Virtual Faces in Virtual Spaces: Generating Social Capital in an online World

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ABSTRACT

VIRTUAL FACES IN VIRTUAL SPACES: GENERATING SOCIAL CAPITAL IN AN ONLINE WORLD

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Northern Illinois University, 2020
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This thesis examines how online virtual reality games can generate social capital in the social video game VRChat. Past research explores the generation of social capital from social media and video games. These platforms generate social capital through different processes. These differences are due to the technological differences and divergent purposes of the platforms. VRChat bridges the computer-mediated-communication platforms as a social video game. This thesis examines how VRChat as an online virtual reality generates bridging and bonding online social capital by combining elements of the two platforms.

Results from 21 in-depth interviews showed that players of VRChat generated both bridging and bonding social capital, with an emphasis on bridging social capital. Bridging social capital was generated due to the game’s focus of having players meet strangers with the purpose of chatting and connecting. This resulted in players meeting people from different place and developing relationships with them. Bonding social capital was developed as players expressed being able to find comfort, connect, and find emotional support amongst strangers. This is due to the game’s ability to develop relationships online and, surprisingly, the player’s anonymity online giving opportunity for them to express themselves more freely. These findings contribute
to the body of research on the generation of social capital by connecting two separate computer-mediated-communication platforms and expanding the knowledge of potential ways virtual reality as a computer-mediated-communication technology may generate social capital. Future research should expand the sample and look into the player’s real-world backgrounds, confirming the diversity of players in-game. Additionally, it should make further connections to the complex relationship individual’s real-world identity connects with their in-game identity and the relationships developed as a result. Lastly, future research should also investigate the depth of the relationships developed online and the variety of online platforms players connect on.
I am grateful to all those who had contributed their time and expertise to my project. I would first like to thank Dr. Kerry Ferris for serving as my Chair and providing immense guidance and support throughout the entire thesis process. I would also like to thank Dr. Simón Weffer and Dr. Shane Sharp for serving on my committee and giving me valuable advice and insight on my work. Lastly, I would like to thank my family and friends who had given me moral and emotional support since the very beginning.
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INTRODUCTION

Researchers have debated the social value of internet engagement for a while. Putnam argues that technology distracts from our ability to make real-world connections. He explains that one’s connections and social networks provide resources to individuals and society, also known as social capital. More time spent online would decrease time spent making real-world connections. However, research has attempted to examine the potential social capital that can be developed electronically.

Social media provides a strong case of people being able to connect with others. Users of Facebook often generate social capital when searching for old friends and trying to make new ones (Ellison et al 2007:2011; Vitak 2014; Binder & Sutcliffe 2014). Similarly, video games offer potential for people to generate social capital (Steinkuehler & Williams 2006; Trepte et al 2012; Molyneux 2015; Lee 2019)

The purpose of this research is to expand on the literature of computer-mediated-communication and its generation of social capital. Specifically, I will be looking at one of the new technological advancements and its usage in socializing, virtual reality. The social game VRChat, utilizes VR technology and allows users to enter a virtual world and meet strangers, similar to video games, but has an emphasis on hanging out with friends and meeting new people, similar to social media.
This new technology aims to recreate our real-world interactions, more so than other current forms of computer-mediated-communication. Results from this research can provide further insight and understandings about how different computer-mediated-communications can generate social capital.
In 1986, Pierre Bourdieu wrote in depth about the idea of social capital. In his writings in *The Forms of Capital* he defines Social Capital as “the aggregate of the actual or potential resources which are linked to possession of a durable network of more or less institutionalized relationships of mutual acquaintance and recognition” (Bourdieu 1986:51). Social Capital is a deliberate investment focused on individuals gaining resources from others due to their relationships.

Mark Granovetter (1983) expands on this idea, by engaging the concept of strength of ties. He makes a distinction of ties, noting that people are less involved and engaged with acquaintances than they are with close friends. This distinction is based on the strength of the ties and the density of the network that the tie lies in. (Granovetter 1983). Weak ties however provided opportunity to expand their network providing more opportunity to access new information. This expanded the idea of social capital by suggesting that it may exist in different forms and may possess different benefits.

James Coleman (1988) would further expand this idea of Social Capital, noting that, in addition to serving self-interests, social capital can serve society. This is possible when networks of like-minded individuals work together towards a unified goal, particularly within social structures. Coleman identifies three ways social capital provides benefits and resources to the
individual and society. First are benefits based on obligations, expectations, and trust. Levels of trust indicate the extent to which other members of a group are willing to help out, believing their actions will be reciprocated in the future. Second are information channels. Social networks provide access to information, with more information, actions can be done better. Third is a benefit of norms and effective sanctions. Norms create expectations which will build trust amongst members and sanctions enforce the expectations. (Coleman 1988)

Robert Putnam expands the discussion of social capital. In his book, *Bowling Alone* Putnam writes in depth about the state of social capital in America during the late 90s. Putnam describes social capital as “connections among individuals—social networks and the norms of reciprocity and trustworthiness that arise from them.” (Putnam 2000). Increased social capital means increased reciprocity and trust in society, which would improve the lives of people by making them happier, safer, and more productive, which would in turn benefit society.

He expands on this, noting that social capital can come in various forms. He points out two distinctly important types of social capital: Bridging and Bonding. “Bonding social capital is good for undergirding specific reciprocity and mobilizing solidarity…Bridging networks, by contrast, are better for linkage to external assets and for information diffusion.” (Putnam 2000). These two types of social capital serve different purposes but are both integral. Bonding Social Capital is Social Capital generated from activities that bring members of a group closer together. It produces in-group loyalty, which provides more benefits in the form of specific reciprocity and solidarity, where people are willing to do extra work or feel more comfortable providing extra help or services due to the levels of trust that have been built up. Bridging provides out-group empathy. This form of Social Capital is generated from activities that allow an individual to
connect with new people from separate groups. It provides benefits in external supports and
information, where one has a number of different sources for different kinds of help and
information then from one’s own group. For Putnam, Bonding Social Capital is a sociological
superglue, and Bridging Social Capital is a sociological WD-40 (Putnam 2000).

The creation of this social capital is through a process of individuals seeking own benefit.
An individual seeking their own benefit will create relationships and connections with others that
would properly benefit themselves. In doing so, they begin to create a network. In the case of
everyone seeking out others for benefit, they create the “well-connected individual in a well-
connected society” (2000) that Putnam believes would benefit everyone. For the purpose of this
study, social capital will be understood through the concepts from Putnam, with social capital
being viewed as either bridging or bonding. These forms serve different purposes, but both are
integral in creating a society of trust and reciprocity.

SOCIAL CAPITAL AND THE NET

Following this, Putnam makes note that there are various things that have harmed the
capacity for Americans to build this high social capital, well-connected society. While he
criticizes other types of technology, like the television and the telephone, Putnam also expresses
concern over the internet. “I conclude that the Internet will not automatically offset the decline in
more conventional forms of social capital, but that it has that potential. In fact, it is hard to
imagine solving our contemporary civic dilemmas without computer-mediated communication.”
(Putnam 2000). For Putnam, the internet, as a source of social capital, faces four particular
concerns. First was concern of a digital divide. Not everyone may have connection to the
internet, resulting in a divide in our society. Second was the concern of “cyberbalkanization”. This concern was that online communities would become too homogenous. Online communities allow people to meet up with others who have similar interests or hobbies. However, this may result in isolating or “filtering” out people with opposing values, thus separating our society. Third was a concern of passivity. He specifically criticizes the TV for being a passive entertainment. Rather than an entertainment that engages people with others, the television is a private and passive form of entertainment where individuals would not seek out the creation of social relationships. In this sense, Putnam expresses concern that the internet would do the same. Lastly, would be the concern of lacking in non-verbal communication, which is only available in face-to-face interaction.

Putnam expresses his concern about non-verbal communication saying, “face-to-face encounters provide a depth and speed of feedback that is impossible in computer-mediated communication.” (Putnam 2000). Face-to-face communication has a multitude of non-verbal cues that are important to our communication and relationship building (Goffman 1962). At the time Putnam was writing, computer-mediated-communication’s limited communication scope did not allow for much in the way of non-verbal communication, which might result in less material for relationship building. Computer-mediated-communication that is purely text based, without non-verbal cues, is depersonalized. This makes building trust and goodwill difficult through computer-mediated-communication. Putnam further notes that anonymity online can further inhibit social capital creation. Where relationships are easier to make, they are easier to let go in what he called “drive-by-relationships” (Putnam 2000).
All these together bring about Putnam’s concerns about the internet and computer-mediated-communication in particular. However, these concerns are empirical in nature, and thus can be researched and analyzed. Despite this, Putnam did not investigate these claims empirically. Additionally, these concerns are from two decades ago. This study aims to test these concerns empirically. The technologies and current virtual world are far different from what was there 20 years ago, which provide further value in researching this topic. I used modern communication technology to subject Putnam’s concerns to an empirical test.

Researchers looking at social interaction and its relationship with the internet contested the ability for online activity being able to develop any kind of social value. Robert Kraut and his team investigated the impact of internet usage from a psychological standpoint (2002) They provided a number of families computers and access to the internet and studied the results of their increased net access and usage. They found that there were negative effects of social involvement, despite the internet offering opportunities for communication. These negative effects included loneliness, depressive symptoms, and daily-life stress (Kraut et al 2002). In a follow up study however, they found that the negative effects had dissipated, and that social engagement and positive self-imaging improved. (Kraut et al 2002). They suggested that the reasoning for negative social and psychological effects were due to inexperience with the online technology and further suggest that the internet itself does not necessarily cause positive or negative outcomes. These findings required further research.

Norman Nie’s and D. Sunshine Hillygus’s 2002 study looked at the impact that internet usage could have on one’s sociability. They argue that the social value of online activity does not equate the social value of face-to-face interaction. Utilizing time-diaries, they found that as
people spend time online, they spend less time engaging in face-to-face interaction with friends and family. They explain that “time online fundamentally competes with, rather than complements, face-to-face social time” (Nie & Hillygus 2002). Online engagement does not appear to have the capacity to complement social engagement and *detracts* from sociability (Nie & Hillygus 2002).

