The Predictors and Consequences of Prejudice in Online Video Games

by

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Graduate Department of Psychology
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Abstract

More than half of the people in North America play video games, and most play often. Despite their popularity, video games are controversial and have been heavily criticized for fostering toxic environments in which racism, sexism, and heterosexism occur frequently. In a series of four studies I explore several possible explanations for why prejudice is more common in video games than in other contexts and what effect prejudice in this environment has on gamers. In Study 1, I test if people perceive online gaming differently from face-to-face interactions. In Study 2, I develop a more nuanced understanding of people’s perceptions of video games by testing whether different genres of games are perceived differently (e.g., puzzle games versus role-playing games). In Studies 1 and 2, I establish that people perceive video games as more prejudiced environments than face-to-face interactions, with action and role-playing games being seen particularly negatively. In Study 3, I explore what might account for why prejudiced behaviour seems to be common in video games. I explore the role of norms and of individual differences in a structural equation model predicting bigoted behaviour. Both norms (how often other gamers make bigoted comments) and individual differences (Right-Wing Authoritarianism, Social Dominance Orientation, Empathy and Internal Motivation to Respond without Prejudice) predict self-reported prejudiced behaviour. Study 3 emphasizes the importance of taking a
multifaceted approach to understanding prejudiced behaviour. Finally, in my fourth study, I explore the consequences of prejudice in online gaming. Using a daily diary study I found that female gamers experience more bigoted comments than male gamers and are more strongly affected than are male gamers. These four studies provide an introduction to the online gaming environment and lay a foundation for future work to reduce prejudice in online gaming.
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Chapter 1
Introduction

Video games are ubiquitous in North American society. One hundred fifty-five million Americans played video games in 2015 and 42% of Americans played three or more hours each week (Entertainment Software Association, 2015). Most people (60%) who play video games choose to play with other people (e.g., multiplayer online video games; Entertainment Software Association, 2014). Despite the popularity of video games generally, and online gaming specifically, the gaming environment is rife with hostility and prejudice. Racism, sexism and homophobia are reported to be common (Gray, 2012; Kuznekoff & Rose, 2012; Sliwinski, 2007). Considering the popularity of video games and the harm associated with exposure to prejudice (e.g., Schmitt, Branscombe, Postmes, & Garcia, 2014), it is important to understand why prejudice remains common in video games despite the declining acceptability of prejudice in other contexts (Crandall, Ferguson, & Bahns, 2013).

In my dissertation, I take a multi-dimensional approach to understanding prejudice in online gaming. First, I explore the norms surrounding prejudice. Norms are incredibly strong predictors of attitudes and behaviour (Crandall, Eshleman, & O’Brien, 2002). Given the frequency with which prejudice occurs in online gaming, it seems likely that the norms in this environment are more accepting of prejudice than they are in other contexts. I test this in Studies 1 and 2. As well, I explore the role of gender and gamer identification in perceptions of prejudice norms. Although norms are one predictor of prejudiced attitudes, I expect that other factors will also influence how people behave in online gaming. The Online Disinhibition Effect (Suler, 2004) explains disinhibited behaviour as occurring in part because of the anonymity that occurs online. In Study 3, I test if perceptions of anonymity predict prejudiced behaviour. As well, I test the role of individual differences. Several individual differences (e.g., Social Dominance Orientation and Right-Wing Authoritarianism; Ekehammer, Akrami, Gylje, & Zakrisson, 2004; Whitely, Jr., 1999) have been shown to be important in predicting prejudiced attitudes generally. I expect that these traits will be important predictors in online contexts as well. Using Structural Equation Modelling, I test the relative importance of norms, anonymity, and individual differences in predicting prejudiced behaviour. In Study 4, I examine this topic from the perspective of the
target. Using daily diary methods, I explore how frequently prejudice experiences occur during online gaming and what impact these experiences have on gamers’ wellbeing.

1.1 Prejudice in Online Gaming

Most prejudices are less normatively acceptable now than they were in the past (Crandall et al., 2013). However, if you ask someone about their interactions on Xbox Live, a popular chat system for online gaming, you will likely find that racism, sexism, and homophobia are common. Video games have been criticized for a number of reasons and for a number of years. They have been criticized for their violent content and the role this content might play in promoting aggressive behaviour (e.g., Anderson & Bushman, 2001). As well, video games have been criticized for the manner in which they portray gender and race. Female characters are often overtly sexualized or relegated to subordinate roles (Burgess, Stermer, & Burgess, 2007; Dill, Gentile, Richter, & Dill, 2005; Downs & Smith, 2010); non-White characters are often portrayed stereotypically as violent or criminal (Behm-Morawitz, 2008; Saleem & Anderson, 2013). In recent years there has been a growing outcry over these stereotypical representations.

The response to the criticism of game content has illuminated another problem with video games: The behaviour of gamers themselves. After creating a Kickstarter campaign to raise money for a video series exploring tropes of women in video games, Anita Sarkeesian was targeted by people who believed she was unfairly critical of video games. Sarkeesian received thousands of death and rape threats and was forced to cancel a speaking event after receiving a threat that it would become the largest mass shooting in history (Valenti, 2015). Other women in the gaming industry have received similarly negative treatment (e.g., Brianna Wu, Leigh Alexander; Collins, 2014). These extreme examples are illustrative of the larger problem within gaming culture – prejudice is common and acceptable.

Some of the first documentation of prejudice in online gaming comes from anecdotal reports. Websites like fatuglyorslutty.com and notinthekitchenanymore.com document female gamers’ experiences of sexism and harassment in online gaming. The frequency and diversity of sexism documented on these blogs is shocking and disturbing. Comments range from profanity (e.g., “bitch”), to explicit threats of rape and violence, to sexual solicitation. Surveys of gamers’ perceptions of online gaming paint a similarly negative picture. In a 2012 survey, 79.3% of
respondents reported sexism is prominent in the gaming community, 63.3% of female respondents reported having been the subject of sex-based harassment while playing online video games, and 35.8% of female respondents reported they had quit playing temporarily because of sexism experiences while playing video games (Matthew, 2012). Sexism has been recognized as an issue within specific games as well as in video games generally. More than half (63.6%) of women polled about their experiences in *World of Warcraft* reported experiencing sexism within the game (Brehm, 2013).

In an experimental study of gender harassment in online gaming Kuznekoff and Rose (2012) tested how men and women are treated when interacting on Xbox Live while playing a popular shooting game, *Halo 3*. The researchers played *Halo 3* against other gamers and recorded the matches and interactions that took place. The researchers pre-recorded a standardized set of statements to be played during each match. These statements were recorded with a female voice or a male voice, each of which represents a different experimental condition. In the control condition, the researchers played silently (they did not comment during the match). The pre-recorded phrases were selected to be neutral and included general greetings to the other gamers, compliments to other players, or comments about the movements of the opposing team in the game. For each of the 163 matches in which comments were made, any comments that were directed towards the researchers were coded as either positive, negative, or a neutral question. The female voice received three times as many negative comments than did the male voice or the control condition. Many of the negative comments directed towards women focused on gender, for example, a woman’s comment of “hi everybody” elicited the response “shut up you whore” (Kuznekoff & Rose, 2012, p. 551).

Most of the research conducted about interactions in online gaming has focused on sexism and sexual harassment. However, the studies that have been conducted about homophobia and racism reveal a similarly bleak outcome for minority gamers. A study about homophobia in online gaming found that almost all gamers have seen homophobic phrases used: 87.7% reported that gamers use the phrase “that's so gay” and 83.4% reported that players use the terms ‘gay’ and ‘queer’ in a derogatory way (Sliwinski, 2007).

In one of the only surveys studying racism in Xbox Live, Gray conducted an ethnographic survey of Black gamers on Xbox Live (2012). Gray spoke with four Black male gamers about
their experiences in online gaming. She also had several conversations with the perpetrators of racism on Xbox Live. Several themes emerged from this work. One of these themes was the normalization of racism. Participants reported regularly (almost daily) experiencing racist taunts and slurs, suggesting that racism remains common and normal in online gaming. A second theme that emerged was the differentiation between online interactions and face-to-face interactions. Participants identified that although people regularly make racist comments to them in online gaming, almost no one in face-to-face interactions makes these comments. This suggests that people differentiate between contexts and apply different standards and norms depending on the context. A third theme that emerged was a denial of racism. Despite making race-based comments, Gray encountered gamers who denied that they were racist.

Research about interactions in online gaming is limited and it is a developing area of interest as the popularity of video games continues to grow. It is difficult to pinpoint exactly how many people might be affected by prejudice in online gaming because it is hard to get exact numbers of how many people participate in this particular type of game-play. Although recent reports indicate that more than half of North Americans play video games, there are no comprehensive reports of how many people play online video games. A sense of how popular this form of gaming is can be determined by considering one popular online multiplayer computer game: *Legends* (LoL). *League of Legends* has 67 million players, 27 million of whom play daily (Riot Games). These numbers represent a subset of online gamers and emphasize how popular online video games have become. As well, these numbers show the potential for harm that might be caused by prejudice in online gaming and the need to understand what might be causing prejudice to be so common in this environment.

1.2 The Role of Norms in Attitudes and Behaviour

There are several possible explanations for why prejudice is more common and seems to be more acceptable in online gaming than in offline contexts. The first that I explore in my dissertation is the role that social norms – the unspoken rules of acceptable behaviour – have in explaining prejudice in online gaming. Crandall and colleagues conducted a series of studies that show a striking relationship between norms and attitudes (Crandall et al., 2002). They first demonstrated that the extent to which one sample of people says it is acceptable to feel negatively towards particular target groups almost perfectly predicts how warmly a second sample feels towards the
target groups (a correlation of $r = .96$). As well, they demonstrated that normative acceptability of prejudice (how acceptable it is to feel negatively towards a group) predicts how acceptable a different sample of participants report it is to discriminate against that group.

Norms have been shown in a number of studies to predict attitudes and behaviour. For example, participants show more ingroup favouritism in reward and resource allocation when told the ingroup norm is favourable to this behaviour (Jetten, Spears, & Manstead, 1996) or that the ingroup supports a pro-discrimination norm (Gabarrot, Falomir-Pichastor, & Mugny, 2009). Norms predict attitudes more generally, and are shown as important predictors of attitudes towards many groups including immigrants (Falomir-Pichastor, Chatard, Selimbegovic, Nonan, & Mugny, 2013), gay people (Monteith, Deneen, & Toonan, 1996; Periera, Monteiro, & Camino, 2009), and racial minorities (Stangor, Sechrist, & Jost, 2001) and have been shown as important predictors of attitudes even amongst children (Nesdale & Dalton, 2011). Social norms predict negative behaviours like insulting and derogating outgroup members, as well as negative attitudes (e.g., Amiot, Sansfaçon, & Louis, 2013; Amiot, Sansfaçon, & Louis, 2014). Given the importance of norms in predicting both behaviour and attitudes towards outgroup members, I propose that different norms in online gaming environments (than real world contexts) might account for the apparent increases in prejudiced behaviour in online gaming.

Is it necessary to study norms within online gaming separately from norms within other contexts? This question is important to consider, because if there are no differences between the norms in online gaming and the norms in other contexts, there is no need to study online gaming as a unique environment. No one has yet answered this question and my first study is designed to do so. Work by Postmes and colleagues (Postmes, Spears, & Lea, 2000) supports the idea that the norms in online gaming might be unique and apply only to that environment. Postmes and colleagues explored the formation of group norms in a free online statistics course. As part of the class, students were able to send online messages to their classmates. A cluster analysis showed that not all students messaged each other. Instead, students tended to have distinct groups within the class with whom they messaged. The formation of distinct groups allows for an examination of communication norms across groups. Groups displayed different communication norms including differing frequency of flaming behaviours (negative behaviours designed to irritate and annoy), differences in the use of slang, and differences in the length of messages between groups. The differences between groups became more marked over time, suggesting that what is
normative or characteristic of a group becomes more strongly expressed over time. As well, Postmes and colleagues demonstrated that outgroup communications do not adhere to ingroup norms. That is, norms are distinct to the group in which they are formed, students adhered to ingroup communication norms when talking to their ingroup but did not adhere to these norms when communicating outside of this group. Together, these findings support the idea that norms in online gaming will be distinct from norms in other contexts and are likely to grow more distinct over time. This work suggests it is not enough to study prejudice norms in general, rather, it is necessary to study the norms of the specific environment one wishes to understand.

Norms might be a particularly strong predictor of behaviour in online gaming given the anonymity and deindividuation that occurs in online environments (Suler, 2004; Postmes, Spears, & Lea, 1998). The Social Identity model of Deindividuation Effects (SIDE; Postmes et al., 1998, Postmes, Spears, & Lea, 1999) proposes that deindividuation or depersonalization of group members emphasizes the entitativity of the group and encourages behaviour consistent with group norms. That is, the less identifiable (the more anonymous) a person is, the more deindividuated they are, the more they are likely to adhere to group norms. In Computer Mediated Communication, or online communication, people are likely to be more deindividuated than in face-to-face interactions, and are more likely to be influenced by group norms (Postmes et al., 1999). Thus, the Social Identity model of Deindividuation Effects suggests norms might be particularly important to predicting behaviour in online gaming.

Group norms do not influence everyone equally. People whose sense of self is closely tied to the group are more likely to adopt and adhere to group norms (Livingstone, Haslam, Postmes, & Jetten, 2011; Terry & Hogg, 1996). In two studies, Livingstone and colleagues (Livingstone et al., 2011) demonstrate the importance of group identification to the adoption of group norms. They propose that identification mediates the acquisition of ingroup norms: those who identify with a group are more likely and more willing to take on the characteristics or define themselves by the norms of the group. This idea was supported in a study of first year Psychology students. Students who took part in a team-building session showed stronger norm endorsement after the session, but this relationship was mediated by their group identification. In a second study, Livingstone and colleagues demonstrated that identification mediates the acquisition of group relevant norms, but not group irrelevant norms. These studies suggest that people who start playing online video games will adopt gaming norms to the extent that they identify as a gamer.
As well as predicting the adoption of group norms, group identification also predicts adherence to group norms (Terry & Hogg, 1996). In one study, participants were asked about their intentions to exercise for at least 20 minutes three times a week. Two weeks later, they reported on their exercise behaviour. At time one, participants also reported their overall attitude towards exercising, their perceptions of the group norms about exercise (e.g., to what extent other people think exercising is good), and behavioural control (the extent to which they believed they could perform the behaviour if they wanted to). Participants who were strongly identified with their group were influenced by perceived group norms about exercise. That is, those who identified strongly as a student and perceived a group norm of exercising were more likely to exercise than those who were strongly identified and did not perceive a group norm to exercise. A similar pattern was found in a second study in which the researchers explored sunscreen use (Terry & Hogg, 1996). These studies suggest that the extent to which people identify as a gamer is likely to predict the extent to which they behave in a manner consistent with group norms. The work of Terry and Hogg (1996) and the work of Livingstone and colleagues (Livingstone et al., 2011) emphasize the need to include a measure of gamer identification in any work exploring the influence of norms on behaviour in online gaming.

