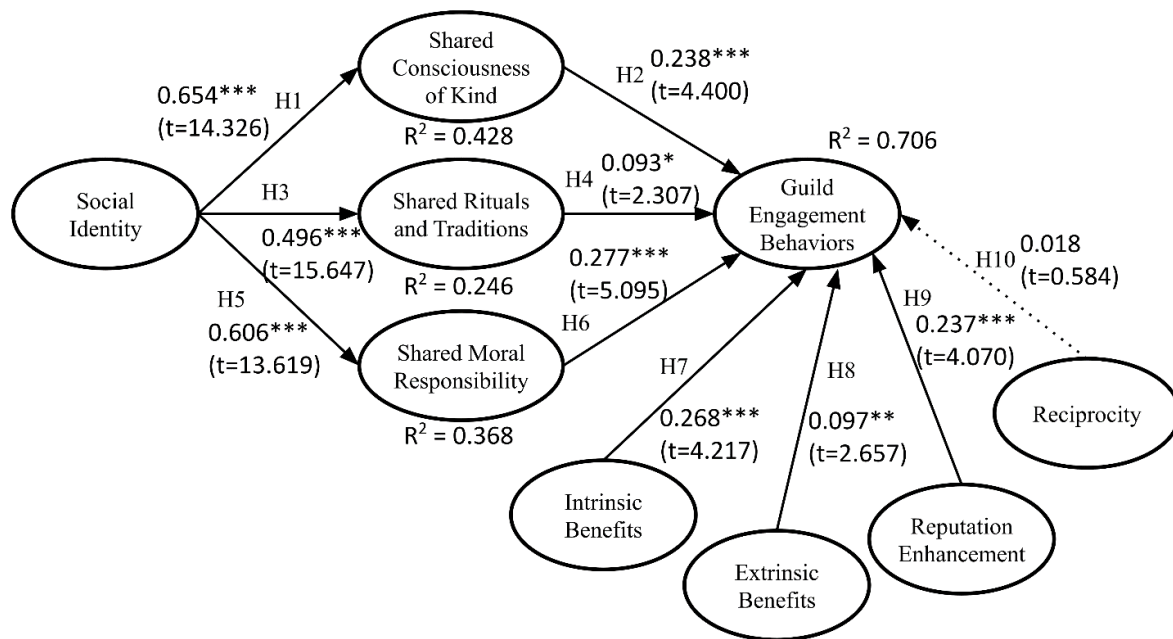


Figure 1 Estimated Model Testing Results

Note: Significant paths are presented in bold lines (* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$).

Source: Summarized by the Authors

The three dimensions of core community commonalities had significant positive effects on guild engagement ($\beta = 0.238$, $p < 0.001$; $\beta = 0.093$, $p < 0.05$; $\beta = 0.277$, $p < 0.001$, respectively), providing support for H2, H4, and H6. Social identity significantly influenced three community commonalities ($\beta = 0.654$, $p < 0.001$; $\beta = 0.496$, $p < 0.001$; $\beta = 0.606$, $p < 0.001$, respectively), indicating that H1, H3, and H5 were validated. Additionally, intrinsic benefits ($\beta = 0.268$, $p < 0.001$, supported H7), extrinsic benefits ($\beta = 0.097$, $p < 0.01$, supported H8), and reputation enhancement ($\beta = 0.237$, $p < 0.001$, supported H9) were proven to be significant, but reciprocity failed to reach statistical significance ($\beta = 0.018$, $t\text{-stat} = 0.584$, H10 was not substantiated). The structural model moderately explained 70% ($R^2 = 0.706$) of the variance in guild engagement behaviors (Sarstedt, Ringle, and Hair 2017).