Jeffrey Boase and Barry Wellman directly comment on Nie’s findings, however. They note a concern of Nie’s sample, explaining that participants were new users of a Microsoft Web-TV box, which was more focused on media viewing as opposed to online communication from a computer. Boase and Wellman note that the development of social capital from internet usage is largely based on the goal. They continue to explain that, given the goal of communicating and connecting with estranged or distant relationships, the internet can offer computer-mediated-communication which can be an extra proxy that *mediates* our real-world relationships. Wellman suggests a theory of “networked individualism” that notes three important characteristics of contemporary relationships: they are both local and long distance; personal networks are sparsely knit but include densely knit groups; relationships are more easily formed and abandoned (Boase and Wellman 2004). Given the characteristics of contemporary relationships and the goal of trying to connect with these relationships, the internet offers a way of maintaining the relationships as opposed to adding to the volume of it (Boase and Wellman 2004).

This idea is expanded by Dmitri Williams. Williams notes the importance of examining internet engagement differently than one would examine other media. When the goal of computer-mediated-communication is developing old relationships or creating new ones online, Williams argues that computer-mediated-communication generates online social capital, a
unique type of social capital and that should be considered in addition to the real-world social capital. Williams developed the “Internet Social Capital Scale” (ISCS), a matrix measure of bridging vs bonding social capital and online vs offline social capital (Williams 2006). The purpose of this was to create a valid measure of outcomes of online networked relationships. These outcomes were comparable to outcomes of real-world social capital, as originally described by Putnam. Bridging based relationships would have outcomes such as: individuals having met different kinds of people, learning new things, or engaging in helping activities without immediate gain. Bonding based relationships would have outcomes such as: stronger emotional support, the provision of resources, and out-group antagonism. In applying the ISCS, he found that the scale was both valid and reliable. He applied the ISCS on a sample of 884 volunteers, who were solicited from message boards across a variety of activities such as games or pregnancy support groups. He notes that online social capital outcomes were similar in nearly all categories except for out-group antagonism, suggesting that the ease at which individuals could come and go from an online group makes it difficult for such an outcome to occur. Williams then provides suggestions for application of the ISCS in settings such as email, chat rooms, and game play (Williams 2006).

An important distinction must be made when looking at internet engagement and the development of social capital. The goal of the online activity matters. Using the internet for passive entertainment will not generate social capital. Using the internet to communicate and connect with others does. With computer-mediated-communication, one of at least the following two distinct goals that are required, the development of existing relationships and the development of relationships with new people. Where Nie’s and Hillygus’s research fell short
was in its inability to consider the actual goal of the participant’s online usage, as the goal of the Microsoft Web-TVs was passive entertainment and not the development of relationships. This matches Putnam’s concerns about internet engagement leading being passive and decreasing social capital. Boase and Wellman’s research looks at computer-mediated-communication with the goal of connecting with already made relationships, the outcome being that the relationships can be maintained. William’s research expands on this looking into computer-mediated-communication that had various activities, all with goals of meeting new people or connecting with pre-existing relationships, and had outcomes explicitly mimicking real-world social capital outcomes. The outcomes of computer-mediated-communication challenge the expectations of Putnam. In this study, Social Capital will be measured in a manner similar to Williams, noting the production of bridging and bonding social capital and measuring it via outcomes based on Putnam’s outcomes of social capital.

**SOCIAL CAPITAL AND SOCIAL MEDIA**

Social media as a computer-mediated-communication platform generates social capital. It generates social capital through the way that information is streamlined to people seeking it. Research from Shima Sum, Mark Mathews, Mohsen Pourghasem, and Ian Hughes further supports this idea. A study they conducted looked at the influence of internet technology and the effect it has on senior citizens. They conducted a survey of 222 senior citizens inquiring about internet usage for various purposes such as information, entertainment, commerce, and communication (Sum et al 2008). They found that based on one’s knowledge of internet usage and the purpose behind one’s usage provides a variety of results for social capital. Using the
internet for the purpose of communicating or maintaining contact with known people resulted in increased social capital. Using the internet to communicate with strangers predicted participation in the community and thus, higher social capital. Usage for entertainment resulted in negative social capital and usage for the purpose of information resulted in higher social capital. (Sum et al 2008). They reasoned that this was the case due to the new ways that people can transfer information.

People now meet one another online, maintain diverse social relationships, and create another form of community called the online community… people not only create new relationships online, but they also import preexisting relationships into the online area. Such relationships encourage the exchange of information and create reciprocal trust among members. While seniors are located in social networks, they find a certain position in this structure, which assists interaction among people and may produce social capital (Sum et al 2008).

In further investigating the various uses of the internet, we can further note the importance of the activity that the computer-mediated-communication is doing. For the purpose of pure entertainment, we can see that Putnam’s concerns about the internet harming social capital being supported. However, in using it to connect with others, for both maintaining old relationships and making new relationships, there appears to positive outcomes increasing Online and Real-World social capital.

Nicole Ellison, Charles Steinfield, and Cliff Lampe examined the relationship of Facebook and Social capital. (Ellison et al 2007). They examined the various outcomes in a manner similar to Williams, measuring Bridging and Bonding, in universities. They added an additional form of social capital – maintaining. Maintaining Social Capital has the explicit focus on individuals using Facebook as a means to stay connected to old relationships. They found a strong association with Facebook usage and social capital, particularly with Bridging Social
Capital. They note that internet usage alone did not predict social capital, but intensive Facebook did. (Ellison et al 2007). They expanded on this in their 2011 study looking more specifically at the activities/goals Facebook users had when using Facebook. They note three different types of activities that users of Facebook had, connecting with strangers, connecting with close friends, and social information seeking. Social information seeking is activity that focuses on developing the relationship the user has with people whom the user has some offline connection (Ellison et al 2011). This includes trying to learn about someone they had met once, such as people in in their class, or people in their neighborhood. They found that users engaging in information seeking on Facebook generated social capital whereas meeting new people and maintaining relationships with close friends did not. They outline this importance noting that usage of a computer-mediated-communication should look into the purpose of the usage.

Our findings suggest that communication practices on the site impact social capital outcomes and underscore the importance of examining not just whether individuals use a particular site, but what they do with it and, as our findings regarding different ‘connection strategies’ and their relationship to social capital suggest, who they do it with (Ellison et al 2011)

They suggest that the reasoning for the development of these relationships is due to the way that users on Facebook provide identity information. Facebook makes this identity information public and open on a user’s profile page. This information may then be a catalyst for offline interaction and further development of a relationship with users who were seeking this information (Ellison et al 2011)

Expanding on this, Jessica Vitak looked into the provision of resources available from information and communication technologies (ICTs), Facebook in particular. She was examining perceived access to various resources, such as emotional or social support from ICTs. She
conducted an online survey of 3000 non-faculty staff from a university looking at their Facebook use. Findings suggested that those with less connected networks gained more benefits from active usage than those with more connected networks. These benefits included access to social, emotional, or instrumental resources (Vitak 2014). She expands on Ellison’s ideas, suggesting that the technical properties of ICTs, being the visibility of personal content and providing an easier platform for interaction, may be the cause for the increased access to these resources.

Jens Binder and Alistair Sutcliffe did another study on social networking sites (SNS) in general and wanted to see the effects of using multiple SNS usage (Binder & Sutcliffe 2014). Furthermore, they wanted to look at social capital in the context of migration. For immigrants, computer-mediated-communication offers ways for people to maintain connected with friends and family back home and managing their new social environment. Social capital in this context, is more focused on connecting individuals with other family and people who are from similar ethnic/regional backgrounds. They found that the usage of multiple SNS helps people maintain their relationships and broaden their social networks, connecting them with other folk with similar backgrounds. (Binder & Sutcliffe 2014).

We can see that computer-mediated-communication, given the right goal or purpose, can generate social capital. This can be done by maintaining distant relationships as Wellman theorized. Ellison notes however, that interacting and chatting with others on social media can generate social capital across the board of bridging, bonding, and maintaining. Social media studies have found it particularly effective and developing and maintaining pre-existing relationships. Vitak explains that this is due to the way that social media makes one’s identity
clear and easily found by others, while also providing easy ways to communicate with them. These studies provide ample evidence of social media sites producing social capital.

VRChat has strong similarities to social media as it is a platform that permits people to meet others, develop relationships and hangout. Additionally, VRChat players can bring their real-world relationships into VRChat and further develop it. Thus, looking at VRChat through the lens of past social media research may provide support for the idea that VR based computer-mediated-communication generates social capital and how it does this.

SOCIAL CAPITAL AND VIDEO GAMES

Video games are a computer-mediated-communication platform that can generate social capital. Similar to social media, video games can be used as a medium for people to interact and connect with pre-existing relationships. Unlike social media, video games have players inhabiting an avatar as opposed to their real body, a virtual world setting with distinct objectives, different ways to interact, and presents an opportunity to connect with strangers, purely online.

Research conducted by Yu-Hao Lee looked at the impact that video game usage had on older adults and their generation of social capital. (Lee 2019) Specifically, they examined the impact of playing alone, playing with local ties, playing with distant ties, and playing with online friends had on their generated social capital. In a survey of 1101 older adults, they found that playing with local and distant ties was associated with bridging and bonding social capital and civic engagement. Play with local and distant ties match the results of Shima Sum’s research looking at social media usage, where people communicating with known individuals generated social capital. (Sum et al 2008) However, the studies begin to differ when looking at playing
Online game play was only associated with bridging social capital and political participation. They suggest that older adults who played with online friends have traits more open to interacting with other people. Here we can see that players who explicitly played online had different outcomes.

This highlights notable differences between video games and social media that must be considered. First of all, where social media has users create profiles, making their identity publicly available for information seeking users, video games mask the user behind avatars. Secondly, social media is still grounded culturally in the real-world. Video games have virtual space and a virtual world, each video game has its own set of objectives for players and interaction in this space is different from social media which is largely based on text, voice, and video. Lastly, social media largely focuses the development of pre-existing relationships, videogames have a larger emphasis in meeting and interacting with strangers. Multiplayer games, unlike social media, have players interact and unite with a virtual objective as opposed to just meeting. This suggests that these newly formed relationships in-game or online generate online social capital which is distinctly separate from real-world social capital and may not necessarily cross over.