Because of the importance of social norms in predicting prejudiced attitudes and behaviour I designed my first two doctoral studies to explore the idea that norms might be more accepting of prejudice in gaming contexts, and in specific genres of games, in particular. Because of the importance of group identification in acquisition and adherence to group norms, I include a measure of gamer identification as a moderator of the effects of context on norms. Because of known differences in the gaming habits of men and women (men play more strategy, role playing, action, and fighting video games than women and consider video games their primary hobby; Phan, Jardina, & Hoyle, 2012) I also consider gender as a possible moderator of the influence of group norms on prejudice attitudes and perceptions of prejudice norms.

1.3 Individual Differences

Although norms are certainly an important predictor of prejudiced attitudes, they are not the only thing to influence people’s attitudes and behaviours. Akrami and colleagues (Akrami, Ekehamer, Bergh, Dahlstrand, & Malmsten, 2009) tested the extent to which people’s prejudice varies across different normative contexts. They found that although participants’
expressed level of prejudice is influenced by relevant social norms (increases or decreases in normative prejudice), their rank order of prejudice expression remains consistent. That is, although people express more prejudice when prejudice is normatively acceptable, those who express the most prejudice in one situation consistently express more prejudice than others across situations. This suggests that although norms in online gaming might increase the extent to which people are willing to express prejudice, individual differences might combine with norms to predict who is prejudiced in online gaming.

Are people prejudiced towards one group prejudiced towards most groups? Allport (1954) first proposed this idea, and it is generally supported (e.g., Bäckström & Björklund, 2007; Ekehammer et al., 2004). In determining what predicts this general prejudice, researchers have focused on two primary constructs, Right-Wing Authoritarianism (RWA; Altemeyer, 1981) and Social Dominance Orientation (SDO; Pratto et al., 1994). RWA reflects the extent to which people endorse traditional values and defer to established authority (Altemeyer, 1981). In a number of studies it has been shown to predict attitudes towards various groups including Black people, homosexuals, (Whitely, Jr., 1999), women (Altemeyer, 1998), and Jewish people (McFarland, Ageyev, & Abalakina, 1993). Given its established relationship with prejudice, I expect that participants high in this trait will be more likely to report making prejudiced comments in Study 3. Social Dominance Orientation reflects the extent to which people endorse social hierarchy within society and believe some groups should be higher status than others (Sidanius et al., 1994). Like Right-Wing Authoritarianism, Social Dominance Orientation has reliably been shown as a predictor of prejudiced attitudes – people high in SDO tend to be higher in prejudice towards ethnic outgroups (Pratto et al., 1994), women (Ekehammer, Akrami, & Araya, 2000), and homosexuals (Whitely, Jr., 1999). Thus, I expect that those high in SDO will be more likely to make prejudiced comments in the online gaming environment. Although RWA and SDO both predict prejudice, they are not highly correlated (Pratto et al., 1994), and are expected to both be important predictors of prejudiced behaviour.

As well as Right-Wing Authoritarianism and Social Dominance Orientation, I include empathy and internal motivation to respond without prejudice (Plant & Devine, 1998) as predictors of prejudiced behaviour in Study 3. Empathy has been shown to predict prejudice, even when controlling for RWA and SDO (Bäckström, & Björklund, 2007; McFarland, 2010): People high in empathy tend to be low in prejudice. Internal motivation to respond without prejudice has not
been included in previous models testing the independent effects of RWA, SDO, and empathy in predicting prejudice. However, given its emphasis on internal drives not to be prejudiced, I expect that people high in this trait will be less likely to report making bigoted comments in online gaming.

I include RWA, SDO as well as empathy and internal motivation to respond without prejudice (IMS) as central predictors of prejudice. Past work has also explored the role that personality (i.e., the Big Five, John & Srivastava, 1999) plays in predicting prejudiced behaviour. This work shows that although personality predicts SDO and RWA, it does not directly predict prejudiced attitudes (Ekehammer at al., 2004). Based on this work I expect RWA and SDO to be more important predictors of prejudice than basic personality. To determine if this is an accurate expectation, I test an alternative model that includes the Big Five as predictors of RWA and SDO as well as direct predictors of prejudiced behaviour.

There is some evidence that individual differences are important in predicting behaviour within the online gaming environment, specifically. Fox and Tang (2014) explored the role of empathy, Social Dominance Orientation and adherence to masculine norms (beliefs about how men should behave, think, and feel) in predicting sexist behaviour in online gaming. Adherence to masculine norms has previously been found to be associated with acceptance of sexual harassment and disapproval of gender equality (Sinn, 1997). Fox and Tang found that masculine norms and Social Dominance Orientation, but not empathy, predicted how much participants reported making and engaging in various sexist behaviours in the online gaming environment. In my third study, I expand past work by studying how prejudice norms predict prejudiced behaviour in online gaming (racism, sexism, and homophobia). As well, I include additional individual difference variables that are likely to predict prejudice (RWA and internal motivation to respond without prejudice) beyond the two included by Fox and Tang (2014). Importantly, I also include a measure of anonymity, often proposed as an important factor predicting negative behaviour in online environments (Suler, 2004) and gamer identification, which is likely to moderate the extent to which participants are influenced by relevant social norms. Some work (Buckels, Trapnell, & Paulhus, 2014) has shown a relationship between Machiavellianism, narcissism, and psychopathy in predicting trolling behaviour (behaviour that is intentionally harmful or disruptive). I expect that RWA and SDO will be stronger predictors given their demonstrated relationship with prejudice in general, but test an alternative model that includes
Machiavellianism, narcissism, and psychopathy as predictors of prejudiced behaviour in online gaming.

1.4 Costs and Consequences of Prejudice

The first three studies in my dissertation focus on the frequency and predictors of prejudice in online gaming. In my fourth study, I examine prejudice in online gaming from the perspective of the target and attempt to understand how exposure to prejudice in this environment might be associated with wellbeing.

Video games are often viewed as a male-dominated domain (Cote, 2017; Fox & Tang, 2014), despite the fact that half of people who play video game are women (ESA, 2014). The simple fact that half of women play video games ignores variation in the type of games played by men and women. Men are more likely to play what are regarded as core video games (action, strategy, role-playing; Phan et al., 2012) whereas women are more likely to play puzzle and casual games. This may partly be due to the seeming masculine nature of the online gaming environment that accompanies action, strategy, and role-playing games. Given this masculine environment, women may feel uncomfortable and may choose to play other genres or styles of games to avoid dealing with harassment. Indeed, research that has examined how women cope with sexism in online gaming suggests that a common strategy is to avoid this environment completely (Cote, 2017). However, many women persevere and continue to participate in this often-hostile environment. In my fourth study, I examine how experiences with sexism in online gaming influence women’s wellbeing.

A large body of research supports the idea that prejudice and discrimination are detrimental to people’s physical and psychological health (Denton, Rostosky, & Danner, 2014; Major & O’Brien, 2005; Schmitt et al., 2014). Limited work has addressed the implications of prejudice experienced online (versus in offline contexts), but what work has been done suggests that prejudice in this environment can be just as harmful as in other environments. For example, studies that have examined online racial discrimination show that it is associated with increases in depressive symptoms, anxiety, and increased problem behaviour among youth (Tynes, Giang, Williams, & Thompson, 2008; Tynes, Hiss, Rose, Umaña-Taylor, Mitchell, & Williams, 2014). As well, Fox and Tang (2016) have shown that experiences of sexual harassment in online
gaming lead to rumination and withdrawal from gaming. These initial studies support the idea that it is harmful, much like prejudice in other contexts. However, this research is limited in scope and leaves many unanswered questions about the experiences women have in gaming and the consequences of these experiences.

I attempt to address some of these limitations in Study 4 by conducting a daily diary study of women and men’s experiences in online gaming. Having participants report their experiences daily rather than retrospectively will lead to more accurate recollections (Swim, Hyers, Cohen, & Ferguson, 2001). By collecting data from men and women, I am able to compare how frequently people of each gender experience harassment and if this harassment has similar effects across genders. It may be that men experience different types of harassment (general trolling or harassment rather than gender-based harassment) but might be similarly affected as women by these negative experiences. By including only women in their studies, like Fox and Tang (2016) have done, past work has not acknowledged or tested this possibility.

Including men and women in this study also allows me to test one mechanism that gamers might use to cope with prejudice in this context. People belonging to minority groups do not always show lower levels of wellbeing and self-esteem than people who belong to majority groups (e.g., Schmitt, Branscombe, Kobrynowicz, & Owen, 2002). Given the strength and consistency of the relationship between prejudice and lowered wellbeing it is hard to understand how this might be the case. However, the Rejection Identification Model provides one possible explanation for this finding (Schmitt et al., 2002). It seems that people who experience chronic prejudice turn to their ingroup to cope with this, and this increased ingroup identification buffers them from the negative effects of prejudice. This pattern is consistently found in members of stigmatized or subordinate groups, like women, but does not replicate in groups that do not experience chronic prejudice, like men. In my fourth study, I am able to test if gamers who experience prejudice rely on group identification to cope with this prejudice. I am also able to test if gamers of both genders show a similar pattern of identification, and if gamers identify with their gender group or strengthen their identification as a gamer to cope with prejudice in this environment.
1.5 Overview of the Current Work

In my dissertation, I explore several dimensions of prejudice in online gaming. First, I test whether the norms about prejudice are actually perceived to be different in gaming than in face-to-face interactions. Additionally, I test if all video games are the same or if prejudice is seen as particularly common and acceptable in some genres. Next, I explore what factors predict a person’s behaviour in this environment. I include norms as a predictor of behaviour but expand my work to explore other likely predictors like individual differences and anonymity. Finally, I examine prejudice from the target’s perspective and test how common sexism is and what impact it has on gamer’s wellbeing and group identification. This set of studies provides a comprehensive overview of prejudice in online gaming and lays the foundation for future research to explore possible interventions to reduce the toxic nature of the online gaming environment.
Chapter 2
Study 1: Prejudice Norms in Gaming versus the Real World

In Study 1 I test if the norms are perceived differently in online gaming than they are in the real world (e.g., face-to-face interactions). I test this with a modified version of Crandall and colleagues’ (2002) Study 1 design. Participants were asked either to indicate how warmly they felt towards 60 groups or how acceptable it is to be negative towards these groups. These questions were asked either generally (the real world context) or about online gaming. Given the importance of gender in prejudiced attitudes (with men generally being more prejudiced than women, McFarland, 2010) and the importance of group identification in predicting the acquisition and adherence to group norms (Terry & Hogg, 1996) I included gender and gamer identification as moderators of participants’ perceptions of prejudice norms. For all regressions I included participants’ general sexist, racist, and homophobic scores as covariates. I want to test for the influence of context, gamer identification, and gender on perceptions of target warmth and acceptability of social norms. To do this, it seemed prudent to control for general prejudice attitudes. Results reported below are consistent with or without these covariates with minimal variation. The strength of gamer identification is stronger for some outcomes when covariates are not included and this suggests the importance of including these covariates to partial the variance accounted for in gamer identification that is shared with prejudiced attitudes.

2.1 Methods

2.1.1 Participants

Five hundred eighty-six participants from Amazon’s Mechanical Turk passed the attention checks and provided complete data (763 started the survey, 114 did not complete, 8 did not provide post-consent, 55 failed the attention checks). The only reasons I did not retain data were incomplete data (i.e., did not reach the end of the study to provide post-consent) or failed attention checks. Attention checks were simple tasks like identifying the number five from a list of ten numbers. Failure on such a simple task is likely an indication of inattention and thus I did not retain data from participants who failed an attention check. Participants were an average of 35.02 years old (SD = 11.84) and most reported playing video games (85.7%). On average, participants played 8.35 (SD = 10.56) hours a week. Slightly more than half (53.1%) were
female, 4 participants identified as another gender. Almost all participants were straight (89.1%). The majority of participants were White (79.0%), 8.4% were Black, and the remaining 12.6% reported various other racial backgrounds.

2.1.2 Measures

2.1.2.1 Gaming demographics

Participants first completed a brief survey about their gaming habits (e.g., what types of games they play, what age they began playing video games).

2.1.2.2 Norms

I modeled my measurement of norms on the work of Crandall et al. (2002). I assessed the norms for 60 groups in two contexts, in general or in online video games (see Table 1 for a complete list of the groups). Fifty-seven of these groups were taken from the groups Crandall and colleagues included in their original paper; three were additions (gay men, gay women, and women). In the general context participants responded to the question “How acceptable is it to have negative feelings towards the following groups?”. Participants then indicated how acceptable it was on a five-point scale, with higher scores indicating greater acceptability of negative attitudes about that group (1 = “Not OK to feel negatively towards these people”, 5 = “OK to feel negatively towards these people”). In the online video game context participants responded to the question “How acceptable is it to say something negative about the following groups while playing video games?”. Participants responded on a five-point scale with higher scores indicating greater acceptability of saying something negative (1 = “Not OK to say something negative about these people while playing online video games”, 5 = “OK to say something negative about these people while playing online video games”).

2.1.2.3 Warmth

I measured how much people liked each group using a feelings thermometer, an 11-point scale ranging from 0 to 100, increasing in increments of 10 degrees (0 = “0 degrees, Not at all warmly”, 11 = “100 degrees, Very warmly”). Participants indicated how warmly they felt towards each of the 60 groups generally (“How warmly do you feel towards each of the following...”).
groups”) or in an online gaming context (“How warmly do you feel towards each of the following groups when you encounter them while playing online video games”).

