The Role of Anonymity in Pro- and Antisocial Behaviors in Online Gaming

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Research Questions & Hypothesis

This thesis project is a study examining the role of anonymity in pro and antisocial behaviors in online gaming. There is a growing body of research that suggests both anonymity and participation in competition can lead to more antisocial behavior from participants. In our growing online world, there has been increasing literature about social media, cyberbullying, message boards, and other websites in terms of the advantages and drawbacks each have for individuals and society. Video games are also seeing huge growth, especially as a result of the 2020 pandemic. However, little research is done on interactions between individuals who play games together. While there are some studies about the most popular games such as League of Legends, little research has been done about video game interactions between players. Specifically, we want to see how online gaming impacts players' attitudes towards themselves and others, and if being anonymous significantly changes these attitudes and behaviors. We believe that players are more likely to be antisocial or "toxic" while playing online than in-person, and that anonymity increases this effect. During the summer of 2021, we ran a 2 week, 6-session study randomly assigning participants to anonymous and non-anonymous groups and facilitating matchmaking to compare both reported and in-game instances of behaviors that this gaming community considers antisocial. We expect after data analysis that the anonymous group will demonstrate a statistically significant increase in antisocial behaviors compared to the non-anonymous group.

Literature & Justification

Anonymity or blending in within a group can lead to deindividuation - loss of sense of self, increased aggression, and vulnerability to external influence (Zimbardo, 1969). Deindividuation can be thought of in a positive way, where anonymity allows individuals to selectively share identity cues that positively impact interpersonal perceptions and feelings of "togetherness" in online communication, as well as allowing people to talk about difficult subjects such as sexuality or substance abuse (Ransbottom, 2014; Saran, Fink & McConnell, 2018; Tanis, Martin & Postmes, 2007). However, we are more concerned about the negative consequences of anonymity. Anonymity is associated with increases in cyberbullying tendencies, is linked with aggression and antisocial behavior, provides a "shield" for aggressors from accountability, and leads to what we would call "cyberdisinhibition," a losing of the self in the online world (Barlett & Gentile, 2016; Baumeister, Ainsworth & Vohs, 2015; Chui, 2014; Reicher, Spears, Postmes & Kende, 2016; Suler, 2004). Anonymity and cyberdisinhibition have also been linked with targeted harassment, death threats, suicide provocation, and cooperative crime (The Berkman Center for Internet & Society, 2010). What's missing from the literature is a focus on more modern contexts for anonymity - while there is increasing literature on anonymity in online spaces as a whole, little attention has been given to the gaming world, where in-game behaviors and chat features allow for free communication between individuals that are either completely anonymous or have their identities hidden. The gaming industry in 2020 saw more than 2.5 billion people worldwide playing games, and the global gaming market is on pace to reach over $250 billion by 2025 (Mordor Intelligence).

Literature & Justification

Adachi & Willoughby (2011) found that highly competitive games were much more likely to lead to aggression and frustration than violent video games, and a 2015 study on the popular esport title League of Legends found high levels of toxicity (cyberbullying, griefing, mischief, cheating), low rates of reporting toxic behavior, and in-group favoritism, out-group hostility, and anonymity and overall competitiveness to be strong mediators (Kwak, Blackburn & Han, 2015). Little research has been done on how these behaviors manifest in the gaming world overall, and whether or not the gaming population has a unique issue when it comes to anonymous aggression. The present investigation seeks to explore the effects of anonymity in online gaming and whether or not it impacts a less popular, home-grown esports community. We hope to assess whether or not the gaming environment models toxic or aggressive behaviors, and if so, what can be done to make people's gaming experiences more positive as the industry continues to grow.

Expected Analysis, Results

Responses were collected from 170 Super Smash Brothers Melee players from North America. Participants played 3 games of Super Smash Brothers Melee with randomly assigned opponents who are from their same region (east coast, west coast), within the same skill range (Beginner, Intermediate, Expert), and with the same anonymity level (Anonymous, Non-anonymous). Participants were asked questions about their experience, such as whether they detected antisocial behaviors from their opponents through their gameplay. Participants answered a range of questions indicating whether or not they thought their opponent was generally rude, aggressive, or disrespectful with their gameplay or through the game's chat function. They also answered questions about their general experience playing this video game online compared to in-person, which is more typical for this community.

Expected Analysis, Results

Furthermore, participants submitted replay footage of each of their games, which are being coded and scored using a custom-made program that parses the replay files for rich information about in-game behaviors. This program can detect and count in-game actions and allows us to run statistical analysis on behaviors that occurred throughout the participants' games. In our survey, we asked participants about their attitudes towards specific in-game behaviors, and asked them to list for us which actions, patterns, or behaviors they find disrespectful or rude. One example of such action is using the taunt feature that already exists in the game, which makes the player's fighter perform a taunt. Other examples include using specific moves too frequently, refusing to engage in-game (e.g. running away instead of fighting), choosing specific characters, or crouching repeatedly. Our parser allows us to count each of the behaviors identified by our participants so we can automatically determine whether anonymous and non-anonymous groups differ in how often they perform these disrespectful behaviors.

We expect participants to report more disrespectful behaviors from their opponents in the anonymous group compared to the non-anonymous group. We also expect anonymous groups to perform more of the disrespectful behaviors identified by our participants than those in the non-anonymous group. Furthermore, we expect to get a pulse of the Super Smash Brothers Melee community in terms of how community members view the game, in-game behaviors, and the differences between playing offline versus online in terms of disrespectful behaviors or overall enjoyment.

Conclusions, Limits, Implications:

We hope to demonstrate group differences between anonymous and non-anonymous groups in terms of disrespectful behaviors from their opponents via self-reporting as well as using automatically detected in-game behaviors that participants have identified to be disrespectful. There are a few limits to our design that should be understood.

Primarily, we suspect that the participants who signed up for study were not truly randomly chosen but were subject to some amount of selection bias due to the types of people who were willing to participate in the study. Participants may have been on their best behavior for the study due to some feeling of being watched, particularly since we collected participants' replay files for analysis.

Another limitation to our study is that some players may have recognized each other based on the unique player IDs associated with each player's online profile. While participants in the anonymous group were instructed to change their in-game display names to "anonymous," it is not possible to change their unique player IDs associated with their accounts, and participants who have played each other before would likely recognize each other.

Finally, our parser program which automatically detects in-game behavior cannot detect very sophisticated sequences of in-game behavior that participants have identified as being disrespectful, so it's possible that by automatically analyzing these replay files we are missing some disrespectful behaviors that are already there.

Future studies should assess how gaming communities interact with each other online. If it's true that anonymity increases people's likelihood to engage in disrespectful behavior, it's important to understand the full extent to which that happens, and how partial anonymity may also inhibit people's ability to filter our negativity. Future studies may want to compare online play to offline play in terms of people's behaviors as well as attitudes towards the game, themselves, and their opponents. We suspect that gamers behave differently when playing in-person compared to online. Eventually, studies may attempt to identify potential remedies or strategies for dealing with disrespectful behavior online, identify personality traits that may be associated with engaging in disrespectful behavior online, or identify strategies for helping gamers deal with patterns of behavior in their communities in a constructive way.