In looking at anonymity and avatar, research from David Dietrich further details this concern. Dietrich conducted an analysis of racial representation available to players in Multiplayer Online Role-Playing Games (MMORPGs). MMORPGs are games where players create a player avatar and go on quests within a created virtual world. Dietrich documents “how many online games restrict or disallow the creation of avatars with a non-white racial appearance” (Dietrich 2013). He looked at three factors: skin color, hair color/style, and facial
features. In his study, he found that, of 65 games, 26 games did not have skin color options, using a default “white” skin color, 42 of them had no options for “African” hairstyle options, and 22 of them had only white faced options. Expanding on avatar concerns, Zek Cypress Valkyrie (2012) conducted a similar study looking at gender in MMOs. Looking at the ways that female characters are depicted, she notes that in MMORPGs, female characters and avatars are given a similar experience with female character models possessing idealistic body characteristics.

VRChat however does not necessarily have these issues. Where other games have limited customization, generally making a white male to be the default option, VRChat allows players to upload their own custom-made avatar into the servers, allowing nearly limitless options for avatar choice. Avatars can be made from other software or pulled from other sources, like other video games. Players can mask their race and gender more in this game than in others.

In addition to this, avatars create anonymity which becomes a key concern for video games. With social media, it is suggested that the availability of one’s identity is key to the development of social capital. The availability and ease of access makes developing pre-existing relationships easier (Ellison 2011; Vitak 2014). Anonymity would mask this and make meetings with other strangers largely anonymous.

Katelyn Mckenna, Amie Green, and Marci Gleason argue that anonymity actually promotes a user’s ability to connect with others. They hypothesized that people who can better disclose their ‘true’ or inner self to others on the Internet than in face-to-face settings will be more likely to form close relationships on-line and will tend to bring those virtual relationships into their ‘real’ lives. (McKenna et al 2002).

This hypothesis was supported as participants reported that a majority of these relationships remained intact two years after. An additional study that they did found that “undergraduates
liked each other more following an anonymous online initial meeting compared to a face-to-face initial meeting.” (McKenna et al 2002). These studies suggest that anonymity online can promote the development of relationships and that these relationships transferred over from online social capital into real-world social capital.

The second consideration separating videogames from social media is that video games have virtual worlds that permit interaction beyond text, voice, and video. This results in unique interaction existing only in the video game world. A study from Talmadge Wright, Eric Boria, and Paul Breidenbach discusses this concept. While studying player actions in First Person Shooter (FPS) video games, they argue that “participants can both reproduce and challenge everyday rules of social interaction while also generating interesting and creative innovations in verbal dialogue and non-verbal expressions.” (Wright et al 2002) Given the limitations of the game and the possible actions, players must find ways to express themselves. This is important to consider as interaction on social media is largely limited to text, voice, or video calls. This results in easier and simpler interactions. Video games however vary in levels of interactivity based on its technological level.

VRChat is one of the more advanced games currently released in this regard. VRChat utilizes virtual reality technology, allowing players to quite literally “wear” their avatar. Hand motions are mapped to match the VR set’s hand controllers. Furthermore, players can purchase extra sensors, allowing for full body motion tracking. This allows VR set users to interact and express themselves in a way more similar to the real-world actions. However, players who do not own a VR headset play via their desktop. These users have more limited options for interactions and may create unique ways to interact.
In addition to interactions, video games have virtual worlds. This is unlike social media, where interactions take place on a website or chat box. Constance Steinkuehler and Dmitri Williams did research looking into Massively MMORPGs. They were looking into MMOs as virtual version of a “Third Place”, a location for informal sociability and possible location for the building of social capital. (Steinkuehler et al 2006). Third Places were physical spaces for people to meet up with others informally and socialize. Ray Oldenburg originally outlined eight characteristics of Third Places.

The first characteristic is “Neutral Ground”, suggesting that Third Places are locations where individuals are free to come and go with little obligation to others. Second is “Leveler”, where the individual’s rank or status in society do not matter. Third is “Conversation as a Main Activity”, which, is when talking is a primary goal. Fourth is “Accessibility and Accommodation”, suggesting that the Third Place must be easy to access. Fifth is having regulars who frequent the location. Sixth is “low profile”, where the Third Place possesses a low profile that lacks pretension. Seventh is a playful mood, where the mood is playful and full of word play and wit. Lastly, is being a “home away from home”, suggesting they are homely in regard to a number of additional terms like feeling at ease and warmth. (Oldenburg 1999).

Steinkuehler and Williams argued that MMOs are structurally similar to Third Place. They produced a thick description consisting of recorded observations, collections of player communications, unofficial discussion boards, and fan created content. (Steinkuehler et al 2006). They conclude suggesting that MMOs are capable of serving this function as Third Places and, in particular, were good at forming Bridging Social Capital.
This idea of MMOs as third places could be expanded upon and looked into with other video games. Arguably, this cannot be applied to social media. I will apply this idea of Virtual Third Places to VRChat, looking to see if the virtual space in VRChat matches the structure of Third Places and if players express this.

Lastly, are concerns about video games only produces online relationships that only in-game or online. If players only engage in-game, the social capital benefits could only be applied online or in-game. The benefits and resources offered in these online relationships would not transfer into real-world social capital, making its value questionable.

Sabine Trepte, Leonard Reinecke, and Keno Juechems discuss players who play together for sport. In their study, they look at e-sports clans, players who come together to play games competitively. They note “players may get in touch personally but are not obliged to” (Trepte et al 2012). They examine the influence that a players’ physical and social proximity and mutual familiarity influence bridging and bonding social capital. They suggest that “physical proximity, social proximity, and familiarity – either directly or indirectly determine the formation of offline social support through gaming in e-sports clans.” Trepte et al 2012). Players can transfer these online relationships into real-world relationships, generating real-world social capital as a result. As players get more involved with each other, any of the three mentioned elements could increase, which will increase the likelihood of players transferring their relationships offline.

Logan Molyneux, Krishnan Vasudevan, and Homero Gil de Zúñiga expand in this discussion looking explicitly at online multiplayer gaming. They further explain the considerations of video games being separate from social media.

Multiplayer video games are different in at least one key way. Players in these games go beyond social interaction to participate in shared tasks and objectives within the virtual
world where they meet. Social media may be considered a third space where people can meet and interact, but they do not provide the same kind of alternate world that is the setting of many video games. Within these worlds players become part of social hierarchies that frequently collaborate to accomplish game objectives (Molyneux et al 2015).

In this sense, video games are more attuned for players creating and exhibiting prosocial behavior in game. Players work together to accomplish goals. However, these relationships are built online. Thus, concerns about these relationships and the beneficial resources existing only online become apparent. Molyneux et al argue however that there is a “spillover” effect. Attitudes and behaviors developed online can spill over one’s real-world behavior. Using a 2014 survey, they found that players engaged in multiplayer video games resulted in the formation of social ties within a community of gamers, which they referred to as gaming social capital. The development of this gaming social capital was associated with individuals developing real-world ties with others in their community, thus supporting the idea of a spillover (Molyneux et al 2015). Players learned and developed positive social behaviors, which are then applied to real-world communities.

The past studies highlight how video games are able to create social capital. Similar to social media, it can provide opportunities for players to develop pre-existing relationships. Unlike social media however, video games mask identity from other players, possess more engaged forms of interaction, and relationships are made online first. Research shows that despite this, anonymity may promote people expressing a true self, which results in relationships developed online going into the real-world. Additionally, relationships developed online may be transferred into the real-world as the relationship develops. Furthermore, behavior learned online may spillover into one’s real-world social behavior. VRChat possesses attributes similar to video
games, thus looking at VRChat through the lens of past video game research may provide further support for VR based computer-mediated-communication to generate social capital and the process that this occurs.

**SUMMARY**

To summarize, this chapter looks into the development of social capital and how it applies to social media and video games. A short history of how social capital was originally developed and how it was applied to activity on the internet starting was shown, from Bourdieu (1986) and until Putnam (2000). Contemporary literature on social media and video games provide evidence for their ability to generate social capital (Ellison et al 2007;2011, Vitak 2014; Steinkuehler & Williams 2006; Molyneux 2015) These studies shed light on the ways that VRChat may provide social capital. VRChat possesses similar aspects to both social media and video games. To social media, VRChat has similar goals and activities, being a platform for people to interact with friends easily. Similar to video games however, it provides in depth interaction with strangers in a virtual space and anonymity. As a result, VRChat can provide distinctive explanations for how computer-mediated-communications could develop social capital.
METHODS

The important core features that I wanted to look at are the ways in which social video games can generate social capital. In order to do this, I conducted an interview study on the video game “VRChat”. VRChat is a free social game that can be played in virtual reality. The concept of the game is to select a virtual avatar and meet people in a variety of virtual worlds. This game is similar to Second Life in concept but is very different in actual engagement.

The first difference between Second Life and VRChat is the actual technological mechanics of the respective games. Second Life has been running since 2003 and the technology and assets are aging. Visually, the graphics are outdated. Furthermore, Second Life is played from a third person perspective. The players control their avatar using keys on the keyboard and talk via text or voice chat. They view their avatars from behind a screen and in this sense are somewhat disconnected by the technology. VRChat has more modern graphics. Additionally, it is played in a first-person perspective and, through VR technologies, the avatar can be mapped completely to the player in the physical world. Hand gestures, leg movement, mouth and voice syncing, and even eye blinks are electronically mapped, resulting in a far more immersive experience and interaction. Where Second Life players simply control their characters through a screen and keyboard, VRChat players literally wear their avatars, mapping their movement and voice. Certain non-verbal interactions become a possibility in this sphere (see Screenshots 1 and 2).
Screenshot 1: Second Life user interface (Credit: Youtube Strawberry Singh)

Screenshot 2: VRChat user with in-game visuals (Credit: Youtube Cas and Chary VR)
Furthermore, Second Life actually has additional components other than just socializing. Second Life has its own virtual currency and the platform itself can be used to make real money. This is a real additional feature of the game. VRChat does not have any features like that. Lastly, there are implications of Second Life as being a “second” life. Certain features include the way that players can create different realistic virtual assets, such as houses, clothes, furniture, vehicles, character animations, and unique character models. Whether or not this actually results in players viewing their online avatars as being separate from them is arguable, but VRChat does not have this feature, and is again solely for people to socialize more akin to social media.