Table 1
Mean Ratings of Normative Acceptance of Prejudice and Warmth (in General) Towards 60 Groups, Study 1

<table>
<thead>
<tr>
<th>Groups</th>
<th>Norm</th>
<th>Warmth</th>
<th>Groups</th>
<th>Norm</th>
<th>Warmth</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blind people</td>
<td>1.31</td>
<td>8.04</td>
<td>Environmentalists</td>
<td>1.67</td>
<td>7.75</td>
</tr>
<tr>
<td>Deaf people</td>
<td>1.32</td>
<td>8.09</td>
<td>Homosexuals who raise children</td>
<td>1.69</td>
<td>7.55</td>
</tr>
<tr>
<td>Native Americans</td>
<td>1.37</td>
<td>8.19</td>
<td>Auto mechanics</td>
<td>1.72</td>
<td>7.34</td>
</tr>
<tr>
<td>Women</td>
<td>1.39</td>
<td>8.83</td>
<td>People who are illiterate</td>
<td>1.76</td>
<td>6.35</td>
</tr>
<tr>
<td>Asian Americans</td>
<td>1.40</td>
<td>7.97</td>
<td>Homeless people</td>
<td>1.77</td>
<td>7.28</td>
</tr>
<tr>
<td>Hispanics</td>
<td>1.43</td>
<td>7.85</td>
<td>Accountants</td>
<td>1.77</td>
<td>7.14</td>
</tr>
<tr>
<td>Canadians</td>
<td>1.43</td>
<td>8.33</td>
<td>Fat people</td>
<td>1.78</td>
<td>6.92</td>
</tr>
<tr>
<td>Black Americans</td>
<td>1.44</td>
<td>7.83</td>
<td>Rap music fans</td>
<td>1.78</td>
<td>6.22</td>
</tr>
<tr>
<td>Jews</td>
<td>1.46</td>
<td>7.64</td>
<td>Muslims</td>
<td>1.82</td>
<td>6.10</td>
</tr>
<tr>
<td>Elderly people</td>
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<td>8.33</td>
<td>Mentally unstable people</td>
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<td>5.71</td>
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<tr>
<td>Spelling bee champions</td>
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<td>7.88</td>
<td>Beauty contestants</td>
<td>1.92</td>
<td>6.55</td>
</tr>
<tr>
<td>People on Medicare</td>
<td>1.49</td>
<td>7.79</td>
<td>Welfare recipients</td>
<td>1.94</td>
<td>6.61</td>
</tr>
<tr>
<td>Librarians</td>
<td>1.50</td>
<td>8.23</td>
<td>People who got a job due to</td>
<td>1.95</td>
<td>5.94</td>
</tr>
<tr>
<td>Ugly people</td>
<td>1.52</td>
<td>7.18</td>
<td>Doctors</td>
<td>1.95</td>
<td>7.85</td>
</tr>
<tr>
<td>Dog owners</td>
<td>1.55</td>
<td>8.63</td>
<td>Rednecks</td>
<td>2.33</td>
<td>5.59</td>
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<tr>
<td>Women who play video games</td>
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<td>8.18</td>
<td>Students who rarely study</td>
<td>2.37</td>
<td>5.64</td>
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<tr>
<td>Gay women</td>
<td>1.57</td>
<td>7.45</td>
<td>Members of the National Rifle</td>
<td>2.47</td>
<td>6.14</td>
</tr>
<tr>
<td>Farmers</td>
<td>1.60</td>
<td>8.43</td>
<td>Lawyers</td>
<td>2.65</td>
<td>5.61</td>
</tr>
<tr>
<td>Whites</td>
<td>1.61</td>
<td>8.18</td>
<td>People who sell marijuana</td>
<td>2.67</td>
<td>5.86</td>
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<tr>
<td>Gay men</td>
<td>1.64</td>
<td>7.24</td>
<td>Gamblers</td>
<td>2.67</td>
<td>5.26</td>
</tr>
</tbody>
</table>

Table 1 (continued)

<table>
<thead>
<tr>
<th>Groups</th>
<th>Norm</th>
<th>Warmth</th>
<th>Groups</th>
<th>Norm</th>
<th>Warmth</th>
</tr>
</thead>
<tbody>
<tr>
<td>IRS agents</td>
<td>2.72</td>
<td>4.18</td>
<td>People who smoke</td>
<td>2.85</td>
<td>5.26</td>
</tr>
<tr>
<td>Male prostitutes</td>
<td>2.76</td>
<td>3.97</td>
<td>People who smell bad</td>
<td>2.97</td>
<td>3.95</td>
</tr>
<tr>
<td>1.84</td>
<td>2.36</td>
<td>2.23</td>
<td>Alcoholics</td>
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<td>4.27</td>
</tr>
<tr>
<td>1.90</td>
<td>2.25</td>
<td>2.18</td>
<td>Juvenile delinquents</td>
<td>3.17</td>
<td>4.05</td>
</tr>
<tr>
<td>1.91</td>
<td>2.44</td>
<td>2.38</td>
<td>Politicians</td>
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<td>4.11</td>
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<tr>
<td>1.96</td>
<td>2.74</td>
<td>2.41</td>
<td>People who make homophobic</td>
<td>3.76</td>
<td>3.07</td>
</tr>
<tr>
<td>2.01</td>
<td>2.41</td>
<td>2.40</td>
<td>delinquents</td>
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<td>4.00</td>
</tr>
<tr>
<td>1.96</td>
<td>2.97</td>
<td>2.97</td>
<td>People who make sexist comments</td>
<td>4.02</td>
<td>2.96</td>
</tr>
<tr>
<td>1.95</td>
<td>2.33</td>
<td>2.85</td>
<td>Liars</td>
<td>4.03</td>
<td>2.72</td>
</tr>
<tr>
<td>1.95</td>
<td>2.68</td>
<td>2.59</td>
<td>People who make racist comments</td>
<td>4.17</td>
<td>2.51</td>
</tr>
<tr>
<td>2.33</td>
<td>2.65</td>
<td>3.19</td>
<td>Pregnant women who drink</td>
<td>4.19</td>
<td>2.30</td>
</tr>
<tr>
<td>2.34</td>
<td>2.57</td>
<td>2.57</td>
<td>alcohol</td>
<td>4.31</td>
<td>2.89</td>
</tr>
<tr>
<td>2.99</td>
<td>2.64</td>
<td>2.99</td>
<td>Members of the American Nazi</td>
<td>4.31</td>
<td>1.84</td>
</tr>
<tr>
<td>2.88</td>
<td>3.17</td>
<td>3.17</td>
<td>Party</td>
<td>4.34</td>
<td>2.04</td>
</tr>
<tr>
<td>2.88</td>
<td>3.68</td>
<td>3.68</td>
<td>Racists</td>
<td>4.34</td>
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</tr>
<tr>
<td>2.32</td>
<td>1.96</td>
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<td>Child molesters</td>
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<td>1.45</td>
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<td>2.16</td>
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<td>People who sell marijuana</td>
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</tr>
<tr>
<td>1.86</td>
<td>1.82</td>
<td>1.82</td>
<td>Members of the Ku Klux Klan</td>
<td>4.48</td>
<td>1.83</td>
</tr>
<tr>
<td>1.98</td>
<td>1.27</td>
<td>2.86</td>
<td>Gay men</td>
<td>4.67</td>
<td>1.43</td>
</tr>
</tbody>
</table>
Note. Values in parentheses represent norms in online gaming. The mean ratings were reported on a 1-5 scale. In the real world context 1 = “Not OK to feel negatively towards these people”, 5 = “OK to feel negatively towards these people”; in the video game context 1 = “Not OK to say something negative about these people while playing online video games”, 5 = “OK to say something negative about these people while playing online video games”.

2.1.2.4 Identity and attitudes

As well as the measures of norms and warmth, I included a nine-item measure of gamer identification to measure how important being a gamer is to participants’ self-concept ($\alpha = .97$) and three attitude scales: The Ambivalent Sexism Inventory ($\alpha = .90$; Glick & Fiske, 1996), The Modern Homonegativity Scale ($\alpha = .95$; Morrison & Morrison, 2003), and the Symbolic Racism Scale ($\alpha = .87$; Henry & Sears, 2002). Participants’ responses to these scales were entered as covariates in all analyses so that I could test for the effects of context, gamer identity, and gender beyond participants’ overall prejudice.

2.1.2.5 Demographics

Participants completed a demographics questionnaire in which they indicated their race, age, gender, orientation, education, and income.

2.1.3 Procedure

There were four conditions in this study. All participants completed the video game demographics, the attitude scales, and the demographics questionnaire; however, each participant only completed one rating of the 60 groups. In Condition One, 150 participants completed the general norms ratings (how acceptable it is to feel negatively). In Condition Two, 139 participants completed the norms ratings for the online video game context (how acceptable it is to say negative things while playing video games). In Condition Three, 149 participants completed the general warmth measure and in Condition Four, 148 participants completed the warmth measure for the online video game context. Thus, one group of participants completed general norms evaluations and a second group completed online gaming norms evaluations. A third group completed general warmth evaluations and a fourth group completed warmth evaluations for the online gaming context. Participants first completed the measures of norms or
warmth, then the attitudes scales, followed by the gamer identity scale, and a demographics questionnaire.

2.2 Results

To test the relationship between one group’s perception of the norms and a second group’s attitudes towards the target groups, I first calculated the mean for how acceptable people perceive it to be to have negative attitudes towards a group and a mean of how warmly people feel towards each group. I calculated this for the general norm and warmth ratings and the online gaming norm and warmth ratings. I treated each mean as an individual observation resulting in a total of 60 observations for each of the norms and prejudice conditions.

2.2.1 The relationship between norms and warmth

I conducted two correlation analyses. First, I correlated norms and warmth for the general evaluations (i.e., the real world conditions). Second, I correlated norms and warmth evaluations for the online gaming context. I replicated Crandall et al.’s (2002) original finding: The more people thought it was acceptable to be negative towards a group predicted the extent to which other people felt negatively (low warmth ratings) towards that group in both the general, $r(58) = -.97, p < .001$, and the online gaming contexts $r(58) = -.87, p < .001$ (see Figure 1).
2.2.3 Predictors of perceptions of norms and warmth

I was curious to explore how norms and context influence perceptions of targets and perpetrators of prejudice. I created mean warmth and norms ratings for targets of prejudice (blind people, Hispanics, Asian Americans, deaf people, Black Americans, women, gay women, Jews, Native Americans, Muslims, elderly people, gay men, homeless people, fat people, welfare recipients; norms $\alpha = .98$, warmth $\alpha = .95$) and perpetrators of prejudice (people who make racist comments, people who make sexist comments, people who make homophobic comments; norms $\alpha = .88$, warmth $\alpha = .83$). In order to determine what factors influence how people perceive norms and feel towards targets and perpetrators, I conducted a multiple linear regression to test the effects of three potential predictors, context (online video games vs. the real world), gender (male vs. female), and gamer identification. I included ambivalent sexism, modern homonegativity, and symbolic racism as covariates to test the effects of the moderators independent of participants’ intergroup attitudes. All main effects and covariates were entered at Step 1. At Step 2, I entered the two-way interactions of my predictors (gamer ID, gender, context). In Step 3, I entered the three-way interaction between gamer ID, gender, and context. I effect-coded gender ($-1 = $ female, $1 = $ male) and context ($-1 = $ video game, $1 = $ real world) and centered the continuous
predictor, gamer ID, and covariates. For each of the continuous variables I centered using the mean for participants who evaluated the relevant DV (i.e., when examining moderators of warmth perceptions I centered gamer ID using the mean gamer ID among participants who were in the two warmth conditions; \( n_{\text{norms}} = 280; n_{\text{warmth}} = 287 \)). Data for each model are presented in the relevant table. Only significant predictors are discussed in detail in the results presented below.

2.2.3.1 Target norms

My hypothesized model significantly predicted the extent to which people felt it was acceptable to be prejudiced towards targets of prejudice at Step 1, \( F(6, 273) = 12.88, p < .001, R^2 = .22 \).

Adding the two-way interactions at Step 2 moderately improved the model, \( \Delta F(3, 270) = 2.46, p = .063, \Delta R^2 = .02 \), but including the three-way interaction at Step 3 did not significantly change the predictive ability of the model, \( \Delta F(1, 269) = 1.94, p = .164, \Delta R^2 = .005 \) (see Table 2 for full model statistics).

At Step 1, sexism was a significant predictor of perceptions of target norms, \( \beta = .22, p = .001, 95\% \text{ CI } [.09, .36] \). Racism was a marginally significant predictor \( \beta = .13, p = .075, 95\% \text{ CI } [-.003, .05] \). Each of the three primary predictors was a significant predictor of perceptions of the normative acceptance of negativity towards targets of prejudice. Gamer identification was a significant predictor such that the more strongly identified people thought it was to be negative towards targets of prejudice, \( \beta = .12, p = .027, 95\% \text{ CI } [.01, .14] \). Men were more likely than women to think it acceptable to be negative towards targets of prejudice, \( \beta = .13, p = .022, 95\% \text{ CI } [.02, .25] \). As well, context significantly predicted how acceptable participants said it was to be negative towards targets of prejudice, \( \beta = -.17, p = .002, 95\% \text{ CI } [-.29, -.07] \). Participants reported it was less acceptable to be negative towards targets of prejudice in real life than in the online video game context.

These main effects were qualified by a significant two-way interaction of gender and context, \( \beta = -.13, p = .017, 95\% \text{ CI } [-.25, -.02] \) (see Figure 2). Simple slopes tests show that in the real world condition, there is no difference between how acceptable men and women think negativity towards targets of prejudice is, people from each gender evaluate it as equally unacceptable, \( b = -.002, p = .979 \). However, in the video game context, men and women evaluate negativity towards
targets of prejudice differently, $b = .27, p = .001$. Men perceive prejudice in this context as more acceptable than do women.

Table 2

*Predicting Normative Acceptance of Prejudice towards Targets, Study 1*

<table>
<thead>
<tr>
<th>Variable</th>
<th>Model 1</th>
<th></th>
<th></th>
<th>Model 2</th>
<th></th>
<th></th>
<th>Model 3</th>
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<td></td>
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<td>$\beta$</td>
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<td>$\beta$</td>
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<td>$B$</td>
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$R^2$ change  .22***  .02  .005

$F$ for change in $R^2$  12.88 (6, 273)  2.46 (3, 270)  1.94 (1, 269)
Note. Gamer ID, Homonegativity, ambivalent sexism, and symbolic racism were centered at their means. Gender was effect coded (-1 = female, 1 = male). Context was effect coded (-1 = video game, 1 = real world).

*p < .05, **p < .01, ***p < .001.

Figure 2. The interaction of gender and context predicting normative acceptance of prejudice towards targets of prejudice, Study 1.

2.2.3.2 Perpetrator norms

The hypothesized model significantly predicted how acceptable participants believed it was to be negative towards perpetrators of prejudice. At Step 1, $F(6, 273) = 3.93, p < .001, R^2 = .08$, participants’ homophobia was a significant predictor of attitudes towards people who make bigoted comments such that those who were higher in homophobia were less accepting of negativity towards bigoted people, $\beta = -.17, p = .037, 95\% \text{ CI } [-.38, -.01]$. As well, context was significantly related to how acceptable participants thought it was to be negative towards perpetrators of prejudice, $\beta = .18, p = .002, 95\% \text{ CI } [.08, .35]$. Participants in the video game condition indicated it was less acceptable to be negative towards perpetrators of prejudice than did those in the real world condition.
Adding the two-way interactions at Step 2 moderately improved the model, $\Delta F(3, 270) = 2.59, p = .053, \Delta R^2 = .03$. The marginal model improvement was driven by a significant interaction between gamer identification and context (see Figure 3), $\beta = -.16, p = .009, 95\% \text{ CI} [-.19, -.03]$. In the real world context the extent to which participants identified as gamers predicted how acceptable they thought it was to be negative towards perpetrators of prejudice, $b = -.13, p = .02$ such that people who were more strongly identified indicated that it was less acceptable to be negative towards perpetrators of prejudice. In the video game context there was no effect of gamer identification, $b = .08, p = .180$. It seems that people who are not strongly identified as gamers differentiate between the two contexts whereas those who are strongly identified apply similar norms across both contexts.