6. Discussion and Implications

6.1 Theoretical Implications

First, the findings revealed that members' social identity to the guild has a profound impact on three core community commonalities, and three core community commonalities have a significant effect on members' engagement behavior in guilds. The findings give a convincing answer to the research question of whether social identity and social influence fosters individuals' engagement behavior in virtual environments as in real-world communities. The *social identity model of deindividuation effects* (SIDE), which is grounded in social identity theory and self-categorization theory, could help to clarify the conflicting influence of the dissociative features in MMORPG guilds. The SIDE proposes a process of depersonalization; when social cues are lacking between individuals, they cannot gauge how others differ from them, and therefore they are not able to view others or themselves based on personal characteristics, but rather, in terms of interchangeable group members of salient group identity. Once we identify with a certain group, collective influence becomes influential to us, so social identity theory asserts (Guegan, Moliner, and Buisine 2015; Spears 2017; Zhong 2011). This study concurs with the proposition of SIDE and demonstrates that the core community commonalities could be utilized as essential community-based processes of social influence to motivate members' engagement behavior in fictional environments (Laroche et al. 2012; Muniz and O'Guinn 2001). This result also advances our understanding of why players engage in MMORPG guilds in which social identity and self-categorization drive players to cohere to and have shared consciousness of kind with their guilds and other members. With this sense of belonging, their responsibility toward the group and guild conventions inform their engagement behaviors. The *social identity model of deindividuation effects* (SIDE) enhances the effects of social identity and self-categorization on players in MMORPG guilds' fictional environments.

Second, the results show a noteworthy dissimilarity between MMORPG guilds and real-world communities, inasmuch that shared moral responsibility has the strongest correlation with engagement behavior, followed by shared consciousness of kind and shared rituals and traditions. Muniz and O’Guinn (2001) posited that consciousness of kind is the most important factor regarding groups, while face-to-face brand communities exhibit limited moral responsibility (Laroche et al. 2012; Muniz and O’Guinn 2001). Members’ high level of social identity toward guilds may explain this difference and answer the question of why shared moral responsibility is so influential in fictional guilds. According to SIDE, the dissociative features in guilds depersonalize members’ social perception of others and the self, subsequently causing members to focus on guild and lead to high group identity. Based on social identity theory, researchers assert that members with group identification will accept the group’s objectives and make voluntary contributions to the group’s well-being arising out of the feeling that they are expressing personal action, not an obligated reaction to group norms (Algesheimer, Dholakia, and Herrmann 2005; Ray, Kim, and Morris 2014). Shared rituals and traditions are perceived as group norms and regulations to guide and force people to perform target behaviors (Muniz and O’Guinn 2001; Zhao, Detlor, and Connelly 2016). That is, members with high group identification internalize such behavioral norms and view their actions as stemming from responsibilities rather than group pressures. Studies also found that strong group identity reduces normative pressures which cause members to fear losing freedom (Algesheimer, Dholakia, and Herrmann 2005). Our findings provide an illustration of how SIDE works in practice, with the observation that fictional and dissociative environments in MMORPG guilds foster members’ high group identity that drives members to internalize the norms and regulations as responsibilities to the group, and further engage members in contributing and supporting to the group and other members; the driving force of this sense of responsibility in fictional guilds is even more influential than in the real world (Algesheimer, Dholakia, and Herrmann 2005; Muniz and O’Guinn 2001; Ray, Kim, and Morris 2014).

Third, a noteworthy result of our research is that it exposes the fact that social influence has a more powerful effect on players’ engagement behavior than benefit exchanges in a fictional and goal-oriented environment. More specifically, shared responsibility exerts a stronger effect than intrinsic benefits - enjoyment and achievement - consciousness of kind, and reputation enhancement, while monetary rewards have little effect, and reciprocity is insignificant. We followed the previous line of reasoning of SIDE and social identity theory to clarify this finding. Members’ high identification with the guild drives them to form a strong consciousness regarding cohesion and obligation to the guild, and feel that taking part in the engagement behavior of guilds arises out of a sense of their own duty, a feeling that it is what they *should* do rather than out of the expectation of any favorable exchange or reward. Briefly, high group identification turns members’ relationship with the guild into a shared commitment to support the guild’s long-term survival collaboratively; members display engagement behavior (Algesheimer, Dholakia, and Herrmann 2005; Guegan, Moliner, and Buisine 2015; Spears 2017). The study of organizational behavior similarly posits that an individual with high organizational identification perceives reciprocity, a situation which means members *ought* to do benevolent deeds in order to receive others’ help in the future, and equally, behave as they *should* fulfilling their obligation, or responsibility (Cropanzano and Mitchell 2005).