Prior research heavily relied on surveys as their methodology. Surveys offer easier recruitment and data collection. In-depth interviews however offer far richer data. Surveys are static in their questions and responses, only permitting very specific responses to questions. Interviews allow for dynamic questioning, where interviewees can respond to a question as openly as they wish. This in turn, provides me the chance to expand on their experiences and understandings with follow-up questions. Given the way that the virtual site of VRChat presents itself, interviews within the space itself are possible. The purpose of VRChat initially was to communicate with others in the first place. Interactions additionally are realistic, with the mapping of non-verbal gestures being a possible in virtual reality. This makes communication in this virtual space more relatable to face-to-face communication and similarly understood.

In the book “Approaches to Researching Video Game Play”, Samuel Coavoux discusses the choice of methodologies in virtual world research. He suggests a mix of methods. He presents the way in which one of his studies had to evolve multiple times, using ethnography, in-depth interviewing, and statistics. One of the biggest factors in changing his method choice
was the ever changing research question. He writes “Qualitative methods are useful when it comes to the interpretation of those results” (Lukács et al 2010) citing a time where he used interviews to expand on the various things that impacted players. Similar to this, I used interviews to further expand on the information provided by the various prior survey research. Where they were largely focused on only on what generated social capital. I expanded on it by not only looking at the what, but also how social capital is generated. This makes interviews with these players an excellent method for finding data on my research question about how social capital is generated.

Additionally, on site interviews allowed a better introduction and understanding to their presentation of self with their virtual avatars. The visuals of their character and their actions, with the addition of their responses to the interview questions provided extra data for analysis about how they generated social capital and how it worked in this virtual space.

Ethics in this virtual world does not step too far away from ethics in a physical world site. The virtual ethnographic handbook, *Ethnography and Virtual Worlds* by Tom Boellstorff, Bonnie Nardi, Celia Pearce, and T.L. Taylor highlight a number of direct principles and ideas about conducting virtual research ethically.

…we approach them with the guiding principle of care. Care is a core value to be internalized and acted on through the vigilance and commitment of the researcher. Any sets of research ethics guidelines and dicta will be ineffective if researchers do not have embedded into their practice strong values establishing ethical behavior built on the principle of care. (Boellstorff et al 2012)

Care is one of the primary and first principle mentioned. Other similarly presented concerns are those of informed consent, anonymity, and legality. However, in the context of virtual worlds, we can see this becoming more dynamic. With informed consent, Boellstorff et al note issues
where in certain videogames, voices can be heard in passing based on proximity of your characters. The handbook suggests however that one must contextualize whether or not the virtual world is a public place. VRChat is a completely free videogame and access to it and the various virtual locations is nearly always openly available. As such, I considered VRChat to be a public space. However, I made my intention clear as a researcher while maintaining dialogue in order to keep players informed at all times.

The topic of legality in the virtual worlds is largely related to a video games’ Terms of Service (ToS) or End User License Agreement (Eula). VRChat’s terms are largely focused on protecting player made content and identity from being stolen, highlighting concerns of publicly posting information/content without consent and defaming people. As such, a majority of data, was recorded anonymously and any presentation of an individual’s words, visuals, or ideas be only shown with their consent.

Anonymity is another particular case in virtual worlds. While these individuals are using online screennames and not their real ones, there is the possibility of the individual using the screenname across multiple social networks. The same thing is true for the individuals’ self-created avatars. Thus, using pseudonyms and not revealing visuals are an important concern. However, this does not necessarily solve the problem. While, not releasing a name or using pseudonyms helps to hide the user from the public, the pseudonym or activities of the person might be revealing to other members within the same group. Thus, a new concern must be taken using the principle of care in writing. Boellstorff et al (2012) further note concerns when using a pseudonym while discussing user made content. If discussing user made content, the user may want to be properly attributed to the content and thus, the handbook notes, may be an exception
to the usage of pseudonyms.

**CODES FOR BRIDGING SOCIAL CAPITAL**

In developing the codes for Bridging Social Capital, I imported similar principles as Dmitri Williams when developing the ISCS. The criteria Williams used was “1) outward looking, 2) contact with a broader range of people, 3) a view of oneself as part of a broader group, and 4) diffuse reciprocity with a broader community.” (Williams 2006) These were the original criteria for question development for the ISCS. Similarly, I took first three criteria, adapted their concepts, and simplified their principles when turning them into codes. The new codes I produced were “Trying New Things”, “Meeting New People”, and “Feeling Connected”. The last criteria, diffuse reciprocity, is not a practical code, given the virtual setting.

**Trying New Things**

The original criterion of “outward looking” emphasized the idea of the individual understanding that their existence is their own, and that there is a number of different experiences outside of their own understanding. Following this, the criteria included individuals trying to interact with people outside their area, trying new things, and being curious about differences throughout the world. I focused on the “Trying New Things” aspect of this criteria, as physical location and world location are two concepts that are not necessarily revealed by players on VRChat. However, while doing fieldwork, I noted a large international community of players meeting other players with the purpose of learning or practicing a language. Thus,
“Trying New Things” became a practical code to use.

**Meeting New People**

The second criterion of contact with a broad range of people focuses on individuals meeting people who are unlike themselves. So, meeting people of different ages, races, genders, classes, or other personal aspects. However, VRChat masks many of these points as players use an avatar of their choice, thus masking many of these physical identifiers. When interviewing, participants often noted that they really did not know, nor did they care to know personal identifying details when meeting people for the first time. Players did note how the game is incredibly accessible and that they have all met a variety of “different” people. As a result, I simplified it and simply looked at players meeting new people since players seemed to view “new” players as being inherently “different” by default.

**Feeling of Connection**

The third original criterion from the ISCS was “A view of Oneself as Part of a Broader Group”. This criterion notes the individual feeling as if they were part of a larger community or a feeling of everyone in the world being connected. Williams notes that the idea of a “larger community” is “defined in relation to the respondent” (Williams 2006). In other words, the larger group that they are connecting through is contextual to the individual. Following this, I looked at how players described their relationships with players that they’ve met for a short time. Some players noted that, even with a shallower relationship, they would “connect” with these players,
based on relating in some personal aspect. Thus, this code represents whether or not players used the term “connected” in describing their relationships on VRChat.

**CODES FOR BONDING SOCIAL CAPITAL**

Similar to the coding for Bridging Social Capital, the codes for Bonding Social Capital are adaptations from the criteria Williams used in developing the ISCS. Williams used “1) emotional support, 2) access to scarce or limited resources, 3) ability to mobilize solidarity, and 4) out-group antagonism” (Williams 2006). I adapted criteria 1, 3, and 4. These codes however remained mostly the same in the world of VRChat and are “Emotional Support”, “Meeting IRL”, and “Out-Group Antagonism”. Access to scarce or limited resources was removed as the criteria suggests individuals giving something of valuable. Williams suggest the idea of something tangible like money, or the willingness to put their reputation on the line. Given VRChat’s virtual and screen-name environment, I decided it was best to remove it.

**Emotional Support**

Williams describes this criterion as “whether or not people trust others to help them solve problems, have someone to turn to for advice, and have someone to go to with intimate personal problems or to alleviate loneliness.” (Williams 2006). This code remained largely unchanged as it could be easily done in VRChat. Participants further expressed this idea during interviews.
**Meeting IRL**

This criterion mainly largely looks at whether or not individuals could mobilize their friends into action. Williams described it as “whether or not a person’s friends could be motivated to do something important or to help that person fight an injustice. There must be some sense of cost, even if it is only time.”. This is a difficult criterion to adapt to VRChat as the non-physical connection with people makes motivating action difficult on a technical level. As a result, I dialed down the intensity of the action from “Mobilizing Solidarity” into “Meeting IRL”. In a similar manner, the decision to meet in real life (IRL) is an action with weight where the players have decided to develop their relationship deeper and actually reveal their physical forms. Thus, this new code still shows the development of trust in one another, and there is a sense of cost as this action is typically expensive and can change one’s relationship.

**Out-Group Antagonism**

This criterion looks at whether or not an individual labels other groups and expresses feelings of hostility or suspicion. This was another difficult criterion initially as I did not know of players noted little preference in who they interacted with. However, some players did express resentment or disdain to disruptive or chaotic players. These chaotic players find joy in extremely disruptive activities such as interrupting a conversation, having loud or disruptive avatars, and creating a general mess of a mood for players who are trying to have a conversation. This became the primary labelled group for Out-Group Antagonism and thus, the code remained largely the same. On a smaller scale, some participants explained that they prefer playing on
private worlds as public worlds have the problem of chaotic players, as well as engaging with toxic players, players who are more focused on engaging in talk to make others feel bad.

**INTERVIEWS ON VRCHAT**

Recruitment was done on site. I logged into VRChat and would jump into worlds looking for people who were willing to conduct interviews. Initially, I wanted to conduct interviews on a one-on-one basis, however, I learned that focus groups were much more appreciated by the participants. One-on-one interviews appeared to cause problems for players who were seeking to meet new people. They preferred group interaction and enjoyed sharing their information. Moreover, focus groups gave a topic to talk about and a reason for players to meet, talk, and express themselves, on a topic every player could relate to (playing VRChat). So, for the convenience of the participants, I went with focus groups. I had a total of four focus groups and two individual interviews. The first focus group had a size of five participants and went on for 57 minutes, the second focus group has a size of eight participants and went on for an hour and 45 minutes, the third focus group had four participants and was 47 minutes long, and the last focus group had three participants and went on for 32 minutes. I was on the field for seven hours and total sample size was 21.