Including the three-way interaction at Step 3 did not significantly change predictive ability of the model, $\Delta F(1, 269) = 1.54, p = .215, \Delta R^2 = .005$ (see Table 3 for full model statistics).

Figure 3. The interaction of gamer identification and context predicting normative acceptance of prejudice towards perpetrators of prejudice, Study 1.
Table 3

*Predicting Normative Acceptance of Prejudice towards Perpetrators, Study 1*

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$R^2$ change | .08*** | .03      | .005

$F$ for change in $R^2$ | 3.93 (6, 273) | 2.59 (3, 270) | 1.54 (1, 269)

(DF)

Note. Gamer ID, Homonegativity, ambivalent sexism, and symbolic racism were centered at their means. Gender was effect coded (-1 = female, 1 = male). Context was effect coded (-1 = video game, 1 = real world).

*p < .05, **p < .01, ***p < .001.*
2.2.3.3 Target warmth

Step 1 of the model significantly predicted how warmly participants felt towards targets of prejudice, $F(6, 280) = 5.15, p < .001, R^2 = .10$. Gamer identification was a marginal predictor of warmth towards targets of prejudice, $\beta = .10, p = .086, 95\% \text{ CI } [-.02, .25]$ such that those who were more strongly identified as gamers felt marginally warmer towards targets of prejudice. There was a significant effect of gender, female participants felt significantly warmer towards targets of prejudice than did male participants, $\beta = -.18, p = .003, 95\% \text{ CI } [-.62, -.13]$.

Adding the two-way interactions significantly improved the fit of the model, $\Delta F(3, 277) = 4.09, p = .007, \Delta R^2 = .04$. There was a significant interaction between gamer identification and context, $\beta = -.20, p = .001, 95\% \text{ CI } [-.36, -.09]$ (see Figure 4). In the real world condition, gamer identification did not predict how warmly participants felt towards targets of prejudice. However, in the video game context, those who were more strongly identified as gamers reported feeling warmer towards targets of prejudice.

The model was not improved by adding a three-way interaction, $\Delta F(1, 276) = 1.51, p = .22, \Delta R^2 = .005$. 
Figure 4. Warmth towards targets of prejudice predicted by context and gamer identification, Study 1.

That higher gamer identification predicted more warmth towards targets of prejudice was an unpredicted result. Indeed, this was the opposite effect I expected to find and it seems counter-intuitive that the same people who think it is acceptable to be prejudiced also feel warmly towards targets of prejudice. It seems possible that the underlying cause of the relationship between target warmth and gamer ID might be that gamers feel warmer towards people who play video games; the more strongly they identify as a gamer the more they like others who also play video games. If this is the case, there should be a positive correlation between gamer ID and all 60 groups in the video game condition but not in the real world condition. I tested this by running two Pearson correlations. My hypothesis was supported. Gamer identification predicted warmth evaluations of all 60 groups, \( r(144) = .33, p < .001 \) in the video game condition but not in the real world condition, \( r(147) = -.03, p = .727 \). This suggests that strongly identified gamers do not have more positive attitudes towards targets of prejudice in general, but that they simply like other gamers, even those who are traditional targets of prejudice.
Table 4
Predicting Warmth towards Targets of Prejudice, Study 1

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$R^2$ change          | .10*** | .04** | .005 |
$F$ for change in $R^2$| 5.15 (6, 280) | 4.09 (3, 277) | 1.51 (1, 276) |

(DF)

Note. Gamer ID, Homonegativity, ambivalent sexism, and symbolic racism were centered at their means. Gender was effect coded (-1 = female, 1 = male). Context was effect coded (-1 = video game, 1 = real world).

*p < .05, **p < .01, ***p < .001.
2.2.3.4 Perpetrator warmth

At Step 1, my model predicted perceptions of target warmth, $F(6, 280) = 16.07, p < .001, R^2 = .26$. I found a main effect of modern homonegativity, $\beta = .28, p < .001$, 95% CI [.27, .83], the more negative participants’ attitudes towards gay men were, the warmer they felt towards perpetrators of prejudice. A similar effect was found for symbolic racism, $\beta = .14, p = .043$, 95% CI [.002, .10], and gamer identification, $\beta = .24, p < .001$, 95% CI [.16, .41]. The more racist attitudes participants endorsed and the more strongly participants identified as a gamer, the warmer they felt towards perpetrators of prejudice.

The model was not improved by adding the two-way interactions at Step 2, $\Delta F(3, 277) = 0.82, p = .482, \Delta R^2 = .07$, or by adding the three-way interaction at Step 3, $\Delta F(1, 276) = .52, p = .473, \Delta R^2 = .001$. 
Table 5

*Predicting Warmth Towards Perpetrators of Prejudice, Study 1*

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Note. Gamer ID, Homonegativity, ambivalent sexism, and symbolic racism were centered at their means. Gender was effect coded (-1 = female, 1 = male). Context was effect coded (-1 = video game, 1 = real world).
2.3 Study 1 Discussion

My results support the original pattern found by Crandall and colleagues (2002). The more attitudes are socially normative, the more those attitudes are endorsed. As well, I extend this past work by showing that norms have a similarly strong influence over expressed attitudes in online gaming as they do in the real world context. Norms seem to be perceived somewhat differently in online video games than they are in the real world. Participants reported that norms in online gaming are more accepting of negativity towards targets of prejudice than are norms in the real world.

I also found significant effects of context and gamer identification for perceptions of perpetrator norms (how acceptable it is to be negative towards someone for making a bigoted comment). There was an unsurprising main effect of context; participants reported being negative towards bigots in the real world is more acceptable than in online gaming. Gamer identification moderated this effect, however. In the real world context, gamer identification significantly predicted normative acceptance of negativity towards bigots. More strongly identified people thought it was less acceptable. However, in online gaming, all participants agreed it was equally acceptable. It seems that strongly identified gamers perceive negativity towards bigots as equally unacceptable in both contexts whereas those weakly identified as a gamer differentiate the two contexts and perceive that behaviour as acceptable in one context but not the other.

Warmth towards targets and perpetrators of prejudice was also predicted by gamer identification and context. In the video game context, strongly identified gamers felt warmer towards traditional targets of prejudice than did weakly identified participants. This is the opposite effect I expected and is quite puzzling. The same people who see prejudice as more acceptable also feel warmer towards targets of prejudice. However, it seems that they feel warmly towards these groups of people because they represent people who play video games. Indeed, gamer identification predicted feeling warmer to an aggregate of all 60 groups in the video game context but not in the real world context, suggesting it is an effect of gamer identity and groups encountered in this context rather than a measure of reduced prejudice or liking specifically for targets of prejudice. Warmth towards perpetrators of prejudice was also predicted by gamer
identification but this effect was not moderated by context. That is, the more strongly people identified as gamers, the warmer they perceived perpetrators of prejudice to be. That this was not moderated by context suggests it is not an artefact of gamers liking other gamers.

Together, the results from Study 1 suggest that the norms are more accepting of prejudice in online gaming and that some people (strongly identified gamers) endorse these norms more strongly than others (weakly identified gamers). Video games are varied, however. Different genres of games boast very different game-play experiences. Playing Call of Duty is a different gaming experience than playing Candy Crush. In Study 1, I ignore these very real differences by asking people about video games generally. In Study 2, I attempt to develop a more finely tuned understanding of norms in gaming by studying norms in specific genres. As well, I ask about norms in a different manner to ensure that the results of Study 1 are not limited to a specific measurement of norms. Using a different question to ask about norms in Study 2 also corrects a limitation of Study 1. To measure norms in Study 1 I asked about feelings in the real world context and behaviour in the video game context. This might have reduced the context effects; participants may be more willing to report feeling negatively towards someone than acting negatively towards them. In Study 2, the questions assessing norms are phrased identically across contexts and therefore provide more certainty about the strength of the context effects.
Chapter 3
Study 2: Norms Across Genres

In this study I assess participants’ perceptions of the norms in five contexts: four video game genres (online action, racing and/or sports, role-playing games, and casual or puzzle games) and in face-to-face conversations. Rather than asking participants how acceptable it is to make negative comments about various groups in these contexts, I asked participants how common are a variety of phrases. I included sexist, racist, homophobic, negative (but not bigoted) and positive phrases that were developed from open-ended responses on previous surveys about communication in online gaming. As much as possible I developed phrases that were previously reported as common in online gaming (this was disappointingly easy to do with the three types of prejudiced comments). I also asked how offensive these comments are. I expect that prejudiced comments will be more common in action games than puzzle games and will be rated as less offensive the more common they are. I expect that offensiveness will be predicted by context, but also by gamer identification.

3.1 Methods

3.1.1 Participants

Three hundred sixty-seven participants recruited on Amazon’s Mechanical Turk passed the attention check and fully completed this study (443 participants started the survey, 37 did not complete, 2 did not provide post-consent, 37 failed the attention checks). Slightly more than half of our sample was female (n = 200), most participants were straight (n = 323), and most reported that they play video games (n = 294). The majority of our sample was White (n = 293) but participants also identified as Black (n = 27), Latino/a (n = 16), East or South-East Asian (n = 15), multiracial (n = 8), South Asian (n = 2), Middle Eastern (n = 1), or another racial background (n = 5). Seventy-three participants gave responses about their perceptions of comments in action video games, seventy-two about racing/sports games, seventy-four about role-playing games, seventy-six about casual/puzzle games, and seventy-two gave responses about their perceptions of comments in face-to-face interactions.
3.1.2 Measures

3.1.2.1 Norms (frequency of prejudiced comments)

As a measure of prejudice norms I assessed how frequently various types of prejudiced comments are made. Participants indicated how often people make each of five sexist comments (e.g., you’re such a slut), each of five racist comments (e.g., go back to Africa), and each of five anti-gay comments (e.g., that’s so gay). I also measured negative behaviour by having participants indicate how often 15 negative, but not bigoted, comments are made (e.g., you suck) and positive behaviour by having participants indicate how often 15 generally positive comments are made (e.g., great work). Participants indicated how often people make each of the 45 comments on a 7-point scale (1 = “Never”, 7 = “Always”). I computed an average frequency for prejudiced comments (sexist, racist, anti-gay; $\alpha = .93$), positive comments ($\alpha = .95$), and negative comments ($\alpha = .94$).

3.1.2.2 Offensiveness

To test the influence of context (genre of game and face-to-face) on perceived offensiveness, I asked participants how offensive each of the 45 comments was. Participants responded for each item on a 7-point scale (1 = “Not at all offensive”, 7 = “Very offensive”). I computed an average offensiveness score for prejudiced comments (sexist, racist, anti-gay; $\alpha = .94$), positive comments ($\alpha = .94$), and negative comments ($\alpha = .94$).

3.1.2.3 Individual differences

I measured three individual difference variables, gamer ID, Right-Wing Authoritarianism, and Social Dominance Orientation.

I measured gamer identification with nine items that assess how central being a gamer is to a person’s self-concept. Gamer ID is measured with items like “I have a strong sense of belonging to the gaming community”. For each item, participants responded on a 7-point scale (1 = “Strongly disagree” to 7 = “Strongly agree”; $\alpha = .96$)

The Right Wing Authoritarianism scale measures the extent to which participants are willing to submit to authority and endorse traditional norms and values. Participants completed a shortened
version of the RWA scale (α = .92; Rattazzi, Bobbio, & Canova, 2007) consisting of 21-items that measure conservatism (e.g., “We should treat protestors and radicals with open arms and open minds, since new ideas are the lifeblood of progressive change” reverse-scored) and authoritarian aggression and submission (e.g., “What our country really needs instead of more “civil rights” is a good stiff does of low and order”). They responded to each item on a 9-point scale from -4 = “Strongly disagree” to 4 = “Strongly agree”.

The Social Dominance Orientation scale consists of 13 items that assess the extent to which participants endorse social hierarchy with items like “Some groups are simply inferior to other groups” (α = .94; Pratto et al., 1994). Participants responded to each item on a 7-point scale from 1 = “Strongly disagree” to 7 = “Strongly agree”.

3.1.2.4 Gaming demographics

Participants reported whether or not they play video games, how many hours they play, on average, each week, and what their favourite games are.

3.1.2.5 Demographics

Participants reported their age, race, gender, educational achievement level, sexual orientation, and country of residence.

3.1.3 Procedure

Participants were recruited via Amazon’s Mechanical Turk. They were told we were interested in perceptions of language and phrases in North American society. In each condition, participants viewed the 45 phrases and indicated how frequently they occurred and how offensive they were when they occurred in one of five contexts: online action videogames, racing and/or sports games, role-playing games, casual or puzzle games, or face-to-face conversations. Participants first evaluated how frequently each comment occurs then viewed the 45 comments again and indicated how offensive they are.
3.2 Results

3.2.1 Frequency

I predicted that prejudiced comments would be reported as more common in action, role-playing, and possibly sports/racing games than in puzzle/casual games or face-to-face interactions. To test my predictions, I conducted a one-way Analysis of Variance (ANOVA) with context (action, role-playing, sports/racing, puzzle/casual, and face-to-face) as the predictor and frequency of prejudice as the outcome variable. There was a significant effect of context on reported frequency of prejudice, $F(4, 362) = 9.16, p < .001$. I conducted Tukey’s HSD post-hoc tests to determine where the differences lay (see Figure 5). Prejudice was reported as similarly frequent in action games as in role-playing games ($p = .899$), and as more common in action games than sports/racing games ($p < .001$), casual/puzzle games ($p < .001$), or in face-to-face interactions ($p = .014$). Prejudice was less common in sports/racing games than role-playing games ($p = .004$), but similarly common in sports/racing games as in casual/puzzle games ($p = .998$) and face-to-face interactions ($p = .705$).

The frequency of negative comments varied by context, $F(4, 362) = 15.027, p < .001$. Negative comments were similarly frequent in action games and role-playing games ($p = .995$). They were more common in action games than in racing/sports games ($p = .003$), casual/puzzle games ($p < .001$), or face-to-face interactions ($p = .001$). Negative comments were also more common in role-playing games than racing/sports games ($p = .010$), casual/puzzle games ($p < .001$), or face-to-face interactions ($p = .004$).

Positive comments occurred more frequently in some contexts than others, $F(4, 362) = 4.02, p = .003$. Positive comments were more frequent in face-to-face interactions than in action video games ($p = .007$) or role-playing games ($p = .005$).
3.2.2 Offensiveness

I expected that the offensiveness of comments would vary depending on the context (see Figure 6). I conducted two one-way ANOVAs to determine if prejudiced comments and negative comments are more or less offensive depending on the context in which they are made. How offensive prejudiced comments were perceived to be varied depending on the context in which they were made, $F(4, 362) = 4.15, p = .003$. Comments made in face-to-face interactions were perceived as more offensive than comments made in action or role-playing games ($p = .025$ and $p = .005$, respectively).