Finally, the significant influence of reputation enhancement and enjoyment on engagement behavior in our findings are consistent with prior research (e.g., Cheung, Chiu, and Lee 2011; Jin et al. 2013; Liu, Cheung, and Lee 2016; Sun, Fang, and Lim 2014; Zheng et al. 2015). Significant reputation enhancement asserts that players in a fictional and dissociative environment still hold the belief that by contributing to the group, both helping and supporting other members can enhance their reputation within in the group. A good reputation in the guild represents the fact that an individual is a well-respected member and would have more beneficial opportunities to gain promotion to a higher rank or be enlisted by a better guild (Zhong 2011). Thus, reputation enhancement acts as an incentive for members’ engagement behavior in guilds. Reputation enhancement and enjoyment clearly indicate that players’ engagement behavior in fictional guilds are still motivated by self-interest, but that they, nonetheless, play for pleasant experiences and enjoyment in a social and regulatory manner, not necessarily a disinhibitory way. Some scholars further claim that reputation as a new concept in the virtual world. Reputation represents an individual’s social status and the respect, ranking, and rating that stem from the esteem of others online. This reputation could be gained, lost, and traded. It is not merely valuable; it is a form of “social currency” (Ardia 2010; Hearn 2010).

6.2 Managerial Implications

Our results reveal guidelines for MMORPG providers, guild leaders, and group managers. **First**, shared moral responsibility is the most influential factor. Therefore, leaders could inform members of group rules and regulations to guide members’ participation and engagement behavior in communities, imbuing them with the values inherent in them (Laroche et al. 2012). They could also foster group identity by creating unique group names and logos, and design crests and insignia for clothes and hats for members to depersonalize personal identity and focus on the group (Billieux et al. 2013; Rossi 2008). Strong group identity will drive members to internalize these rules and regulations so that they become responsibilities, and to gain cohesive consciousness to support the group. **Second**, since reputation enhancement is influential, members’ collaborative behavior and performance in guilds could be recorded as an honor roll, such as NBA player statistics. These records would affect gamers’ ranks and skills and determine

whether they could be a new member or leader in guilds. MMORPG providers could emphasize the importance of the complementary skills of each role in gameplay by designing missions and battles that could only be accomplished by collaborating with different characters to form a collaborative environment and to strengthen the sense of duty of each guild member. **Third**, intrinsic benefits have a significant effect on engagement behavior. Accordingly, MMORPG providers and group leaders should optimize game design, game aesthetics, and guild play to fulfill members' needs for enjoyment and achievement in guilds. Although extrinsic economic benefits and reciprocity show little relation to engagement, this does not indicate that rewards should be ignored. **Fourth**, previous studies have acknowledged that guild cohesion positively induces players' loyalty toward MMORPGs (Badrinarayanan, Sierra, and Martin 2015). Therefore game providers should support and encourage the development of guilds to help players adhere to them to generate game revenue. **Fifth**, other game genres can design group role-playing communities to emulate MMORPG guilds and provide fictional characters for players to create a dissociative environment in which players' social identity can be enhanced. Such communities could form a social atmosphere and social influence to encourage players' engagement behaviors within the group through the effects of SIDE. Gong et al. (2019) conducted a longitudinal online survey that showed that when individuals are immersed in a friendship-playing group, they tend to regulate their own behaviors based on group norms (social influence) rather than their personal standards and values. They verify that social influence in the friendship-playing group positively influence players' desire for online group gaming (Gong et al. 2019). Game developers can utilize the force of players in the group to help other players adhere to both the group and the game. **Sixth**, the role-playing group strategy and the effects of SIDE could also be applied to the growing tendency for virtual work, telecommuting, and virtual teams (Raghuram et al. 2018). Scholars have proposed that the effects of SIDE may improve creativity and performance in virtual work teams (Buisine and Guegan 2019, 2020). Buisine and Guegan (2020) have examined the relationships between avatars and performance and the results of their research show that individuals with creative avatars achieve higher levels of creative performance than those with non-creative avatars in a virtual brainstorming task. At a time when the world is becoming increasingly virtual and digital, such virtual characters and dissociative environments could be an important and complex issue not only in the realm of games but also in business, education, and the real world we inhabit (Buisine and Guegan 2019; Gong et al. 2019).