Recording audio was never an issue to the participants while interviewing. I used Audacity, a free audio recording software in order to record both my audio and audio from the game. Initially, I was also using a phone to record audio from my voice and my computer’s speaker, but I learned early on that this caused an echo while I talked, which was a minor nuisance for the participants. While interviewing, I wrote down notes using a pencil and paper.
Participants only revealed a certain amount of demographics. Based on voice, participant genders were 15 males and six females. While there was a majority male count, I expected even less females, largely due to the dominance of males in videogames. Avatar genders varied more however with 10 male avatars, seven female avatars, and four non gendered avatars (three were animals and one was a fruit). Nationalities varied more than originally expected. I did not know of how wide or international VRChat was. Of the nationalities expressed to me, two were from Australia, two were German, one was from Thailand, one from Portugal, and one from Denmark. Others did not say their nationality. Initially, I was weary of asking for real world personal demographics but was surprised at how much people were willing to share with me (see Tables 1, 2, 3).

Table 1

<table>
<thead>
<tr>
<th>Gender Based on Voice</th>
<th>Frequency</th>
<th>Percent</th>
<th>Valid Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Valid</td>
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<td>71.4</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>6</td>
<td>28.6</td>
<td>28.6</td>
</tr>
<tr>
<td></td>
<td>Total</td>
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<td>100.0</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Table 2

<table>
<thead>
<tr>
<th>Gender Based on Avatar</th>
<th>Frequency</th>
<th>Percent</th>
<th>Valid Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Valid</td>
<td>Male</td>
<td>10</td>
<td>47.6</td>
<td>47.6</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>7</td>
<td>33.3</td>
<td>81.0</td>
</tr>
<tr>
<td></td>
<td>Other</td>
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<td>19.0</td>
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<tr>
<td></td>
<td>Total</td>
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<td>100.0</td>
</tr>
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</table>
Table 3

<table>
<thead>
<tr>
<th>Nationality</th>
<th>Frequency</th>
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<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
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<td>American</td>
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<td>19.0</td>
<td>19.0</td>
<td>19.0</td>
</tr>
<tr>
<td>German</td>
<td>2</td>
<td>9.5</td>
<td>9.5</td>
<td>28.6</td>
</tr>
<tr>
<td>Australian</td>
<td>2</td>
<td>9.5</td>
<td>9.5</td>
<td>38.1</td>
</tr>
<tr>
<td>Thailand</td>
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<td>4.8</td>
<td>42.9</td>
</tr>
<tr>
<td>Denmark</td>
<td>1</td>
<td>4.8</td>
<td>4.8</td>
<td>47.6</td>
</tr>
<tr>
<td>Portugal</td>
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<td>4.8</td>
<td>4.8</td>
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</tr>
<tr>
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<td>47.6</td>
<td>47.6</td>
<td>100.0</td>
</tr>
<tr>
<td>Total</td>
<td>21</td>
<td>100.0</td>
<td>100.0</td>
<td></td>
</tr>
</tbody>
</table>

VRChat has a system of rating players based on “Trust”. Trust is measured based on a combination of time spent on VRChat, the number of friends they make, and the amount of content they make. Trust is indicated by the player’s name’s color. High levels of trust will change the color of their name. In order from low to high, Trust levels range from: Visitor, New User, User, Known User, and Trusted User. The colors in the same order are gray, blue, green, orange, and purple. Lastly, if the player adds another player as a friend, their trust level changes to an alternative category: friend, which is colored yellow. In my sample of 21, three were Visitors, eight were New Users, seven were Users, two were Known Users, and one was a Trusted User. Overall, it was a good spread of players in terms of “Trust” (see Table 4, Screenshot 3).
### Table 4

<table>
<thead>
<tr>
<th>Trust Level</th>
<th>Frequency</th>
<th>Percent</th>
<th>Valid Percent</th>
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<tr>
<td>Visitor</td>
<td>3</td>
<td>14.3</td>
<td>14.3</td>
<td>14.3</td>
</tr>
<tr>
<td>New User</td>
<td>8</td>
<td>38.1</td>
<td>38.1</td>
<td>52.4</td>
</tr>
<tr>
<td>User</td>
<td>7</td>
<td>33.3</td>
<td>33.3</td>
<td>85.7</td>
</tr>
<tr>
<td>Known User</td>
<td>2</td>
<td>9.5</td>
<td>9.5</td>
<td>95.2</td>
</tr>
<tr>
<td>Trusted User</td>
<td>1</td>
<td>4.8</td>
<td>4.8</td>
<td>100.0</td>
</tr>
<tr>
<td>Total</td>
<td>21</td>
<td>100.0</td>
<td>100.0</td>
<td></td>
</tr>
</tbody>
</table>

**Screenshot 3: Loading screen showing the trust levels for players**

While interviewing, I had to update and change my interview guide. The initial interview guide asked questions about “what kinds of people do you seek to talk to” and “do you seek emotional support”. The term “seek” was a core issue with the question and often caused
participants confusion. Participants claimed that they never really “seek” anything when playing VRChat. Rather, it seems that they “find” things like emotional support and people they like to talk to. Upon changing the word choice, participants were more responsive and often had multiple stories of them finding people to connect with, talk to, and thus network with. Additionally, the topic of acting being comfortable online became consistent. Participants often expressed being able to act in certain ways online as opposed to in real life. Hoping to expand on this, in particular if this influenced their process of meeting new people, I asked about whether or not they do act differently on VRChat in comparison to the way they act in real life. Lastly, I started asking about the avatar choice. I realized that it was actually pretty rare to see players using the same avatar. This led to an intrigue in how players decide and choose their avatar, if they have any meaning towards the player or function towards how they interact with other people.

The most unexpected event however was the COVID-19 pandemic. Between starting this project and going into the field, the COVID-19 pandemic began and led many people to shelter-in-place. Shelter-in-place orders closed down many public establishments. As a result, a few players on VRChat specifically noted that they are trying to replace the loss of physical social interaction with virtual social interaction on VRChat, a few explicitly mimicking real world activities. Within my sample, six participants noted playing on VRChat partially as a result of the COVID-19 pandemic.
RESULTS

Codes are not mutually exclusive, and participants are capable of expressing multiple different codes. In regard to Bridging Social Capital, from a sample size of 21 participants, 18 participants (85.71%) expressed that they Meet New People, 12 participants (57.14%) expressed Feelings of Connection, and 10 (47%) expressing attempts to Try New Things (see Table 5, 6, 7).

Table 5

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percent</th>
<th>Valid Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Valid Yes</td>
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<td>47.6</td>
<td>47.6</td>
<td>47.6</td>
</tr>
<tr>
<td>No</td>
<td>5</td>
<td>23.8</td>
<td>23.8</td>
<td>71.4</td>
</tr>
<tr>
<td>DK/Invalid</td>
<td>6</td>
<td>28.6</td>
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<td>100.0</td>
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<tr>
<td>Total</td>
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Table 6

<table>
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<th>Frequency</th>
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Table 7

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<td>21</td>
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<td></td>
</tr>
</tbody>
</table>

In regard to Bonding Social Capital, from the same sample of 21 participants, only five participants (23.80%) expressed that they had met other players in real life, and six participants (28.57%) did express Out-Group Antagonism. However, 16 Participants (76.19%) expressed being able to find comfort, help, or emotional support for personal problems from others on VRChat (see Table 8, 9, 10).

Table 8

<table>
<thead>
<tr>
<th>Emotional Support</th>
<th>Frequency</th>
<th>Percent</th>
<th>Valid Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>16</td>
<td>76.2</td>
<td>76.2</td>
<td>76.2</td>
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<td>5</td>
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<td>Total</td>
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</table>

Table 9

<table>
<thead>
<tr>
<th>Meet Players IRL</th>
<th>Frequency</th>
<th>Percent</th>
<th>Valid Percent</th>
<th>Cumulative Percent</th>
</tr>
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<tr>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
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<td>5</td>
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<tr>
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<td>76.2</td>
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<tr>
<td>Total</td>
<td>21</td>
<td>100.0</td>
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Table 10

Out-Group Antagonism

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percent</th>
<th>Valid Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Valid</td>
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<td>7</td>
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<td>14</td>
<td>66.7</td>
<td>100.0</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>21</td>
<td>100.0</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Results indicated that participants generated Bridging Social Capital, mainly from interacting with diverse backgrounds and generated substantially less Bonding Social Capital, with an exception from Emotional Support.
ANALYSIS

Results showed a consistent generation of Bridging Social Capital across all codes. Players acknowledge the game as a social platform for meeting and chatting. This is shared by social media generated social capital (Ellison et al 2007:2011; Vitak 2014; Binder & Sutcliffe 2014) Furthermore, it is a broad community, connecting players around the world. Lastly, it possesses all the properties to function as Third Places as originally considered by Steinkuehler & Williams (2006). This presents similar findings to Lee’s (2019) work, where individuals who engaged in online gameplay generated more bridging social capital.

In regard to the generation of Bonding Social Capital, I found a lower generation of Bonding Social Capital through the codes of real-world meetings and out-group antagonism. However, the code of Emotional Support was much higher, being the second highest occurring code in the project. I argue that this is a result from two specific aspects. First is VRChat’s potential to connect people and create deeper friendships. This stems from VRChat’s ability as a platform for chatting and hanging out (Ellison 2007). Second is boldness and willingness to express themselves and try to filter people out in order to find people they connect better with due to the anonymity of the game. This is a combination of the social media aspect of VRChat, where players are able to develop pre-existing relationships (Ellison et al 2007:2011; Vitak 2014; Binder & Sutcliffe 2014) and anonymity permitting people to express a true self (McKenna et al 2006)
Many of the occurring phenomenon can be explained via a combination of elements from social media literature and video game literature. As a video game, players are put into a situation meeting online strangers. Similar to social media, VRChat provides opportunity to develop relationships further by chatting and hanging out. However, this produces online social capital and must be transferred into real world social capital. This is done through ways explained by video game literature.