Similarly, context predicted the offensiveness of negative comments, $F(4, 362) = 7.57, p < .001$. Comments made in face-to-face conversations were perceived as more offensive than comments made during action games ($p < .001$), sports/racing games ($p = .001$), or role-playing games ($p < .001$). There was no difference between the face-to-face context and the casual/puzzle games context ($p = .153$).
3.2.3 Predicting perceptions of frequency and offensiveness

Participants perceived prejudice as equally frequent and offensive when it occurred in action video games and role-playing games. As well, prejudice in puzzle/casual games was evaluated as equally frequent and offensive as in face-to-face interactions. I consolidated these conditions such that action and role-playing were combined into a single condition and the puzzle/casual and face-to-face contexts were combined into a single condition. I used linear hierarchical regression to test the role of context, gamer identification, gender, Social Dominance Orientation, and Right-Wing Authoritarianism in predicting frequency and offensiveness of prejudice. For each regression, I entered mean-centered predictors (gamer ID, SDO, RWA), gender (female = -1, male = 1), context (puzzle/face-to-face = -1, action/role-playing = 1), and the interaction term of gender and mean-centered gamer ID.

Frequency of prejudice was predicted by our model, $R^2 = .10, F(6, 286) = 5.07, p < .001$. Context predicted perceived frequency, $\beta = .27, p < .001$. As I found when testing all five contexts, prejudice was more common in action/role-playing interactions than in puzzle/face-to-face interactions. Social Dominance Orientation was a marginally significant predictor, $\beta = .11, p =$
.093. Participants who were higher in SDO perceived prejudice as being moderately more frequent. Gender, RWA, gamer ID, and the interaction between gender and gamer ID were non-significant as predictors of perceived frequency of prejudiced comments (all $p$’s > .16).

How offensive prejudiced comments were perceived to be was significantly predicted by my model, $R^2 = .27$, $F(6, 286) = 17.60$, $p < .001$. Comments were perceived as less offensive when made in action or role-playing games than in puzzle games or face-to-face interactions, $\beta = -.19$, $p < .001$. Men perceived prejudiced comments as less offensive than did women, $\beta = -.13$, $p = .014$. Participants high in SDO perceived the comments as less offensive than those low in SDO, $\beta = -.36$, $p < .001$. Gamer ID was significantly related to perceptions of offensiveness as well, the higher participants were in gamer ID the less offensive they perceived prejudiced comments to be, $\beta = -.11$, $p = .031$. Right-Wing Authoritarianism ($\beta = -.06$, $p = .289$) and the interaction between gender and gamer ID ($\beta = .06$, $p = .280$) were unrelated to perceived offensiveness of prejudiced comments.

### 3.3 Study 2 Discussion

Not only is frequency of prejudice dictated by the context, so is offensiveness. The same comments are perceived as less offensive when made in action and role-playing games than when made in puzzle games or in face-to-face contexts. Context was the most important predictor of perceived frequency. Context was also important for offensiveness but a traditional predictor of general prejudice, Social Dominance Orientation, as well as gamer identification was also important in predicting perceived offensiveness. This study provides support for the conclusions drawn from Study 1. Using a different measure of context and of norms I have demonstrated that prejudice is indeed perceived as more common in gaming than face-to-face contexts, but this depends on the type of game being played. As well, this study provides initial support for the idea that how people respond to prejudice in this environment and how acceptable they perceive it to be might depend on various individual differences, including gamer identification and Social Dominance Orientation. In Study 3, I take my study of prejudice in online gaming one step further and attempt to create a parsimonious, but complete, model to account for what predicts how people behave in online gaming.
Chapter 4
Study 3: Predicting Prejudiced Behaviour

My goal in Study 3 is to explain why people engage in bigotry in online gaming. Both norms and individual differences are likely to be important to predicting behaviour. Past work has often considered one of these when attempting to explain attitudes but only considering one does not allow us to draw conclusions about which is relatively more important, or indeed, if both are important to consider when explaining prejudiced behaviour. People often point the finger at anonymity in online interactions when attempting to explain prejudice. Because of this, I include a measure of perceived anonymity in my model. As well, because there are gender differences in gaming habits (Phan et al., 2012) and prejudice (McFarland, 2010) I include gender in my model. The final variable I consider in predicting prejudiced behaviour is gamer identification. As shown in Studies 1 and 2, gamer identification influences perceptions of the norms. It might influence reported behaviour either directly or through its influence on perceptions of prejudice norms. Including gamer identification allows me to test these possibilities.

I test two primary models in Study 3. I use Structural Equation Modelling to test the relative importance of individual differences (empathy, internal motivation to respond without prejudice, Right-Wing Authoritarianism, and Social Dominance Orientation) to predict perceptions of norms (the frequency of racism, sexism, and homophobia), and reported prejudiced behaviour. I include gender as a predictor of individual differences and gamer identification, and gamer identification as a predictor of norms and prejudiced behaviour. The second model tests these same input variables as predictors of confrontation of prejudice. In the second model, prejudice norms are replaced with confrontation norms (how often others confront prejudice). See Figures 7 and 10 for full illustrations of these models; descriptives are presented in Tables 6, 8, and 9, and inter-correlations of measured variables are presented in Table 7. Alternate models predicting prejudiced behaviour are presented in Figures 8 and 9 and are discussed below.

4.1 Methods

4.1.1 Participants

Five hundred fifty-five participants from the University of Toronto and the University of Virginia completed the survey (687 started the survey, 131 did not complete, 58 failed the
attention checks). Our sample had more female participants who did not play videogames than females who did, or males (who did or did not play video games). To correct this imbalance, I randomly selected half of the female non-gamers to retain in our final sample. Our final sample was composed of 384 participants, 150 male participants and 230 female participants. One hundred thirteen of our male participants and 116 of our female participants play video games. Our final sample included data from 217 students from the University of Virginia and 167 students from the University of Toronto. Participants were an average of 19.06 (SD = 2.60) years old and of diverse racial backgrounds (White n = 183, East/Southeast Asian n = 121, South Asian n = 24, multiracial n = 19, Black n = 16, Middle Eastern n = 12, Latino/a n = 7, Aboriginal n = 1, one participant did not identify with any of these racial categories).

4.1.2 Materials

4.1.2.1 Attitudes

Participants completed a shortened (10-item) version of the Ambivalent Sexism Inventory (α = .84), a scale designed to assess hostile (α = .86) and benevolent (α = .78) sexism. The scale consists of items like “Many women interpret innocent remarks or acts as being sexist”. Participants responded to each item on a 6-point scale (1 = “Strongly disagree”, 6 = “Strongly agree”). Participants completed the Modern Homonegativity Scale as a measure of their attitudes towards gay men (α = .87; Morrison & Morrison, 2002). The scale consists of ten items including “If gay men want to be treated like everyone else, then they need to stop making such a fuss about their sexuality/culture”. Participants indicated their agreement to each item on a five-point scale (1 = “Strongly disagree”, 5 = “Strongly agree”). Attitudes towards Black people were measured with the Symbolic Racism Scale (α = .79). The Symbolic Racism Scale is composed of 8 items including items like “It’s really a matter of some people not trying hard enough; if Blacks would only try harder they could be just as well off as Whites”. Each item has a unique response set; higher scores on this scale indicate higher levels of racial prejudice.

4.1.2.2 Individual differences

I explored several individual difference measures related to prejudice including Social Dominance Orientation, Right-Wing Authoritarianism, empathy, and internal motivation to
respond without prejudice. As well, I measured the big five personality traits, Machiavellianism, Narcissism, and Psychopathy to test alternative models predicting prejudiced behaviour in online gaming.

The Social Dominance Orientation scale (α = .90; Pratto et al., 1994) and the Right Wing Authoritarianism scale (α = .92; Rattazzi et al., 2007) are the same scales used in Study 2.

To measure empathy, I used the Toronto Empathy Questionnaire (Spreng, McKinnon, Mar, & Levin, 2009). The scale consisted of 16 items such as “When someone else is feeling excited, I tend to get excited too” (α = .85). Each item was measured on a scale of 1-5 (1 = “strongly disagree”, 5 = “strongly agree.”).

The Internal and External Motivation to Respond without Prejudice scale (Plant & Devine, 1998) captures the extent to which participants behave in egalitarian ways because it aligns with their personal values (internal motivation) and because they wish to avoid negative reactions from others (external motivation). The scale includes five items to measure internal (α = .85) and external (α = .87) motivations to respond without prejudice, all items are answered on a 7-point scale (1 = “Strongly disagree”, 7 = “Strongly agree”). The original scale was developed to measure attitudes towards racial prejudice; I modified the items to apply to prejudice in general (e.g., “Being non-prejudiced towards people is important to my self-concept”).

Participants completed the 27-item Short Dark Triad Scale to measure their state Machiavellianism, psychopathy, and narcissism (Jones & Palhaus, 2014). The Machiavellianism subscale consists of 9 items to measure the extent to which participants are manipulative, callous, and calculating (e.g., “Most people can be manipulated”; α = .84). The psychopathy subscale consists of 9 items that assess how impulsive and lacking in self-control people are (e.g., “People who mess with me often regret it”, α = .72). The narcissism subscale is composed of 9 items and captures the extent to which participants have grandiose and ego-enhancing self-perceptions (e.g., “People see me as a natural leader”, α = .69). All items are completed on a 7-point scale (1 = “Strongly disagree”, 7 = “Strongly agree”).

To assess the Big Five personality traits, participants completed the 44-item Big Five Inventory (John & Srivastava, 1999). This scale measures extraversion (8 items including “Is outgoing, sociable”; α = 87), agreeableness (9 items including “Is considerate and kind to everyone”; α =
conscientiousness (9 items including “Is a reliable worker”; $\alpha = .80$), neuroticism (8 items including “Worries a lot”; $\alpha = .84$), and openness (10 items including “Is curious about many different things”; $\alpha = .80$). Participants indicated how strongly each item applied them on a 7-point scale (1 = “Strongly disagree”, 7 = “Strongly agree”).

4.1.2.3 Gaming demographics

Participants’ experiences with video games are expected to predict how they feel about prejudice in online gaming. A series of questions assessed participants’ gaming history including the age at which they started playing video games, their favourite gaming platforms, and the number of hours they play video games each week. Participants also answered questions about how frequently and in what way they use in-game chat features (“How often do you use voice or text chat while playing?”; “When you use a chat option during a game, what percent of the time do you use it to talk only with people you know?”). Participants responded to the in-game chat questions using a 10-point scale. The scale increased in 10% increments from 1 = “<10% of the time” to 10 = “91-100% of the time”.

4.1.2.4 Anonymity

The extent to which participants feel they are anonymous while playing online video games was assessed with three items: “I am anonymous while playing online video games”, “My real-life identity is not associated with my online identity” and “It is very easy for people in video games to determine my real-life identity” All items were answered on a 7-point scale (1 = “Not at all”, 7 = “very much”; $\alpha = .50$).

4.1.2.5 Group identification

Participants completed nine items to assess how important being a gamer is to their identity or sense of self (“Being a gamer is central to who I am as a person”). They indicated agreement with each statement on a 7-point scale ranging from 1 = “strongly disagree”, to 7 = “strongly agree” ($\alpha = .97$).
4.1.2.6 Participants’ prejudice behaviour in online gaming

I asked participants how frequently they make comments based on other players’ gender, race, and sexual orientation (1 = “never”, 7 = “very often”). I did not label this behaviour as sexist, racist, and homophobic to encourage honest responses from participants.

4.1.2.7 Normative perceptions of prejudiced behaviour in online gaming

I measured norms by assessing how common prejudiced behaviour is in online gaming. Participants reported how frequently the average gamer makes comments based on people’s race, gender, and sexual orientation using a 7-point scale (1 = “never”, 7 = “very often”). Using the same scale, participants indicated how frequently they see inappropriate comments made by other gamers (i.e., aggressive/threatening comments) and how often they see/hear comments based on player status (e.g., noob).

4.1.2.8 Responses to prejudice

Participants reported how often they confront prejudiced comments in online gaming (1 = “never”, 7 = “very often”) and how often they see prejudiced comments confronted in online gaming (1 = “never”, 7 = “very often”). I used the frequency with which participants see prejudice confronted as an indication of the norms related to confrontation in online gaming. Participants also indicated how people typically respond to prejudice in online gaming by selecting which of four options most accurately represented the typical response (ignoring the comment, being amused by the comment, confronting the comment, or making similarly prejudiced comments).

4.1.2.9 Motivations to engage in prejudice in online gaming

Participants indicated their agreement with several statements to assess why they might be motivated to make prejudiced comments in online games. Participants indicated their agreement with the following statements: “I use comments about other people’s race, gender, and/or orientation strategically to gain an advantage while playing video games”, “I think it is fun to make comments that refer to people’s race, gender, and/or orientation”, “Most gamers make comments based on people’s race, gender, and/or orientation so I make similar comments”, and
“I think making comments based on people’s race, gender, and/or orientation helps me belong in the gamer community”. Participants also indicated how much each statement describes why most gamers would make prejudiced comments in online gaming. All responses were made on a 7-point scale (1 = “strongly disagree”, to 7 = “strongly agree”).

4.1.2.10 Demographics

Participants provided information about their demographic background including their gender, racial background, and age.

4.1.3 Procedure

Participants completed the survey using an online survey program, Qualtrics. They were compensated with one research credit for their introductory psychology course. Participants completed a series of questionnaires including items to assess their attitudes towards traditional targets of prejudice, individual difference measures, measures of their behaviour in online gaming and their perceptions of other gamers’ behaviour, and video game demographics (e.g., what and how much they play). Upon being debriefed, participants completed a post-consent process and were given the opportunity to withdraw their data.

4.2 Results

4.2.1 Video game descriptors

Two hundred twenty-nine participants reported that they play video games (113 males, 116 females). On average, participants played 4.74 hours each week (SD = 5.64). Male participants reported spending more time playing video games each week than did female participants, t(226) = 2.80, p = .006 (M_{male} = 5.65, SD = 5.83; M_{female} = 3.67, SD = 4.81). On average, participants had been playing video games for 11.15 years (SD = 3.75). Male and female participants did not vary in the number of years playing video games, t(227) = 0.04, p = .966.
4.2.2 Behaviour in online gaming

4.2.2.1 Online chat

Participants reported infrequently using chat options while playing video games ($M = 2.54, SD = 2.70$). This is representative of using chat options between 20% and 30% of the time they played video games. However, there was a gender difference in the use of chat, $t(221) = 2.77, p < .001$. Men ($M = 3.04, SD = 2.91$) were more likely to report using chat than were women ($M = 2.05, SD = 2.40$). The more people identified as a gamer, the more likely they were to report using chat options, $r(224) = .47, p < .001$. This was true for men, $r(110) = .49, p < .001$, and women, $r(109) = .42, p < .001$.