7. Limitations and Future Research

This study has certain limitations which should be acknowledged. **First**, all the data we used was self-selected via online MMORPG guild forums. Non-probability sampling methods in online surveys may have attracted those who are more interested and engaged in guild playing, but ignored people who did not want to add their voice and did not visit such forums. Therefore, the participants might be players who tend to have high engagement in guilds. **Second**, over 50% of the participants were Chinese college students under 22 years of age. Chinese culture values interpersonal relationships (Guanxi) and honors harmonious relationships and active participation in groups (Jin et al. 2017; Zhong 2011). Chinese gamers may play MMORPGs and join guilds with a different mindset from players in western countries. Besides, college students have more time available in which to play and perceive less economic pressure, a factor which might have introduced bias to our data (Seok and DaCosta 2012). Future research may extend its scope to other regions and make a cross-cultural comparison to see if there is any cultural bias. **Third**, the influence of shared rituals and traditions is not as significant as the other two community commonalities. A longitudinal exploratory survey of shared rituals and traditions in MMORPG guilds should be conducted to verify the reason, and to determine whether members internalize them or whether the fictional environments of guilds limit their development. **Fourth**, almost 80% of our participants had guild histories of less than three years. Our results do not show whether the length of guild history affects the community commonalities and engagement behavior, nor whether it also affects gender, age, or other demographic factors. While Algesheimer, Dholakia, and Herrmann (2005) suggest that consumers' brand knowledge and community size moderate the effect of brand communities on members, future surveys of the moderating effect of guild size, the length of members' guild history and MMORPG knowledge could be worthwhile. **Fifth**, although this study adopted Harman's single-factor test to test whether common method bias was significant or not, the use of a post-hoc statistical testing procedure does not rule out the presence of common method bias and variance. Future research could adopt procedural methods to reduce this potential threat. **Finally**, this study proposes a generic model and focuses on clarifying the effects of social influence on members' engagement behavior in fictional MMORPG guilds and the relationships between these motivations. Future research could involve more unique factors within MMORPG guild environments, such as players' self-identity, group identity, and avatar identity.

8. Conclusion

This article seeks to explain what drives members' engagement behavior in an MMORPG guild, where individuals interact behind fictional masks or personas in a fictional world, through an examination of the effects of social identity, social influence, and extrinsic motivations on guild members' engagement behaviors. Scholars agree that community engagement comprises individual cognitive, emotional, or behavioral dimensions (Brodie et al. 2011; Oh et al. 2017; Wu, Fan, and Zhao 2018). This study adopts the behavioral definition of community engagement

proposed by Algesheimer, Dholakia, and Herrmann (2005) for these behaviors forming an interesting social atmosphere, which is visible and verifiable, in guilds. Therefore, we can verify our argument that individuals in a virtual environment in a state of dissociative anonymity and the absence of social cues are still deeply affected by social influences. Unlike previous studies which have focused mainly on the relationship between community identification and engagement behavior (Algesheimer, Dholakia, and Herrmann 2005; Badrinarayanan, Sierra, and Martin 2015; Guegan, Moliner, and Buisine 2015; Jin et al. 2017), our study proposes that Muniz and O'Guinn's (2001) three core community commonalities represent the group pressure, and that the processes of social influences to encourage and strengthen community members' engagement behaviors to advance the understanding of why players engage in MMORPG guilds; in a fictional and dissociative virtual environment, individuals tend to be eager to categorize themselves within a social identity of the guild to compensate for the absence of social cues and self-identity. Therefore, they are urged to obey the social influences to manifest their social identity, by which players enhance their engagement behaviors in guilds.