**BRIDGING SOCIAL CAPITAL**

**VRChat as a Place to Meet New People**

Out of the sample of 21, 14 expressed that they are typically trying to find new players to talk to or are playing on “social game” world. These social game worlds are places where players can meet new people and share an experience together. As a result, it appears that meeting new people is a common goal for many players on VRChat. In meeting new and different people, players generate Bridging Social Capital as they broaden their network with these new relationships. (See Screenshot 4)
Players additionally, make little effort to discriminate upon meeting new people. Nine participants noted that they had little to no preference in who they talk with. Six participants explained that the only requirement was being nice or friendly. When asked about preference of who they meet on VRChat, one participant, a newer “Visitor” player, explains that they prefer meeting anyone.

I’ll talk to anyone dude, older people, people my age, people from different backgrounds, I don’t really care honestly. I just like talking to people.

This participant explicitly explains that they have no preference in who they talk to, rather they merely want to meet and talk to people. VRChat succeeds in permitting this as VRChat is capable of connecting multiple different people from various places with various backgrounds. By simply trying to talk to people, participants end up meeting different people, which results in broadening their understandings and generating Bridging Social Capital.
For some, VRChat is an even more accessible site for meeting new people than real world locations. One participant explains:

I have agoraphobia, so I can’t leave the house. So, my brother introduced it to me and he was like ‘you can talk to people on here’ cuz I like interacting with other people, I really do and I wanted to experience that in a way that I could…[Making friends] is the sole purpose why I am here. I can’t make friends any other way. This game is really good for that too because there’s so many people on this game, so many different people. So, like, I didn’t even know the kind of person that I hung out with or the kinds of conversations I liked with people that weren’t family, but now I do.

In this case, her explicit goal was to make friends. In this attempt, she meets multiple new and different people. Meeting new and different people generates Bridging Social Capital since she is meeting people unlike herself. As a result, she is broadening her network and her understanding of others.

While some meetings and interactions are one-offs, the relationships developed in VRChat can more often create re-occurring friendships. With the excerpt above, her goal is making friends, not merely acquaintances. She is not alone in this goal as 14 participants indicated that their primary group of friends are online or mixed. Five of them indicated that relationships had developed to the point of real-world meetups. One participant explained:

I was supposed to fly out to Tennessee to go and meet five of them for an anime convention, but last minute COVID hit so we had to cancel that. But we liked each other to try and meet, it becomes a very close connection.

For them, the people they met on VRChat had developed into a consistent relationship. The relationship then developed to a deeper point of actually meeting face to face.

This highlights the important components that VRChat fits in as a mix of social media elements and video game elements. Similar to social media, it shares the primary activity of chatting and hanging out, which players acknowledge. Similar to video games, VRChat has
players connect with strangers. Here we see that VRChat has a mix, the primary activity of VRChat is chatting, but it is with strangers.

This is similar to Ellison et al (2007:2011) where users developed all forms of social capital, bridging bonding, and maintaining. However, the meetings on VRChat develop meetings that were originally online. This brings about the concern of the relationships created in VRChat remaining online and not transferring into any real-world value. Molyneux et al (2015) however suggests that in generating this online social capital, they will express pro-social behavior online. These behaviors will stick and spillover into real-world social capital as players may then act this way in the real-world.

**VRChat as a Place to Practice Language**

The variety of nationalities mentioned in earlier discussion expressed a consistent focus on VRChat for the purpose of practicing the English language with other English speakers. The inverse is true, with players trying to practice non-English languages with other players across the globe. Any attempts to learn or practice a language are direct attempts to connect with another culture.

The players from Thailand and Portugal mentioned that they wanted to practice English. One American was trying to learn German. One of the Germans was practicing Russian. One non-identified player initially started VRChat with the goal of practicing Norwegian. One of the German players explicitly mentioned that they preferred finding and talking to players of other nationalities out of interest. In trying to practice or learn a language, players are generating
Bridging Social Capital as they are acknowledging the idea of things existing beyond themselves and are actively broadening their relationships.

Language is a core concept of any culture and attempts to learn or practice a language are direct attempts to connect with another culture. By connecting to another culture, they are generating Bridging Social Capital. Some participants are even able to communicate in sign language. One of them explained

That’s actually a thing that I really like about VRChat is that you can talk with people and they let you talk without interrupting…it really widens your horizon because, for me for example, I don’t really have acquaintances who are deaf or mute so VRChat is an opportunity for them or for me to meet new people and actually interact with them.

VRChat has systems for players to make hand gestures, such as opening or closing the hands or making a “V” shape from your fingers. For most other VR Headsets. One of the newer VR Headsets, the Valve Index, has finger tracking as well. This allows many players to recreate many American Sign Language (ASL) signs. One member created a world for introducing ASL to players, allowing them to meet and practice ASL with others. The opportunity to meet different people and practice communicating on VRChat is an example of bridging capital because players are expanding their understanding of the world beyond themselves. They are actively seeking and creating new connections and knowledge beyond what they have been taught, thus generating Bridging Social Capital. (See Screenshot 5)
Screenshot 5: In-game video of a player demonstrating the word “read” in ASL as done on VRChat from the world “MrDummy_NL’s Sign&Fun”

Here we can see social media explaining much of this. We start out with video game components of VRChat having players meet strangers. Players are given the opportunity to chat and hang out with them. Social media generates bridging social capital when users seek information. The ease at which the social media platforms transfer information allows for the development of social capital. (Ellison 2011; Vitak 2014). VRChat as a platform allows players to connect with others across the globe and easily access information from then. Players communicate their desire to practice or learn a language to other players, who, with enough trust, will respond in kind.
VRChat as Third Places

Lastly, VRChat is capable of being a Third Place. Similar to real world Third Places, players on VRChat have created worlds with the goal of recreating the same physical spaces. These spaces vary from bars, nightclubs, or even theatres. These locations are capable of matching multiple of Ray Oldenburg’s characteristics of Third Places. (See Screenshot 6)

Screenshot 6: Rooftop lounge from the world “Summer Solitude”

Steinkuehler’s research on MMOs as Third Places best explains how these virtual Third Places could generate Bridging Social Capital.

Broad, weak social networks were common. Within such networks, individuals from a wide range of backgrounds mixed on the level playing fields that Oldenburg praises: Supervisor and supervisee, parent and child, classroom teacher and student generally left behind their out-of-game roles and participated as equals. Individuals with diverse worldviews found themselves interacting on a level playing field. (Steinkuehler 2006)
He connects the descriptions of Third Places with the outcome of players participating in the MMOs. He notes that there is a variety in backgrounds of people and that they all interact freely. These spaces become videogame locations for players to meet others. They chat and become friends in these spaces. The videogame however provides players with unique interactions as Wright et al would suggest. These unique video games interactions are far more engaging than the text, voice, or video capable from social media. Rather, the video game provides a virtual space for the player’s to utilize with their VR sets. This makes interaction far more engaging.

Following these characteristics, I noted that locations in VRChat possess similar characteristics and players expressed similar outcomes. VRChat is capable of creating worlds that match this description and fulfil the same purpose of Third Places, providing space for people to freely socialize and communicate. One player explains how COVID-19 had moved his DJ events to a night club in VRChat.

I was using [VRChat] as a medium to host Electronic Dance Music (EDM) parties. I was inspired by people doing things in Minecraft that felt a little bit impersonal through a discord server. I tried second life but [VRChat] is way more easier to access

Here, the player is explicitly trying to recreate an EDM party. These parties would match the descriptions of being playful and being easily accessible locations for people to converse. In this way, the virtual EDM clubs of VRChat fulfil the description of Third Places and create Bridging Social Capital. (See Screenshot 7)
Another player had a similar story. Prior to the COVID-19 pandemic, he would often go drinking with friends. VRChat provided similar means for him to recreate this social event.

I used to go around in a place called “drinking night” and I was looking for chill people to spend the evening with and drink a couple beers and have a fun time and that was what I was mainly looking for… and I have met a couple friends there which I’ve been drinking more than a couple times and they’re pretty chill.

Again, the VRChat world “Drinking Nights” is capable of matching various characteristics of Third Places. It is a neutral ground, with people of various backgrounds evenly talking, conversation is a main activity, it is easily accessed, the player is a regular, it has a low profile, and has a playful mood. In this Third Place, the participant was engaging with various different people, with different backgrounds, creating broad social networks. (See Screenshot 8)
BONDING SOCIAL CAPITAL

Emotional Support from Friends

I found that there was a surprisingly high rate of Emotional Support on VRChat. This comes as a surprise as all other measures of Bonding Social Capital are low. In order to explain this, I looked at the responses to a question asking whether or not players “felt comfortable talking about their personal life on VRChat”. Positive responses from this question matched the rate of positive responses for finding Emotional Support on VRChat. 18 participants expressed feeling comfortable speaking about their personal life. When asked why, six participants explained that they feel comfortable once they have developed a closer relationship with the
other player while seven players explained that they felt more comfortable because of the online anonymity (see Table 11).

Table 11

<table>
<thead>
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<th>Reasons for Feelings of Comfort Online</th>
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<td></td>
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<td>100.0</td>
</tr>
<tr>
<td>Total</td>
<td>21</td>
<td>100.0</td>
<td>100.0</td>
<td></td>
</tr>
</tbody>
</table>

Establishing friendships is a practical way to find emotional support. When asked about finding emotional support from closer VRChat friends, one participant explains,

I think it’s the same like in real life. When you get a friend, it’s something special and you talk about things you wouldn’t talk to anybody else. Of course, you could find help or comfort there. Here, the participant is suggesting that VRChat can properly emulate the opportunity to make friends and find support from these friends. Emotional support would create Bonding Social Capital as a result as sharing one’s personal issues is a sign of trust in another, which strengthens the social connection. Emotional Support is a result of growing and strengthening the bond one has with each other and in turn results in an even closer bond.

As mentioned prior, the relationships can develop deeply. These bouts of emotional support are not simply one-time discharges of emotions, the players can create closely bonded groups that support each other. When talking about the emotional support from people one
participant explains how she finds comfort mostly from the close group of friends as opposed to public random players.