Approximately half of the time that participants used online chat options they used it to chat with people they already knew ($M = 5.28, SD = 4.06$). This was similar for men ($M = 4.01, SD = 0.38$) and women ($M = 4.11, SD = 0.40$), $t(213) = 1.45, p = .148$. Identification as a gamer was unrelated to chatting online with people participants know, $r(216) = .08, p = .22$. Gamer ID was unrelated to chatting with friends for men, $r(107) = .03, p = .727$ and women, $r(104) = .12, p = .224$.

4.2.2.2 Reactions to prejudice in online gaming

In the second Structural Equation Model, I predict how often participants confront prejudice using individual differences and perceptions of confrontation norms. However, confrontation is not the only possible response when encountering prejudice (nor is it likely to be the most common response, e.g., Dickter, 2012) and I was curious to explore what response participants perceive as the most common when prejudice occurs in online gaming. Although 76% of participants believed that racist, sexist, and homophobic comments should be confronted, only 18.5% reported that people generally respond with prejudice confrontation in online gaming. Of the four response options (confront, ignore, amusement, respond in-kind), confrontation was the least commonly selected response. Participants reported that the most frequent response to prejudice in online gaming is to ignore it (35.4% reported ignoring prejudice as the most common response). The second most common response to prejudice was reported as making similar comments (i.e., being prejudiced in response; 23.2% of participants reported this as the
most common response to prejudice), followed by general amusement (people find the prejudiced comment amusing; 19.3%). Perceptions of how people tend to respond to prejudice in online gaming was not moderated by gender, $\chi^2(3, 367) = 3.52, p = .32$.

4.2.2.3 Motivations for engaging in prejudiced behaviour

Some researchers argue that anonymity causes disinhibited behaviour online (e.g., Suler, 2004). I expect that anonymity on its own is not sufficient to explain why people seem to behave differently in online gaming than in other contexts. That people behave differently in online gaming than other contexts is a common belief, endorsed by 94.8% of participants in this study. I explored several explanations for why people might engage in more prejudice in online gaming than other contexts. Participants indicated how often they use comments about race, gender, and orientation to gain a strategic advantage over their opponent, how fun they found this sort of commenting to be, to what extent they make these comments because other gamers do, and how much making these comments helps them fit in. None of these explanations were strongly endorsed but there were gender differences in the extent to which participants endorse each of these explanations. Overall, using prejudice strategically was uncommon ($M = 1.43, SD = 0.98$), but men ($M = 1.73, SD = 1.28$) were more likely than women ($M = 1.23, SD = 0.66$) to report using prejudice in this way, $t(372) = 4.95, p < .001$. Similarly, participants reported infrequently making prejudiced comments because it is fun ($M = 1.54, SD = 1.10$), but men ($M = 1.95, SD = 1.28$) were more likely to report making prejudiced comments for fun than were women ($M = 1.28, SD = 0.78$), $t(373) = 5.97, p < .001$. Participants did not strongly endorse the statement that they make prejudiced comments because other gamers do ($M = 1.75, SD = 1.35$), but men ($M = 2.19, SD = 1.56$) showed more endorsement of this statement than did women ($M = 1.46, SD = 1.11$), $t(372) = 5.26, p < .001$. Similarly, participants did not strongly endorse the statement that making prejudiced comments helped them fit into the gaming community ($M = 1.45, SD = 0.99$) but again, men ($M = 1.67, SD = 1.18$) were more likely to endorse this than were women ($M = 1.31, SD = 0.81$), $t(372) = 3.53, p < .001$.

The more strongly participants identified as a gamer, the more likely they were to endorse the use of prejudice as a strategic tool, $r(376) = .17, p = .001$, prejudice as fun, $r(377) = .13, p = .012$, to report making prejudiced comments because most gamers do, $r(376) = .14, p = .008$, and to report making prejudiced comments to fit in to the gamer community, $r(376) = .11, p = .033$. 45
It seems that people who identify strongly as gamers endorse each explanation for why they might make prejudiced comments in online gaming, so does this just reflect that strongly identified gamers make more prejudiced comments? To test this, I correlated gamer identification with the frequency with which participants report making comments based on race, gender, and sexual orientation. Gamer ID was not significantly correlated with frequency of race-based comments, \( r(377) = .10, p = .054 \), gender-based comments, \( r(377) = .07, p = .16 \), or comments about sexual orientation, \( r(377) = .03, p = .61 \). Therefore, it appears that although strongly identified gamers provide more justifications for making prejudiced comments (e.g., it is strategic, helps them belong to the community), they do not actually make more prejudiced comments than weakly identified gamers.

4.2.2.4 Frequency of prejudiced behaviour

Participants indicated how frequently they make comments based on race, gender, and orientation, how often their friends make these comments, and how frequently the average gamer makes these comments (see Table 6). I tested if participants perceive others’ prejudiced behaviour as more or less frequent than their own prejudiced behaviour by running a repeated-measures Analysis of Variance for each type of prejudiced comment. I compared the frequency with which participants report making race, gender, and orientation-based comments to the frequency with which they report their friends make these comments, and how frequently they report the average gamer makes these comments. The frequency of racist comments varied depending if participants were reporting their behaviour, their friend’s behaviour, or the average gamers’ behaviour, \( F(2, 754) = 297.19, p < .001 \). Participants reported they make racist comments less frequently than their friends do \((p < .001)\) or than the average gamer does \((p < .001)\). Participants reported their friends make racist comments less frequently than the average gamer \((p < .001)\). Similarly, the frequency of gender-based comments varied amongst these groups, \( F(2, 754) = 324.27, p < .001 \). Participants reported making gender-based comments less frequently than their friends \((p < .001)\) or the average gamer \((p < .001)\), and they reported that their friends made gender-based comments less often than the average gamer \((p < .001)\). A similar pattern was found for the frequency of comments about sexual orientation, \( F(2, 754) = 297.55, p < .001 \). Participants reported making comments about sexual orientation less frequently than their friends \((p < .001)\) and the average gamer \((p < .001)\), and their friends make comments about orientation less frequently than the average gamer does \((p < .001)\). It appears that
participants see themselves as fairly non-prejudiced but think the average gamer is much more likely to be making bigoted comments than they are.

Table 6

Frequency of how often participants report making prejudice comments, how often their friends make prejudiced comments, and how often the average gamer makes prejudiced comments (Study 3).

<table>
<thead>
<tr>
<th></th>
<th>Race</th>
<th>Gender</th>
<th>Orientation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Participants comment</td>
<td>1.51 (1.18)</td>
<td>1.53 (1.17)</td>
<td>1.56 (1.32)</td>
</tr>
<tr>
<td>Friends comment</td>
<td>2.03 (1.50)</td>
<td>2.12 (1.50)</td>
<td>2.13 (1.60)</td>
</tr>
<tr>
<td>Average Gamers</td>
<td>3.39 (1.75)</td>
<td>3.69 (1.84)</td>
<td>3.73 (1.89)</td>
</tr>
</tbody>
</table>

*Note.* Standard deviations are in parentheses.

### 4.2.3 Predicting prejudiced behaviour

To test what predicts prejudiced behaviour in online gaming, I conducted a Structural Equation Model including anonymity, prejudiced traits, perceptions of prejudice norms, and gamer engagement. I tested to what extent self-reported prejudiced behaviour (how often the participant makes comments based on race, gender, and orientation of other players) was predicted by prejudice norms in online gaming (how often participants see other gamers making comments based on the race, gender, and orientation of other players), prejudiced personality (Right-Wing Authoritarianism, Social Dominance Orientation, empathy, and Internal Motivation to Respond without Prejudice), engagement in gaming (how strongly participants identify as a gamer, how many hours they play video games each week, and the frequency with which they use a chat system while gaming), and anonymity. Correlations among the measures are presented in Table 7, and descriptives for the predictors are presented in Table 8.
Table 7
**Inter-correlations between measured variables Study 3.**

<table>
<thead>
<tr>
<th>Variable</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
<th>12</th>
<th>13</th>
<th>14</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>.07</td>
<td>-</td>
<td>-.09</td>
<td>.18**</td>
<td>.24**</td>
<td>.26**</td>
<td>.26**</td>
<td>.18**</td>
<td>-.07</td>
<td>-.09</td>
<td>-.09</td>
<td>-.05</td>
<td>-</td>
<td>-.07</td>
</tr>
<tr>
<td>Anonymity</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>RWA</td>
<td>-.09</td>
<td>-.05</td>
<td>-</td>
<td>-.03</td>
<td>-.02</td>
<td>.02</td>
<td>.08</td>
<td>.002</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>SDO</td>
<td>.51**</td>
<td>-.02</td>
<td>-.05</td>
<td>-.03</td>
<td>-.05</td>
<td>.32**</td>
<td>.36**</td>
<td>.48**</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Empathy</td>
<td>.44**</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>IMS</td>
<td>-.03</td>
<td>-.12**</td>
<td>-.11**</td>
<td>-.14**</td>
<td>-.14**</td>
<td>-.12**</td>
<td>-.12**</td>
<td>-.11**</td>
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<td>-.08</td>
<td>-.11**</td>
<td>-.07</td>
<td>-.02</td>
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<tr>
<td>Gamer ID</td>
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<td>.11</td>
<td>-.08</td>
<td>-.09</td>
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<td>-.14**</td>
<td>-.14**</td>
<td>-.13**</td>
<td>-.09</td>
<td>-.09</td>
<td>-.12**</td>
<td>-.12**</td>
<td>-.11**</td>
<td>-.07</td>
</tr>
<tr>
<td>Use chat</td>
<td>.15</td>
<td>.07</td>
<td>-.11*</td>
<td>-.10*</td>
<td>-.09</td>
<td>.09</td>
<td>-.04</td>
<td>-.05</td>
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<td>-.04</td>
<td>-.08</td>
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<td>-.16**</td>
</tr>
<tr>
<td>Hours/week</td>
<td>-.09</td>
<td>-.11*</td>
<td>-.11*</td>
<td>-.14**</td>
<td>-.14**</td>
<td>.46**</td>
<td>-.18**</td>
<td>-.13**</td>
<td>-.10*</td>
<td>-.12**</td>
<td>-.03</td>
<td>-.08</td>
<td>-.08</td>
<td>-.13**</td>
</tr>
<tr>
<td>Race norm</td>
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<td>-.12**</td>
<td>-.12**</td>
<td>-.12**</td>
<td>-.12**</td>
<td>-.08</td>
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<td>Gender norm</td>
<td>-.04</td>
<td>-.04</td>
<td>-.07</td>
<td>-.12**</td>
<td>.12**</td>
<td>-.13*</td>
<td>-.07</td>
<td>-.03</td>
<td>-.03</td>
<td>-.03</td>
<td>-.03</td>
<td>-.03</td>
<td>-.03</td>
<td>-.03</td>
</tr>
<tr>
<td>Orientation norm</td>
<td>-.05</td>
<td>-.05</td>
<td>-.05</td>
<td>-.13*</td>
<td>-.13*</td>
<td>-.07</td>
<td>-.07</td>
<td>-.07</td>
<td>-.08</td>
<td>-.08</td>
<td>-.08</td>
<td>-.08</td>
<td>-.08</td>
<td>-.08</td>
</tr>
<tr>
<td>Make race</td>
<td>-.08</td>
<td>-.04</td>
<td>-.12**</td>
<td>-.12**</td>
<td>-.12**</td>
<td>-.12**</td>
<td>-.12**</td>
<td>-.12**</td>
<td>-.12**</td>
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<td>-.12**</td>
<td>-.12**</td>
<td>-.12**</td>
<td>-.12**</td>
</tr>
<tr>
<td>Make gender</td>
<td>-.09</td>
<td>-.02</td>
<td>.12**</td>
<td>.16**</td>
<td>.16**</td>
<td>.16**</td>
<td>.16**</td>
<td>.16**</td>
<td>.16**</td>
<td>.16**</td>
<td>.16**</td>
<td>.16**</td>
<td>.16**</td>
<td>.16**</td>
</tr>
<tr>
<td>Make orient</td>
<td>-.08</td>
<td>-.07</td>
<td>.15**</td>
<td>.14**</td>
<td>.14**</td>
<td>.14**</td>
<td>.14**</td>
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<td>.14**</td>
<td>.14**</td>
<td>.14**</td>
<td>.14**</td>
<td>.14**</td>
<td>.14**</td>
</tr>
</tbody>
</table>

*Note. Gender (0 = male, 1 = female); RWA = Right Wing Authoritarianism; SDO = Social Dominance Orientation; IMS = Internal Motivation to Respond Without Prejudice; use chat = how regularly participants use voice or text chat while playing video games; hours/week = the number of hours participants spend playing video games; race norm = how frequently other gamers make comments based on race (gender and orientation norms reflect similarly worded measures); make race = how frequently the participant makes comments based on the race of other gamers (gender and orient reflects how often they make comments based on the gender and orientation of other gamers).

*p < .05. **p < .01. ***p < .001.
Table 8
Participant scores on the individual difference measures, anonymity measure, and gaming engagement measures used in Model 1 (Study 3).

<table>
<thead>
<tr>
<th>Measure</th>
<th>All Participants</th>
<th>Male</th>
<th>Female</th>
</tr>
</thead>
<tbody>
<tr>
<td>Right-Wing Authoritarianism</td>
<td>3.54 (1.40)</td>
<td>3.70 (1.34)</td>
<td>3.44 (1.43)</td>
</tr>
<tr>
<td>Social Dominance Orientation</td>
<td>2.33 (1.06)</td>
<td>2.58 (1.03)</td>
<td>2.19 (1.05)</td>
</tr>
<tr>
<td>Empathy</td>
<td>4.02 (0.54)</td>
<td>3.86 (0.51)</td>
<td>4.13 (0.53)</td>
</tr>
<tr>
<td>Internal Motivation to Respond Without Prejudice</td>
<td>6.95 (1.61)</td>
<td>6.42 (1.64)</td>
<td>7.28 (1.51)</td>
</tr>
<tr>
<td>Anonymity</td>
<td>4.64 (1.32)</td>
<td>4.75 (1.37)</td>
<td>4.57 (1.27)</td>
</tr>
<tr>
<td>Gamer Identification</td>
<td>2.27 (1.52)</td>
<td>2.77 (1.60)</td>
<td>1.95 (1.38)</td>
</tr>
<tr>
<td>Use of Chat</td>
<td>2.54 (2.70)</td>
<td>3.04 (2.91)</td>
<td>2.05 (2.34)</td>
</tr>
</tbody>
</table>

*Note.* Standard deviations are in parentheses.

Anonymity is often posited as one explanation for the negative behaviours in which people engage online. I theorized that it is more important how people perceive the norm and how much they endorse prejudiced beliefs. I tested this empirically by including anonymity as a predictor in our model. Gender was included as a predictor of how engaged participants are in online gaming (men tend to be more avid gamers) and of prejudiced personality traits. Including gender allows us to make conclusions with confidence that our results are not confounded with gender effects.