This study highlights the research questions of whether social identity and the core community commonalities as essential social influence affect players' engagement behaviors in pursuit of supporting the guild, sharing information, and helping other members in a fictional and dissociative environment, and whether there is difference in the importance of the effects between social influence and individuals' intrinsic and extrinsic motivations regarding engagement behaviors. Our findings concur with the proposition of both the *social identity model of deindividuation effects* (SIDE) and social identity theory. While players play MMORPGs for enjoyment, they are still deeply affected by social groups and social identity. Once they identify with the group, social influence will regain influence, creating new regulations and new orders which will encourage members' engagement behaviors (Guegan, Moliner, and Buisine 2015; Spears 2017; Zhong 2011). This study demonstrates that social identity and social influence in fictional environments could mirror personal behavior that is characterized by a good sense of responsibility and social regulations. Despite a few dissimilarities, the results manifestly reveal that people's social interaction in the online virtual world parallels that in the real world (Yee 2006). Our findings echo the words of Aristotle when he stated, "man is by nature a social animal" -- even in a fictional world.

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Appendix

Table A1 Summary of Prior Studies on Community Engagement Behaviors

Author(s)	Theoretical base(s)	Factor(s) & Antecedent(s)	DV	Research target
Algesheimer, Dholakia, and Herrmann (2005)	Brand Community	Brand relationship quality, brand community identification, community engagement, normative community pressure, reactance	Brand loyalty, membership continuance, recommendation, participation intentions/behavior	Brand communities
Badrinarayanan, Sierra, and Martin (2015)	Social identity theory	Game elements: skill, challenge, telepresence; player characteristics: involvement, embeddedness; identification with MMORPGs, identification with the MMORPG community	Consumption behaviors: purchase, community engagement, co-production, recruitment, WOM	MMORPG guilds
Cheung, Chiu, and Lee (2011)	Social influence theory Social presence theory Uses and gratifications paradigm	Social presence, entertainment value, group norms, social enhancement	We-intention (individual commitment in collectivity)	Online social media sites
Dholakia, Bagozzi, and Pearo (2004)	Social identity theory Social influence theory	Value perceptions as antecedents: purpose value, self-discovery, maintaining interpersonal interconnectivity, social enhancement, entertainment value; social influence variables: group norms, social identity, mutual agreement, mutual accommodation	Participation behavior	Online virtual community
Guegan, Moliner, and Buisine (2015)	Social identity theory Social identity model of deindividuation effects	Group identity, in-group favoritism, in-group identification, out-group identification	In-group valence, out-group valence	MMORPG guilds
Hsiao and Chiou (2012)	Social capital theory Social exchange theory	Social capital in a guild (individual centrality and social interaction ties), perceived community trust, resource accessibility, perceived social norms	Community loyalty	MMOG guilds

Huang, Jasin, and Manchanda (2019)	Hidden Markov model (HMM) Theories of customer engagement and gamer motivation (self-determination theory)	Individual-level behavioral data: round-level game-play behavior and player characteristics	Gamers' current engage state	Online video game
Jin et al. (2013)	Social exchange theory Expectation confirmation theory	Enjoyment in helping others, reciprocity, reputation enhancement, confirmation, knowledge self-efficacy	Continuance intention to answer questions	Online question answering (Q&A) community
Jin et al. (2017)	Social Presence	Interactivity, sociability, social ties, social identity, social presence, user engagement	Intention to purchase	Social interactions in MMORPGs
Liu, Cheung, and Lee (2016)	Social capital theory	Reciprocity, reputation, in-degrees' feedback, out-degrees' post, customer tenure, customer expertise, enjoyment of helping	Customer information sharing behavior	Information sharing social commerce sites
Liu, Santhanam, and Webster (2017)	Self-determination theory	Experiential outcomes and instrumental outcomes of a gamified information system	Meaningful engagement for users	Gamified information systems
Moon et al. (2013)	Psychological ownership theory Social identity theory	Perceived control over character, psychological ownership toward character; perceived interaction between guild members, social identity in the guild	e-loyalty to the MMORPGs	MMORPG guilds
Oh et al. (2017)	The theory of consumer engagement behavior (CEB)	Personal consumer engagement behaviors and interactive consumer engagement behaviors of a new movie on social media	A movie's opening-weekend box-office gross revenue	Online social media sites
Sun, Fang, and Lim (2014)	Goal attainment theory	Perceived benefits: extrinsic benefit, intrinsic benefit; perceived costs: actual cost, opportunity cost; perceived net goal attainment	Knowledge contributors' satisfaction	Information sharing social commerce sites
Wu, Fan, and Zhao (2018)	Theory of community engagement	Consumer engagement as consumers' prosocial contributions to the brand community	Generating post-purchase online reviews and posting positive ratings	Online brand community of an e-commerce