Yeah, it’s mostly [my close group of friends]. I guess once or twice, if you’re having a bit of a bad day and people are being funny and just being relatively chill that could be really nice, but yeah mainly for like comfort and stuff [I talk with] these guys, like on and off VRChat… I am probably gonna meet one of them, once quarantine is over. I really like this group.

Random players can provide small bits of comfort but are not always strong pillars of support.

However, VRChat provides opportunities for people to connect and develop their relationships into actual forms of support. The depth of the relationships can develop to the point of becoming real world emotional support and real-world Social Capital.

Following the same form as prior discussions, VRChat has players meet online strangers. Players then develop these relationships by talking and hanging out. Players can however choose to continue developing this relationship directly into the real-world as opposed to keeping it online. This occurrence can be best explained by Trepte et al 2012. The study of e-sports clans notes that players are working towards a competitive goal together and do not necessarily have to get in touch with each other. Meanwhile virtual, players in VRChat expressed talking and connecting with them being the goal. As a result of this, players are explicitly building familiarity with each other. Once relationships are developed enough, players may decide to do real-world meet ups and real-world social capital transference occurs, as Trepte et al 2012.

Additionally, I argue that coming together in the virtual space creates virtual proximity, where players who are connected across more games or other online communities others, may also increase the likelihood of generating social capital. Though this research did not investigate this idea directly, multiple users expressed playing with other players in different games and talking to them in other communities.
Emotional Support from Anonymity

Anonymity was a surprising reason for finding social support. More participants explained their comfort with sharing personal details being from anonymity than from closeness to other players. The personal details shared often included personal experiences but did not include identifiable information. Many participants directly attributed anonymity to the willingness to engage in more personal experiences. For many, anonymity provided two things, safety from repercussions and a lack of direct judgement. As a result, players felt bolder and more willing to take the risk of trying to find emotional support from other players on VRChat.

Boldness and courage to express one’s own personal thoughts and experiences is easier found on VRChat due to the anonymity of the game. One participant explains,

Honestly, it’s much easier to talk to somebody online about some more personal stuff than it is to people in-person. But of course, there’s a boundary. I’m not gonna go around sharing my real name or my Facebook name but about personal life stuff, not strictly identifiable, absolutely

This participant clearly defines speaking about certain personal stuff as being “easier” online. He then further explains this is due to anonymity by asserting that identifiable stuff are the only things are not shared.

More explicit than that, the ease of sharing personal thoughts and experiences is connected with a lack of repercussions. Similar to the last one, but more explicit in explanation, anonymity results in people being more willing to try and talk to others. One participant explains,

It’s almost like real life except maybe people are a bit more inclined to be a bit more open about their thoughts since there’s a perceived lack of any repercussion for anything they say in here… I think [talking about one’s personal life on VRChat] is quite low risk. If
you wanted to make a connection with someone in real life in your area, and it turns sour, there’s always a risk of it having an impact in your life but here, y’know, it’s very low stakes. If you don’t like someone, whatever. Move on.

For this participant, the low risk is explicitly linked with ease of sharing more personal thoughts and opinions with the lack of repercussions. The lack of repercussions are because of the anonymity that VRChat provides. Players are not tied down to any strictly identifiable features, being able to freely manipulate everything about themselves from their name, their looks, and their virtual location. Players have a real ability to simply leave the discussion. As a result of players feeling safer in sharing their personal experiences, they are more capable of finding emotional support. Emotional support is a deep kind of support that has led many participants to develop closer relationships with other players. As a result, building closer relationships with other players, they generate Bonding Social Capital.

This may seem counterintuitive or antithetical to Bonding Social Capital. On one hand, it appears that VRChat is creating opportunities for interaction because of a lack of social “glue”. This may be the case, but on the other hand, players are able to meet others and try connecting with them at a faster rate. Where in real-world relationships, people may develop relationships slower or may develop fewer close relationships overall, players are bolder on VRChat and are more willing to try to connect with others in the first place. Rather than working on creating an efficient social glue where people try to stick together, players on VRChat are able and willing to simply see if they stick from the step one. If players do not find or develop a good social “glue” early on between them, they can stop working on sticking together with each other and can seek other players to try and “stick” onto and become close with.
In addition to this, another distinct reason for boldness from anonymity comes from the inability of being judged. Not being judged early makes players feel more willing to step forward and try expressing their personal details. One participant explains,

“It’s not like in real life where you have to be scared that people judge your looks and all that stuff. They don’t see your person; they just see your avatar and so it makes stuff much easier too.

Again, I noted that the player defines interaction on VRChat as easier. The ease in this case is explained with a lack of perceived judgement, further explaining a player’s feeling of safety in expressing themselves and an increased willingness to try and find emotional support and comfort on VRChat. They find talking and connecting on emotional topics more possible on VRChat since preconceived notions about them are more difficult to apply.

The lack of judgement goes beyond early meetings and can continue into a lack of judgement during conversation and while connecting. Another player goes into more detail about this idea.

I do meet a few people online who are those types of people that you can really just sit down and hang out with and vibe with them on an emotional level. There’s some things I can talk about online that I just can’t with other people in-person. I’ll talk my ass off to a person in-person, but like there’s just something about being online and being able to talk about some of the other whole wide variety of topics and people being like ‘oh yeah no, we really can’t judge about it’ which is pretty good.

Judgement is abstained throughout the engagement. This results in players being able to find emotional support and comfort on VRChat. This support and comfort has led to players making friends with one another and deepening their relationship. By doing this, they are generating Bonding Social Capital.

Unlike prior points, this does not appear to have any connected similarities to social media engagement. This directly challenges claims from Ellison et al 2011. Their claims noted
that social media’s effectiveness at producing social capital comes from the way that social media makes one’s profile public. The identity of the user is visible on their profile, allowing information seeking users to find and connect with them. VRChat does not do this and actively masks the user’s real-world details. The resulting social capital generated however is supported by research from Mckenna et al 2006. Their research looked into the development of relationships from anonymous meetings. This was based on the idea that people could express their “true selves” in an anonymous environment and would develop their relationships further as a result. Findings from VRChat support this claim. VRChat has a similar environment to the original test. Players on VRChat would first meet, anonymously online. The anonymity would permit a freedom of expression as found by my research. This freedom of expression from anonymity can be connected to the “true selves” mentioned in Mckenna’s research. As a result, relationships in VRChat often developed further, matching the results of Mckenna’s research where participants continued contact.
CONCLUSION

This study suggests that the development of social capital in computer-mediated-communication in VRChat provides a distinctive case study that shows how social capital can be generated in online virtual reality settings. This project is aimed directly at examining various claims about social capital in online settings. In it, I engage concerns over computer-mediated-communication and online identities from Putnam. Results suggest that VRChat is capable of generating online and real-world social capital due to its special qualities. It combines the social relationship development elements of social media with the online engagement and virtual world settings of video games to generate social capital in a way not possible by either platform alone. Putnam argues that the relationships like those developed on VRChat are too shallow to provide any function or benefit. Putnam referred to these as “drive-by” relationships (Putnam 2000), being easily made and forgotten. In response, my data suggests that relationships formed online tended to remain consistent and could develop further. Multiple participants explained that their friend groups were online or included online people and relationships that could develop to the point of real-world meetups. This research also furthers our understandings of how computer-mediated-communications—especially virtual reality technology—can generate social capital. This newer technology may allow for future computer-mediated-communications to generate more social capital more efficiently, by incorporating additional elements of other technologies that can emulate real-world interactions that generate social capital.
The efficiency of the social capital generated by this social video game comes from the way that it takes elements of social media platforms, video games, and real-world interactions that, on their own can generate social capital. However, once put together, social video games allow players create relationships with people that they likely would have never created from either video games or social media. The development of these relationships shows that social video games, like VRChat can generate social capital in a way more efficient than before.

VRChat’s interactions produce different kinds of Bridging Social Capital. VRChat has the characteristics of a Third Place, where activities generating Bridging Social Capital could occur. Meeting new players and learning languages generates Bridging Social Capital. By meeting new players, players broaden their relationships. In learning and practicing a language, players further find themselves broadening their relationships as they delve further into seeking knowledge beyond their own. These interactions support the idea of creating a broad and varied network, albeit with simpler connection. By creating these kinds of relationships, VRChat can generate Bridging Social Capital.

Bonding Social Capital is only produced in finding emotional support. VRChat allows players to openly express themselves and filter people that they meet. By filtering through people based on the ability to connect emotionally, players can find people whom they may develop stronger bonded relationships. This, however, does limit the variety of relationships and creates closed groups. In this sense, they are generated Bonding Social Capital.

There is a consistent theme across nearly all explanations of the generation of social capital. As a videogame, players are connected with strangers in unique online worlds. They are given unique and creative ways for them to interact with each other, beyond just text, voice, or
VRChat offers players opportunity to explicitly chat and connect with others forming relationships, similar to social media platforms. However, this only generates online relationships, bringing concerns about whether or not this online social capital can provide benefits beyond the internet or game. Video game literature however provides two ways in which this online social capital can transfer. Molyneux et al (2015) shows that learned social player behavior in game transfers into real-world social behavior and can impact their real-world activity. This was unfortunately not directly investigated and future research should look more into the player’s offline activities. The second way that online social capital can transfer is when players decide to continue interacting with each other and directly bring it offline. Trepte et al (2012) shows that players who do this can generate offline support and social capital.

Additionally, results from this project contribute and support claims made by Steinkuehler et al (2006) and Mckenna et al (2006). Steinkuehler’s idea of MMOs as Third Places can be applied to VRChat as a Third Place. VRChat is similarly capable of matching the description of Oldenburg’s Third Places, matching multiple characteristics. These virtual Third Places are also capable of serving the same function, giving space for people to meet and talk freely, as suggested by participant responses. Player experiences on VRChat also supports Mckenna’s research on expressing a “true self” because of anonymity, resulting in developing a relationship further. Multiple participants expressed similar ideas of a “true self” with a focus on feeling comfortable online and finding it easier to talk about personal problems and details. In doing so, they are able to meet people that they can build stronger bonds with.