I conducted structural equation modelling using AMOS 22.00 (IBM SPSS). The full model is presented in Figure 7. I used three fit indicators to assess model fit, the chi-square goodness of fit index, the Root Mean Square Error of Approximation (RMSEA), and the Comparative Fit Index (CFI). The chi-square goodness of fit index tests whether the difference between the estimated and observed models is different from zero; lower values (non-significant results) indicate better fit. However, chi-square is influenced by sample size such that larger samples can produce significant values despite adequate model fit (Byrne, 2010). The CFI indicates how much better
the model fits the data than a null model with no relationship between the variables (higher values indicate better model fit, values of .95 are considered acceptable; Hu & Bentler, 1995). The RMSEA assesses how accurately the model is likely to fit population data if that data were available (the error of approximation in the model), values less than .08 are considered acceptable (Brown & Cudeck, 1993).

Applying these criteria, I found that the hypothesized model had adequate fit, $X^2(81) = 201.15, p < .001$, RMSEA = .06, 90%CI [.05, .07], CFI = .95. As expected, the extent to which participants endorsed prejudiced beliefs was positively related to the frequency with which they reported making prejudiced comments in online gaming ($\beta = .27, p < .001$). However, the more participants endorsed prejudiced beliefs, the less frequently they reported other gamers made comments based on race, gender, and orientation ($\beta = -.20, p = .001$). Participants who were more engaged in gaming reported other gamers made comments based on race, gender, and orientation more frequently ($\beta = .19, p = .005$). Seeing prejudice as more normative (i.e., reporting that other gamers made prejudiced comments more frequently) predicted participant’s own behaviour. The more they reported that others made comments based on race, gender, and orientation, the more often participants reported making these comments themselves ($\beta = .30, p < .001$). Gender predicted engagement in gaming ($\beta = .32, p < .001$) and covaried with prejudiced personality traits ($\beta = -.29, p < .001$) such that men were more identified with gaming and reported higher levels of prejudiced traits. The more engaged in gaming participants were, the more anonymous they felt in online gaming ($\beta = .20, p = .002$). However, anonymity was unrelated to prejudiced behaviour in online gaming ($\beta = -.03, p = .546$) and prejudiced personality traits were unrelated to engagement in gaming ($\beta = .09, p = .197$).
4.2.3.1 Alternative models

I tested two alternative models. In the first, I included psychopathy, Machiavellianism, and narcissism as well as Right-Wing Authoritarianism, Social Dominance Orientation, empathy, and internal motivation to respond without prejudice as individual difference predictors of prejudiced behaviour (see Figure 8). The addition of these three measured variables was the only difference between this model and Model 1. If psychopathy, Machiavellianism, and narcissism are important for predicting prejudiced behaviour, as Buckels and colleagues’ work suggests (2014), then including these ought to improve model fit. I found no evidence that these three individual differences improve the ability to predict prejudiced behaviour in online gaming. Overall model fit was not improved, indeed, it was slightly worsened, $X^2(127) = 494.95, p < .001$, RMSEA = .09, 90%CI[.08, .10], CFI = .87.
Figure 8. Prejudiced personality (including psychopathy, Machiavellianism, and narcissism), norms, and engagement in gaming predicting prejudiced behaviour in online gaming.

In the second alternate model (see Figure 9), I tested if including the Big Five personality traits (John & Srivastava, 1999) improves model fit. The latent personality variable was entered with paths drawn predicting prejudiced personality (i.e., RWA, SDO, empathy, and internal motivation to respond without prejudice), engagement in gaming, and self-reported prejudice. Overall model fit was not improved by including the Big Five, \( \chi^2(159) = 568.54, p < .001, \) RMSEA = .08, 90%CI[.07, .09], CFI = .86, though this model suggests that engagement in gaming is partially predicted by core personality, as is prejudiced personality.
Figure 9. The Big Five personality traits, prejudiced personality, norms, and engagement in gaming predicting prejudiced behaviour in online gaming.

Neither alternate model that I tested improved model fit\(^1\). Thus, for parsimony’s sake, I believe the best model predicting prejudiced behaviour in online gaming takes into account general prejudice (i.e., prejudiced personality), engagement in gaming, and gaming norms. Including any of the additional variables tested here does not lead to a more precise estimate of prejudiced behaviour in the online gaming environment.

4.2.4 Predicting confrontation behaviour

To explore the factors that predict confrontation of prejudice I included the same latent constructs of gamer engagement and prejudiced personality traits as in Model 1. I included gender as a control variable. Our normative measure of confrontation was the question of how

\(^1\)I also tested an alternate model including only agreeableness and openness with direct paths from each instead of a latent personality variable. Although this model had somewhat better fit than the personality as a latent factor \(\chi^2(107) = 307.63, p < .001, \text{RMSEA} = .07, 90\%\text{CI} [.06, .08], \text{CFI} = .92\), fit was not improved over the more parsimonious model.
frequently participants see other gamers confronting racist, sexist, and homophobic comments when they are made (see Table 9 for descriptives). Our outcome measure was the frequency with which participants reported confronting racist, sexist, and homophobic behaviour when it occurred in online gaming.

Table 9
*How frequently male and female participants confront prejudice and see prejudice confronted (Model 2, Study 3).*

<table>
<thead>
<tr>
<th></th>
<th>All Participants</th>
<th>Male</th>
<th>Female</th>
</tr>
</thead>
<tbody>
<tr>
<td>Confront prejudice</td>
<td>2.91 (1.85)</td>
<td>2.95 (1.71)</td>
<td>2.88 (1.94)</td>
</tr>
<tr>
<td>See prejudice confronted</td>
<td>2.87 (1.67)</td>
<td>2.95 (1.64)</td>
<td>2.81 (1.67)</td>
</tr>
</tbody>
</table>

*Note.* Standard deviations are in parentheses

The hypothesized model predicting confrontation behaviour had adequate fit, $X^2(30) = 68.64, p < .001$, RMSEA = .058, 90%CI [.004, .076], CFI = .94. See Figure 10 for the full model. Gender predicted engagement in gaming ($\beta = -.31, p < .001$; men were more engaged) and general prejudice traits ($\beta = -.28, p < .001$; men were higher on prejudiced traits). Personality traits were not associated with engagement in gaming ($\beta = .10, p = .170$) or with how frequently other gamers reportedly confronted prejudice (i.e., norms; $\beta = -.03, p = .568$). However, engagement in gaming predicted seeing gamers confront prejudice more frequently, $\beta = .18, p = .006$. Seeing prejudice confronted predicted participants’ confrontation behaviour, $\beta = .31, p < .001$. Prejudiced personality traits were associated with less frequent prejudice confrontation, $\beta = -.23, p < .001$. 
4.3 Study 3 Discussion

Using Structural Equation modelling I was able to test the relative importance of two sets of predictors, norms and individual differences. Not only did both generalized prejudiced and norms predict how participants report behaving in online video games, generalized prejudiced predicted perceptions of norms. Participants who were higher in RWA and SDO, and lower in empathy and IMS reported seeing fewer racist, sexist, and homophobic comments in online gaming. This was not an effect I expected to see, but might be explained as a signal detection effect: Those who are high in general prejudice might be less likely to notice when comments based on race, gender, and orientation are made because they do not see them as problematic. Thus, these comments do not catch their attention and are not remembered.
Gender was related to engagement in gaming and with generalized prejudice; men were higher in both of these. Prejudiced personality was not related to gamer identification, however, although gamer identification did predict perceptions of prejudice norms such that people higher in gamer ID reported that other gamers make more comments based on gender, race, and orientation than did those weakly identified as gamers. Engagement in gaming was not directly related to reported prejudiced behaviour, nor was perceived anonymity.

Similar patterns were found for confrontation behaviour. Being more engaged in gaming predicted seeing confrontation happening more frequently which in turn predicted being more likely to confront prejudice. Being high in prejudiced traits did not predict how frequently participants saw prejudice confronted but did predict how often they confronted – those high in prejudiced traits reported confronting prejudice less frequently.

These models provide a strong argument for the importance of studying individual differences and norms when trying to understand prejudiced behaviour in online gaming contexts and suggest that anonymity might not be the key to understanding prejudiced behaviour in online environments. The way in which people behave in online gaming is not due simply to more accepting norms of prejudice, although these are likely an important factor. Nor is being prejudiced the sole explanation for why people engage in bigotry in online gaming. Both predict behaviour and both should be considered in future research that tests interventions to reduce prejudiced and harmful behaviour in online gaming.
Chapter 5
Study 4: Prejudice in online gaming and the wellbeing of gamers

Understanding the predictors of prejudice in gaming is an important goal and is the first step to reducing prejudiced behaviour. An important complementary step is to understand the harms done by exposure to prejudice in this environment. People exposed to prejudice, generally, experience various physical and mental consequences (e.g., worsened physical and mental health; Denton et al., 2014; Major & O’Brien, 2005; Schmitt et al., 2014). Prejudice experienced in online gaming likely has a similar effect but this has not yet been studied. In this study, I focus on the effects of sexism on wellbeing. I measured several elements of participants’ daily gaming experiences. These include the overall positivity of the gaming interactions participants had as well as the number of gender-based comments directed towards them. I also included a measure of whether participants had experienced prejudice in other interactions that day to test for the unique effects of their experiences in online gaming.

5.1 Method

5.1.1 Participants

I recruited participants in several ways. I first posted flyers around the University of Toronto and posted an ad to student Facebook groups advertising for a study about media and attitudes. I also handed out information sheets to students on campus, and posted flyers in a local video game store. Recruitment of male participants was particularly slow. To increase our number of male gamers, I posted new flyers specifically targeting this population (i.e., advertising a study about the experiences of male gamers). Sixty participants completed the intake survey, the daily entries, the exit survey, and the post-consent process. Twenty-four participants were male; thirty-six were female. Participants were an average of 22.80 years old ($SD = 7.66$). Participants were racially diverse, 27 identified as East or South-East Asian, 12 as White, 11 as South Asian, 4 as Black, 3 as Middle-Eastern, 2 as multiracial, and 1 as another race. Five participants did not indicate their race. Only participants who played video games were included in this study. On average, participants played 12.10 hours per week ($SD = 9.61$).
5.1.2 Measures: Intake Survey

5.1.2.1 Gender and gamer identification

Participants completed a 12-item scale that measured how strongly they identify with their gender. All items were assessed on a 7-point scale (1 = “Strongly disagree”, 7 = “Strongly agree”). For male participants the items asked how important their male identity was (e.g., “Being a man is important to me”; \( \alpha = .88 \)), for female participants, the items asked about their female identity (e.g., “Being a woman is important to me”; \( \alpha = .93 \)). Participants also completed a modified identification measure to assess how strongly they identified as a gamer. The items were rephrased to measure the importance of being a gamer to each participant (e.g., “Being a gamer is central to who I am as a person”; \( \alpha = .95 \)).

5.1.2.2 Life satisfaction

Participants completed the five-item Satisfaction with Life Scale to measure their overall perspective on the quality of their lives (Diener, Emmons, Larsen & Griffin, 1985; \( \alpha = .90 \); 1 = “strongly disagree”, 5 = “strongly agree”).

5.1.2.3 Self-esteem

Participants completed two measures of self-esteem, the State Self-Esteem Scale (Heatherton & Polivy, 1991) and the Rosenberg Self-Esteem Scale (Rosenberg, 1965). The State Self-Esteem Scale (SSE; \( \alpha = .89 \)) is composed of 20 items all measured on a 5-point scale (1 = “Not at all”, 5 = “Extremely”). The SSE is composed of three subscales. Seven items, including “I feel confident about my abilities” measure performance esteem (\( \alpha = .80 \)). Seven items, including “I feel good about myself” measure appearance-based esteem (\( \alpha = .80 \)), and six items, including “I feel concerned about the impression that I am making” measure social esteem (\( \alpha = .81 \)). The Rosenberg Self-Esteem Scale is composed of 10 items, including “I feel that I’m a person of worth” (\( \alpha = .78 \)). All items are measured on a 4-point scale (1 = “Strongly disagree”, 4 = “Strongly agree”).
5.1.2.4 Stigma consciousness

Participants completed a 10-item gender stigma consciousness scale (Pinel, 1999) to measure how much they expected their gender to influence their interactions. Female participants completed questions that assessed to what extent they believed being a woman influenced the treatment they received, male participants completed questions that assessed to what extent they believed being a man influenced the treatment they received. Questions included items like “When interacting with men [women], I feel like they interpret all my behaviours in terms of the fact that I am a woman [man]”. All responses were made on a 7-point scale (1 = “Strongly disagree”, 7 = “Strongly agree”), with higher scores indicating higher stigma consciousness. The scale was more reliable for female participants (α = .79) than it was for male participants (α = .59).

5.1.2.5 Attitudes

I assessed participants’ prejudiced attitudes using the Ambivalent Sexism Inventory (Glick & Fiske, 1996), the Modern Homonegativity Scale (Morrison & Morrison, 2002), and the Symbolic Racism Scale (Henry & Sears, 2002). Participants completed the Ambivalent Sexism Inventory (α = .89) to measure their hostile (11 items; α = .92) and benevolent (11 items; α = .77) sexist beliefs. The scale consists of items like “Many women interpret innocent remarks or acts as being sexist”. Participants responded to each item on a 7-point scale (1 = “Strongly disagree”, 7 = “Strongly agree”). Participants completed the Modern Homonegativity Scale as a measure of their attitudes towards gay men (α = .87). The scale consists of ten items including “If gay men want to be treated like everyone else, then they need to stop making such a fuss about their sexuality/culture”. Participants indicated their agreement to each item on a five-point scale (1 = “Strongly disagree”, 5 = “Strongly agree”). As a measure of racial prejudice participants completed the Symbolic Racism Scale. It is comprised of 8 items (e.g., “It’s really a matter of some people not trying hard enough; if Blacks would only try harder they could be just as well off as Whites”) with higher scores indicating more racially prejudiced attitudes.

I also measured how motivated participants are to respond without prejudice using a modified Internal and External Motivation to Respond without Prejudice scale (Plant & Devine, 1998).
This scale has two subscales, each with five items, all items are answered on a 7-point scale (1 = “Strongly disagree”, 7 = “Strongly agree”). One subscale measures extent to which participants behave in egalitarian ways because it aligns with their personal values (internal motivation; $\alpha = .78$) and one that measures the extent to which participants behave in egalitarian ways because they wish to avoid negative reactions from others (external motivation; $\alpha = .78$). The original scale was developed to measure attitudes towards racial prejudice; I modified the items to apply to prejudice in general (e.g., “Being non-prejudiced towards people is important to my self-concept”).

