

# Social Capital in World of Warcraft Guilds: Construction and Evaluation of a Path Model

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## ABSTRACT

The aim of the present study was to find underlying factors of social capital acquisition in online gaming communities (guilds). 391 players of World of Warcraft were asked about their playing habits, their behavior towards fellow players and the bridging and bonding social capital they received by playing. Path analysis revealed five underlying factors of social capital formation in guilds. Our results confirm and enhance previous findings that playing online games is connected with positive social outcomes, when players go beyond the game and engage in game-related social groups: Joining a guild, being involved in its management and participating in offline events fosters communication with fellow players, enhances the willingness for self-disclosure and thereby increases the chances of gathering social capital.

## Categories and Subject Descriptors

D.3.3 [Personal computing]: Games; J.4 [Social and behavioral sciences]: Psychology

## General Terms

Human Factors, Theory

## Keywords

World of Warcraft, bridging and bonding social capital, guilds

## 1.0 INTRODUCTION

Playing computer games has become a popular hobby worldwide. Especially the growing number of complex online-games like Massively Multiplayer Online Roleplaying Games (MMORPGs) has evoked new research questions in recent years. Since online games are not played alone, but together with fellow players, several studies on social consequences and effects of gaming on social networks and obtained social support emerged. Based on existing studies [e.g. 3, 6, 8, 10], our project focusses on social capital acquisition within online gaming communities like guilds and clans. Trying to take research to the next step, we are not looking for overall effects of gaming, but for underlying psychological factors of social capital formation in online gaming. That means taking a closer look at the conditions and

circumstances under which online gaming fosters social capital. Referring to Trepte et al. [8], we constructed a path model with five crucial factors of social capital acquisition and successfully evaluated its effectiveness for a sample of 391 guild players of the game World of Warcraft (WOW).

## 2.0 THEORETICAL BACKGROUND AND MODEL CONSTRUCTION

Our understanding of social capital refers to Putnam [4] and others [e.g. 6, 8, 9, 10] distinguishing two major types of social support: Bridging social capital and bonding social capital. Bridging social capital is based on weak social ties that may provide interesting new insights and perspectives, whereas bonding social capital refers to meaningful social relationships that provide emotional support.

Several of the existing studies found positive effects of gaming on bridging social capital, while the possibility of gaining bonding social capital within online games was discussed controversially [e.g. 3, 6, 8, 10]. However, none of these early and more or less explorative studies aimed at finding supportive factors of social capital acquisition. The first attempt to reveal a more detailed picture of the subject was conducted by Trepte et al. [8]. In their survey study on social capital acquisition in clans of the electronic sports league (ESL) they tested a path model with three underlying psychological factors: social proximity, physical proximity and familiarity. Social proximity can be described as the closeness of social networks. Especially people in central positions of a social network (like group leaders or administrators) are closer to and more accessible for others and therefore have better chances to build up relationships [8]. Trepte et al. [8] measured social proximity by the involvement of players in the administration and management of their clans and found positive connections to both types of social capital. Physical proximity refers to the importance of face to face interactions for social attraction. Trepte et al. [8] found positive effects of participating in offline events of a clan on the formation of bonding social capital, while bridging social capital was negatively influenced by physical proximity. Familiarity refers to the fact, that people with similar attitudes and interests get more easily attracted to each other [8]. The training frequency of clans (as a measurement of similarity) was found to be positively connected to bridging and bonding social capital.

Trepte's et al.'s [8] model served as a basis for the construction of our theoretical model. Besides physical proximity, social proximity and familiarity we added two more factors to the model that should be important for social capital acquisition in online-gaming: communication frequency and self-disclosure. Both constructs already proved to positively influence the formation of friendships and social capital in studies on social network sites and other forms of online communication [e.g. 1, 2, 5, 7]. On the basis of

background knowledge about online gaming communities we argue that frequently playing together (familiarity), participating in offline events (physical proximity) and being involved in administrative tasks (social proximity) foster communication frequency and self-disclosure and thereby enhance the chances of social capital acquisition. These assumptions were taken together in a path model.

### 3.0 METHODS AND RESULTS

We created a questionnaire and implemented it into an online survey system. Social capital was measured with 18 items of Williams' [9] online social capital scale. Items on the frequency of playing together with guild mates, on the participation in offline events and on the involvement in guild management addressed familiarity, physical proximity and social proximity. Additional items focused on the degree of self-disclosure towards fellow players and on the frequency of communication with fellow players. Guild players of the popular MMORPG World of Warcraft were recruited via game forums, Facebook interest groups and gaming web sites. In total, 391 WOW guild players participated in the study.

AMOS software package was used to test the predicted path model. On the basis of established fit criteria (RMSEA, CFI, CMIN/df), the model proved to fit the data well. The results of the path analysis supported all predicted paths. Frequently playing together with guild mates (familiarity), being involved in guild administration (social proximity) and participating in offline events (physical proximity) were significantly positively related to communication frequency ( $\beta$ -values between .09 and .33;  $p < .05$ ) and self-disclosure ( $\beta$ -values between .14 and .35;  $p < .01$ ). Self-disclosure was a significant positive predictor of bridging ( $\beta = .34$ ;  $p < .001$ ) and bonding social capital ( $\beta = .55$ ;  $p < .001$ ). The predicted positive link between communication frequency and bridging social capital was also significant ( $\beta = .25$ ;  $p < .001$ ), as well as the link to bonding social capital ( $\beta = .13$ ;  $p < .001$ ). Additionally, we found significant positive direct connections between physical proximity and bonding social capital ( $\beta = .09$ ;  $p < .05$ ) and between social proximity and both types of social capital ( $\beta = .14$  for bonding social capital and  $\beta = .18$  for bridging social capital;  $p < .01$ ). We used bootstrapping (2000 bootstrap samples; bias-correlated confidence level of 90%) to test the predicted indirect effects of social proximity, physical proximity and familiarity via self-disclosure and communication frequency on bridging and bonding social capital. The indirect links were significant for bridging social capital ( $\beta$ -values between .08 and .17;  $p < .001$ ) and bonding social capital ( $\beta$ -values between .10 and .22;  $p < .001$ ).

### 4.0 CONCLUSION

The results of our study confirm the importance of taking underlying factors into consideration when asking for effects of online game usage. Playing games like World of Warcraft is not a one dimensional activity, but could evoke many different ways of in-game and out-of-game behavior and thereby result in different effects. The calculated path model shows, that frequently playing together with fellow players, participating in offline events of a guild and being involved in guild administration are significantly linked to communication frequency and self-disclosure towards fellow players. Self-disclosure and communication frequency in their turns are significant predictors of bridging and bonding social capital. With these results our study confirms Trepte's et al.'s [8]

findings that physical proximity, social proximity and familiarity are important factors of social capital formation in online gaming communities. Additionally, the revealed indirect paths via communication frequency and self-disclosure clarify the functioning of these underlying factors: frequently playing together with clan / guild mates, participating in offline activities and being involved in clan / guild administration lead to social capital acquisition since they cause more communication with fellow players and evoke more self-disclosure towards fellow players. Even though the model by Trepte et al. [8] was originally designed for ESL clans and mainly action/shooter games, its basic factors also proved to be relevant within WOW guilds and might also be crucial for other types of games. Additionally, our results emphasize the usefulness of social-psychological knowledge and theories for the understanding of media effects.

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