Putnam explains that social capital serves as a glue and lubricant for civil society. The production of social capital builds values and relationships that permit a liberal democracy. I
suggest that VRChat Social Capital contributes to the in-game civil society by emphasizing and teaching the value of open-minded thinking and a willingness to engage and connect with others.

The biggest benefit of VRChat Social Capital is the ease of the opportunity to meet people. This opportunity comes from video games purposely having players meet strangers. However, the platform for communication itself eases the communication process, like other social media platforms (Ellison et al 2007:2011; Sum et al 2008; Vitak 2014). The global player base of VRChat provides opportunity to meet people beyond physical proximity and national borders. VRChat has a global community, providing the opportunity to meet players from around the globe. Social Capital being “global” is very valuable. This provides immense opportunities for the individual to access information from people in distant lands and potentially bond together with them, providing unique opportunities to the individual, such as travelling location. Furthermore, the environment is easily accessed by many as a free-to-play game with very little technological requirements. This further expands the potential player base that people may end up meeting. Because of this, it is important for players to learn the value of being open-minded when conversing and learning from others. Additionally, players make little preference about who they may meet. Preference of who players meet are low or limited, with players only expressing preference to friendly and nice people, further promoting an “open-minded value” within VRChat.

Making deep connections is also an important feature of VRChat. The platform itself makes chatting and communicating very easy, as other social media platforms do. The anonymity of VRChat uniquely allows players to more openly-engage and connect with others. The anonymity and the open-minded nature of the game allows players to feel more comfortable
in sharing their own personal thoughts and experiences. In doing this, they are able to make deep connections with others.

These shared values of open-minded thinking and connecting via personal trust and experience are desirable aspect for civil society and are key components and values developed when generating VRChat Social Capital. Such values serve the individual, by increasing their access to various information and finding people whom they can find support. It also serves society as a whole as it increases the willingness to meet new people and increases the willingness of trusting others when building relationships. As a result, VRChat Social Capital is capable of contributing to the in-game civil society.

A significant question of the study of online interaction is the question of whether Online Social Capital transfers to the real world. Online Social Capital lacks the ability to provide various forms of physical actions or support for people. Following the literature from Molyneux et al (2015) these developed traits may transfer into the real-world by “spilling over” into the real-world. VRChat mimics real world interactions and VRChat Social Capital teaches things that can be used in similar real-world environments and situations. As a result, developing and generating VRChat Social Capital, can at the very least, be seen as training or practice in the development of real-world Social Capital. Furthermore, some relationships developed on VRChat do transition into real-world. Trepte et al (2012) explain that players can develop their relationships based on physical proximity, social proximity, and familiarity. The most estranged of these elements being physical proximity, players can still develop relationships of familiarity and data shows that players have decided to meet other players offline.
Putnam’s concerns are not fully mitigated by VRChat. One of his concerns, mentioned earlier, was that of drive-by relationships. (2000) Meanwhile, many players do establish connections, the potential for players to disappear or establish such shallow relationships in this way was expressed by participants. Players expressed that they preferred to avoid making such light relationships and do try to keep in touch, but players did note that they did happen. In the case of this happening, no Social Capital is developed. However, I argue again that, players appeared to prefer making actual friendships, as noted by their primary friend groups being people online. Another concern Putnam had was with filtering of players, creating a homogenous group. I noted that players could filter who they interact with, allowing them to find people they connect with. Putnam noted the potential extreme of this, where players may create echo chambered groups. My sample was limited in the number of closed/private groups I was able to interact with. These private groups are more likely to have homogenous echo chambers, but my data is unable to confirm or deny this. Further research should try to investigate this by looking into these groups.

Future research should look into expanding the sample. The majority of players in the sample were focused on playing in public worlds. When selecting a world instance, players have the option of joining a public world or creating a private world. Of my 21 participants, 15 of them, primarily play in public worlds and are actively trying to meet new people. Six of them are usually on private worlds or only engaging with close friends. Notably these players were also the only players to express out-group antagonism, simply claiming that they prefer talking with their close friends as opposed to meeting new people. Private players who are playing with their
close friends are likely to have a different experience and are more likely to produce Bonding Social Capital than their public counterparts.

An additional concern would be looking at the depth of the developed relationships. Initially my guide looked merely at whether or not the relationships were online or offline. However, this does not adequately reflect how deep these online relationships are, merely that they exist. My interview guide changed partway through in-order to investigate this, by mainly looking at real world meetups, but I was not explicit enough in asking about how deeply these relationships had developed. A deeper look into how deep the relationships are and how far they had developed would add onto the discussions about concerns over “drive-by” relationships.

Future research should also look into the various other games and virtual worlds or platforms they interact on. This would expand the understanding of the transference VRChat Social Capital into other online worlds. This could also make a case for “virtual proximity”. Players may be more willing to develop real-world relationships if they are connected in multiple different virtual worlds or communities. A number of participants noted relationships going into other forms of computer-mediated-communication, such as other games or online communities like Discord, an application for communicating with friends or finding online communities. This project did not explicitly examine this point.

Demographic concerns and characteristics of players should also be expanded and investigated on more in depth. Players consider other players to be “different”, but other than nationality, this project did not go in depth in investigating the actual characteristics of the players. Initially, I was unsure how players would feel revealing demographical information. Players however appear willing to discuss these as long as this information remains largely un-
identifiable. Future research should investigate the player’s real-world background characteristics and the relationships that may have with their avatar’s characteristics in order to expand on the discussion of the variety of players present and the way these players connect with others on VRChat based on avatar identity.

Future research should also investigate concerns about player presentation and interaction based on this. Meanwhile players mask multiple physical characteristics such as race and age, they still choose avatars. My project only looked into avatar choice partway through the project and did not look into interaction based on avatar choice at all. Research on this would further expand the process of how players meet people and who they ultimately end up meeting.
REFERENCES


Lee, Y. H. (2019). Older adults’ digital gameplay, social capital, social connectedness, and civic participation. Game Studies, 19(1)


First Interview Guide

Contextualizing the Player’s VRChat engagement

1) How often are you on VRChat?

2) How long have you been playing VRChat?

3) What made you start playing VRChat?

Player’s Offline relationships

1) Do you socialize often offline?
   a. What activities do you do?

2) Are your friends primarily online or offline?
   a. Both/Mixed?
   b. Have you met any online and then met them irl?
      i. Inverse (originally friends offline, but currently primarily contact them online)
      ii. Why/why not?

Player’s VRChat relationships

4) What kinds of people do you seek to talk to on VRChat?
   a. Strangers?
i. Similar interests?

ii. Completely different

b. Only Friends?

5) What activities do you do on VRChat?

a. Why on VRChat specifically?

6) What topics do you talk about with people on VRChat?

a. Why?

i. Seeking help/comfort?

ii. Learning new things?

iii. Making new friends?

7) Do you feel comfortable talking about your personal life with people on VRChat?

a. [if yes/no] why?

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Second Interview Guide

Guide updated due to participants expressing confusion over the usage of the word “seek” in various questions. Additional questions added to further expand on responses that remained consistent

For the first part of the interview, I will be asking basic questions about your background. I won’t be asking anything personal, rather I want to know just a bit about your time spent on VRChat and a bit about your offline social life. You are not required to answer all my questions and can opt out if you want to.

VRChat background
8) How often are you on VRChat?

9) How long have you been playing VRChat?

10) What made you start playing VRChat?

**Offline Background**

3) Do you socialize often offline?
   
   a. What activities do you do?

4) Are your friends primarily online or offline?
   
   a. Both/Mixed?
   
   b. Have you met any online and then met them irl?
      
      i. Inverse (originally friends offline, but currently primarily contact them online)
      
      ii. Why/why not?

*For this part of the interview I will be asking questions about your activities and experiences on VRChat. These will cover the various topics you may have talked about and the people you may have met.*

**Activities on VRChat**

11) What kinds of people do you prefer to talk to on VRChat?
   
   a. Strangers?
      
      i. Similar interests?
      
      ii. Completely different
   
   b. Only Friends?

12) Are there any activities you do on VRChat other than just talking?
a. Why on VRChat specifically?

13) What topics do you talk about with people on VRChat?

Reflection of their Activities

14) Have you ever found help/comfort from talking to people on VRChat?

15) Have you ever learned something new or wanted to learn something new from talking to people on VRChat?

16) Do you make new friends on VRChat?
   a. How deep would you say the connections become?

For the last part of the interview, I will be asking about the way you manage and present yourself on VRChat.

17) Do you feel comfortable talking about your personal life with people on VRChat?
   a. [if yes/no] why?

18) Tell me about your avatar, what is it?
   a. Why did you choose that?
   b. Do you use multiple avatars?
      i. What is preferred?
      ii. Is there a theme?
         1. Why?

19) Do you act the same way you would act IRL?
   a. Why?
Original ISCS (Williams 2006)

**Bonding Subscale**
1. There are several people online/offline I trust to help solve my problems.*
2. There is someone online/offline I can turn to for advice about making very important decisions.*
3. There is no one online/offline that I feel comfortable talking to about intimate personal problems. (reversed)*
4. When I feel lonely, there are several people online/offline I can talk to.
5. If I needed an emergency loan of $500, I know someone online/offline I can turn to.*
6. The people I interact with online/offline would put their reputation on the line for me.
7. The people I interact with online/offline would be good job references for me.
8. The people I interact with online/offline would share their last dollar with me.
9. I do not know people online/offline well enough to get them to do anything important. (reversed)
10. The people I interact with online/offline would help me fight an injustice.

**Bridging Subscale**
1. Interacting with people online/offline makes me interested in things that happen outside of my town.
2. Interacting with people online/offline makes me want to try new things.
3. Interacting with people online/offline makes me interested in what people unlike me are thinking.
4. Talking with people online/offline makes me curious about other places in the world.
5. Interacting with people online/offline makes me feel like part of a larger community.
6. Interacting with people online/offline makes me feel connected to the bigger picture.
7. Interacting with people online/offline reminds me that everyone in the world is connected.
8. I am willing to spend time to support general online/offline community activities.
9. Interacting with people online/offline gives me new people to talk to.
10. Online/Offline, I come in contact with new people all the time.