				company
Zhang and Kaufman (2015)	Social capital theory	Communication methods, network level, enjoyment of relationships, quality of guild play	Players' bridging and bonding social capital	Social interactions in MMORPGs
Zhang et al. (2017)	Information processing theory	Players' social connections and interactions in the game	Players' goal attainment and spending in the game	MMORPG and online game
Zheng et al. (2015)	Social exchange theory	Perceived benefits: economic rewards and enjoyment; perceived costs: time and effort	Brand loyalty	Online brand communities
Zhong (2011)	Social capital theory	Collective-play, gaming time, virtual bonding/bridging social capital, offline bonding/bridging social capital	Online/offline civic engagement	MMORPG guilds

Source: Summarized by the Authors

Table A2 Summary of Measures

Construct	Measures
Guild engagement behaviors (Pan, Lu, and Gupta 2014)	<ol style="list-style-type: none">1. I will provide new information about the guild to other members.2. I will actively participate in the guild's activities.3. I will support other members of the guild.4. I will say positive things about the guild to other people.5. I will recommend the guild to anyone who sought their advice about the MMORPG6. I will encourage other people to join the guild in future.7. I will not hesitate to refer other people to our guild.
Social identity (Cornelissen, Haslam, and Balmer 2007; Dholakia et al. 2009)	<ol style="list-style-type: none">1. I perceived myself as part of the guild.2. When I talk about the guild, I talk about "us" rather than "them."3. I am proud to be in the guild.
Shared consciousness of kind (Laroche et al. 2012)	<ol style="list-style-type: none">1. An intrinsic connection is felt among the guild members.2. A general sense of difference exists from members who are NOT in the guild.
Shared rituals and traditions (Laroche et al. 2012)	<ol style="list-style-type: none">1. I recollect vital social traditions or rituals specific to the guild.2. I think these traditions contribute towards a specific culture of the guild.
Shared moral responsibility (Laroche et al. 2012)	<ol style="list-style-type: none">1. The members of the guild assist/advice other members of the same guild in the proper use of the game.2. The guild engages in integrating and retaining members.
Intrinsic benefits (Sun, Fang, and Lim 2014)	<ol style="list-style-type: none">1. Participating in the guild is very interesting.2. The process of participating in the guild is very pleasant.3. Participating in the guild lets me feel a sense of personal achievement.4. The guild gives me a chance to do things I am good at.
Extrinsic benefits (Sun, Fang, and Lim 2014)	<ol style="list-style-type: none">1. I will receive monetary rewards in return for participating in guild's online tasks.2. Participating in guild's online tasks can help me earn money.3. Guild members provide monetary rewards to task solvers.
Reputation enhancement (Jin et al. 2013)	<ol style="list-style-type: none">1. Answering questions has enhanced my status in the guild.2. My reputation in the guild has increased as a result of answering questions.3. Answering questions in the guild has improved other members' recognition of me.
Reciprocity (Jin et al. 2013)	<ol style="list-style-type: none">1. Answering questions in the guild has increased the degree of reciprocity (e.g., get more answers when I am in need).2. Answering questions in the guild makes me get more answers when I ask questions.3. When I answer questions in the guild, I believe that my questions will be answered in future.

Source: Summarized by the Authors