5.1.2.5 Video game demographics

Participants indicated how many hours they played video games, on average, each week. When participants indicated a range (such as 5-10) I took the midpoint (i.e., 7.5). Participants also indicated their favourite genre of game, how frequently they use a voice or text chat while playing (1 = “< 11% of the time”, 6 = “51-60% of the time”, and 10 = “91-100% of the time”) and at what age they first played video games.

5.1.2.6 Behaviour in online video games

Participants indicated how frequently they are insulted based on their status or ability in a game and how often people make obscene or offensive comments towards them (1 = “Never”, 7 = “Often”). Participants also indicated how offensive these comments are, when they are made (1 = “Not at all offensive”, 7 = “Very offensive”). Participants indicated how common prejudice is in online gaming (1 = “Not at all common”, 7 = “Very common”) and indicated if they typically see racist, sexist, or anti-gay comments or behaviours in this environment. Finally, participants indicated how often they are the target of prejudice/discrimination while playing online video games and how often they are exposed to, but not targeted by, prejudice/discrimination (1 = “Never”, 7 = “Always”).
5.1.2.7 Impact and coping

I asked participants how much they are affected by prejudice in online gaming and how much the average gamer is affected by prejudice in this environment. I also measured how much participants are affected by prejudice or discrimination in their life outside of video games (1 = “Not at all”, 7 = “Very much”). To assess coping, I asked participants if they avoid environments in which they expect to experience discrimination and if they confront prejudiced comments.

5.1.3 Measures: Daily Entries

5.1.3.1 Wellbeing and identification

Each day, participants completed a short entry in which they answered questions about their wellbeing, their group identification and their experiences in online gaming that day. To assess well-being, participants completed four items from the life satisfaction scale, reworded to reflect daily satisfaction (e.g., “Today, I feel like my life is close to ideal”; α = .95). I measured stigma consciousness with two items from the stigma consciousness scale. Participants completed two items to measure gender identification and two items to assess their identification as a gamer.

5.1.3.2 Experiences in online gaming

Participants first indicated if they had played video games that day. If they responded no to this question, they completed a number of filler items about their other media use and experiences. This was done to make sure that they survey was an equal length for participants who had and had not played video games to eliminate any motivation to say no simply to finish the survey faster. I asked how positive participants’ online interactions were (1 = “Very negative”, 7 = “Very positive”), how much their gender positively or negatively affected their experiences that day (1 = “Very little”, 7 = “Very much”), and how many comments were made to them based on their gender (1 = “None”, 2 = “1 or 2”, 3 = “Less than 5”, 4 = “5-10”, 5 = “11-15”, 6 = “16-20”, 7 = “More than 20”). I also measured how many comments about gender they heard directed towards other gamers, how many comments they heard about race or sexual orientation, and how
many hostile or aggressive comments they heard that day while playing video games (all open-ended responses).

5.1.3.3 Coping

Participants indicated if they had employed any of the following responses to cope with prejudice in online gaming: mute chat options, avoid games in which they had experienced prejudice, playing only with people they know, only playing single-player games, or confrontation. They indicated how effective this technique was (1 = “Not at all effective”, 7 = “Very effective”). I was curious as to the perceived efficacy of confrontation and asked participants how people typically respond when confronted about saying or behaving in a prejudiced way (ignore the confrontation, increase the prejudiced behaviour, taunt/harass the confronter, find the confrontation amusing, change their behaviour, or other).

5.1.3.4 Prejudice in other contexts

Participants indicated how often they witnessed or experienced prejudice outside of online video games (open-ended response) as well as in what context it occurred (online, face-to-face, text message or phone call) and what type of prejudice it was (racism, sexism, anti-gay, or other).

5.1.4 Measures: Exit Survey

Participants completed measures of gender and gamer identification, life satisfaction, self-esteem, stigma consciousness, motivation to respond without prejudice, experiences in online gaming, prejudice in other contexts, and coping techniques detailed in the intake survey section above. Participants were then debriefed and completed a post-consent process. I only retained data from participants who completed the exit survey and provided post-consent.
5.2 Results

5.2.1 Intake Survey

5.2.1.1 Prejudice experiences in online gaming

Approximately half of participants reported seeing racist comments in online gaming (50.8%), sixty-percent reported seeing anti-gay comments, and 64.6% reported seeing sexist comments. Male and female participants reported different experiences in online gaming. More female participants (27.8%) reported experiencing preferential treatment because of their gender than did male participants (8.3%). Similarly, 41.7% of female participants reported having experienced prejudice or discrimination in online gaming whereas no male participants reported having experienced prejudice or discrimination. No male participants reported experiences of harassment in online gaming but one-third of female participants (33.3%) reported having experienced harassment in online gaming.

5.2.1.2 Prejudice in other contexts

Half of our participants reported having experienced prejudice in their interactions with strangers (50.8%; 37.5% of men, 66.7% of women), 20% had experienced prejudice in the workplace (8.3% of men, 30.6% of women), 18.5% had experienced prejudice in interactions with their family (8.3% of men, 27.8% of women), 16.9% had experienced prejudice in interactions with their friends (16.7% of men, 19.4% of women), and 15.4% had experienced prejudice in an educational setting (8.3% of men, 22.2% of women).

5.2.1.3 Confrontation

Participants were asked if they confront prejudice. Most responded that they sometimes do (43.1%), almost equal numbers of participants said they confront prejudice (23.1%) as those who said they do not confront prejudice (24.6%). I was curious how efficacious people think confrontation is. Only 15.4% of participants reported that people change their behaviour after being confronted (20.8% of men, 13.9% of women). More participants reported that they are
taunted or harassed for confronting (21.5%; 16.7% of men, 27.8% of women), that people find it
funny (18.5%; 20.8% of men, 19.4% of women), that it increases the confronted behaviour
(13.8%; 12.5% of men, 16.7% of women), or that the confrontation is ignored (10.8%; 4.2% of
men, 16.7% of women). One-tenth of the sample (10.8%) reported a different response.

5.2.2 Daily experiences

Each day, participants completed measures of their gamer and gender ID, their stigma
consciousness, and their life satisfaction. I used a 2-level model to analyze these data, with daily
entries nested within participant. Each dependent variable was modeled as a function of the
number of comments directed towards participants based on their gender, how positive the
interactions were that they had in online gaming, how many prejudiced comments they saw
outside of online gaming, participant gender, the interaction between gender and the number of
daily comments, and the interaction between gender and the positivity of daily interactions
\(^2\). This model was estimated with a random intercept using an unstructured covariance matrix in SPSS.
The ICCs for each model ranged from .67 to .89, indicating that all dependent variables were
clustered within participants.

5.2.2.1 Gamer identification

I expected that participants would identify more strongly with being a gamer if they had
experienced less prejudice and had more positive experiences in online gaming that day. More
positive interactions in online gaming was moderately predictive of gamer identification, \(b = .11, SE = .06, t(82.43) = 1.92, p = .059\). The more positive interactions people had, the more they
identified as a gamer. However, the number of comments made towards participants based on
gender was not predictive of gamer ID, \(b = .09, SE = .22, t(81.82) = .41, p = .685\), nor were
prejudice experiences in real life, \(b = .02, SE = .03, t(83.52) = .68, p = .499\), nor gender, \(b = .01, SE = .23, t(44.67) = .04, p = .968\). The interaction between participant gender and how many

\(^2\) The model would not identify when the level 1 variables in the interaction were included as random slopes so the
data reported here does not include random slopes for number of comments about gender or the positivity of
interactions.
comments were made to them based on their gender was not significant, $b = -.10, SE = .22, t(81.81) = -.47, p = .64$. However, the interaction between gender and how positive a participants’ interactions in online gaming were a significant predictor of gamer identification, $b = -.12, SE = .06, t(82.53) = -2.08, p = .041$. Simple slopes tests show that for male participants the positivity of their interactions in online gaming is not important for their gamer identification, $b = -.01, SE = .09, t(83.52) = -.13, p = .897$. However, for female participants, the positivity of their interactions in online gaming was a significant predictor of their gamer identification, $b = .22, SE = .08, t(82.95) = 2.88, p = .005$. The more positive their interactions were, the more they identified as a gamer.

### 5.2.2.2 Gender identification

If participants experience prejudice in online gaming, I expect they will identify more strongly with their gender to buffer the negative effects of prejudice. However, this hypothesis was not supported, more experiences of gender-based comments in online gaming did not predict higher gender ID, $b = .21, SE = .22, t(82.50) = .99, p = .326$. Positive interactions in online gaming were moderately associated with gender ID such that more positive experiences predicted moderately higher gender ID, $b = .10, SE = .06, t(83.67) = 1.81, p = .074$. Witnessing or experiencing prejudice in real-life was not associated with gender ID, $b = -.01, SE = .03, t(85.96) = -.256, p = .799$, nor was gender associated with gender ID, $b = .24, SE = .16, t(45.00) = 1.49, p = .144$. The interaction between participant gender and how many comments were made to them based on their gender was not significant, $b = -.35, SE = .22, t(82.47) = -1.64, p = .106$. The interaction between gender and the positivity of interactions in online gaming was also not a significant predictor of gender identification, $b = -.09, SE = .06, t(83.84) = -1.66, p = .101$.

### 5.2.2.3 Stigma consciousness

The more they experience prejudice in online gaming, the more aware of their gender and the more concerned about being treated differently because of their gender I expected participants to be. This hypothesis was not supported. There was no effect for the number of comments based on gender, $b = .12, SE = .24, t(82.38) = .50, p = .616$, but there was a significant effect of gender such that female participants were more concerned about being treated differently because of
their gender than male participants were, $b = -0.36, SE = .17, t(44.82) = -2.17, p = .035$. The positivity of interactions in online gaming was not predictive of stigma consciousness, $b = -0.07, SE = .06, t(83.63) = -1.20, p = .232$ nor were experiences outside of online gaming predictive of stigma consciousness either, $b = -0.01, SE = .04, t(86.07) = -0.29, p = .768$. The interaction between how participant gender and how many comments were made to them based on their gender was not significant, $b = -0.33, SE = .24, t(82.35) = -1.38, p = .170$. Nor was the interaction between gender and the positivity of interactions in online gaming a significant predictor of stigma consciousness, $b = -0.01, SE = .06, t(83.80) = -0.22, p = .830$.

5.2.2.4 Life satisfaction

I was curious what role prejudice in online gaming plays in one’s overall wellbeing, as measured by life satisfaction. Life satisfaction was significantly predicted by the positivity of interactions participants had in online gaming, $b = 0.32, SE = .08, t(85.67) = 3.84, p < .001$. The more positive the interactions were that participants had that day, the higher their life satisfaction was. Life satisfaction was not predicted by the number of comments about gender made to participants, $b = -0.08, SE = .33, t(84.12) = -0.24, p = .812$. Prejudice in other contexts was not predictive of life satisfaction, $b = 0.02, SE = .05, t(88.89) = .44, p = .659$, nor was gender, $b = 0.20, SE = .20, t(46.26) = .98, p = .330$. The interaction between how participant gender and how many comments were made to them based on their gender was not significant, $b = 0.02, SE = .32, t(84.08) = .09, p = .927$. Nor was the interaction between gender and the positivity of interactions in online gaming a significant predictor of stigma consciousness, $b = -0.02, SE = .08, t(85.89) = -0.21, p = .831$.

5.2.2.6 Gender differences in experiences

I thought that male and female gamers might not only be differently affected by their experiences in online gaming, but they might also have different experiences in online gaming. To test this, I conducted two hierarchical linear models to test if gender predicts the number of gender-based comments directed towards participants and if gender predicts how positive their experiences in online gaming are. I used a 2-level model to analyze these data, with daily entries nested within
participant. Each dependent variable was modeled as a function of the participant’s gender. Each model was estimated with a random intercept using an unstructured covariance matrix in SPSS.

The number of comments directed to participants based on their gender did not vary for male and female gamers, \( b = -0.04, SE = 0.05, t(62.74) = -0.86, p = 0.393 \). It does not seem to be the case that women are exposed to more gender-based comments than men are (though it should be noted that this study cannot determine the content of these comments). How positively participants evaluated their interaction in online gaming was significantly predicted by their gender, \( b = 0.37, SE = 0.14, t(52.53) = 2.66, p = 0.010 \). Male gamers reported having more positive interactions than did female gamers. This suggests that although both male and female gamers are affected by their interactions, female gamers might experience more negative outcomes because more of their interactions are negative.

5.3 Study 4 Discussion

Most of our participants reported having witnessed sexism in online gaming, but women were more likely to report being the targets of gender-based treatment. Women reported being the targets of prejudice, sexual harassment, and preferential treatment more frequently than men did. The extent to which participants identified as a gamer was minimally predicted by the daily measures in this study. Gamer identification was moderately related to the positivity of a person’s online gaming interactions that day, particularly among women, but no other variables were predictive of gamer ID. More positive experiences increased the strength of this identity, suggesting that participants are not turning to their identity as a gamer to cope with any prejudice or generally negative experiences they have in online gaming. That women’s strength of identification changes depending on the positivity in their gaming interactions suggests that even women who are involved in the gaming community (and who you would expect to care about this identity) disengage when they have negative interactions, possibly to cope with the stress of these interactions. Overall, women were more concerned about being treated differently because of their gender than men were. Life satisfaction was predicted only by positivity of gaming experiences that day. It seems that among this sample of self-identified gamers, interactions in this environment are important for their overall wellbeing.
In future work, it would be helpful to gather data from a larger sample of male and female gamers with a larger range of experiences to look at more complex relationships. As well, testing this general model with race and orientation-based prejudice would allow for further generalizations.
Chapter 6
General Discussion

In four studies, I have explored the frequency, predictors, and consequences of prejudice in online gaming. Considering the number of people who play online video games, it is important that we understand how people are behaving in this environment. Understanding this environment is especially important considering that 91% of children (aged 2-17) play video games (Van Camp, 2011). These four studies provide a foundation for future work that will continue to expound on the intricacies of predicting and reducing prejudice. There are several conclusions that can be drawn from this program of research. The first conclusion that can be drawn is that that prejudice is common in online gaming. Studies 1 and 2 support the notion that norms are significantly more accepting of prejudice in online gaming than in other contexts. The frequency and regularity with which female gamers report experiencing prejudice in online gaming in Study 4 support the idea that prejudice is common in this environment. That female gamers’ experiences in online gaming influence their general well-being points to the importance in reducing prejudice in this environment.

As well as documenting the frequency and acceptability of prejudice in online gaming, I attempt to understand what predicts prejudiced behaviour in this environment. Although in the past it has been argued that people are simply freer to behave in toxic ways online and are thus uninhibited in their behaviour (Suler, 2004), this does not seem to be a sufficient explanation for the negative behaviour perpetrated in online gaming. If anonymity and lack of consequences explain toxic behaviour in online gaming, it suggests that most people harbour these beliefs and take advantage of the opportunity to engage in bigoted behaviour without consequences upon entering the online realm. Instead, I demonstrate in Study 3 that both individual differences (the extent to which someone is generally prejudiced) and perceived group norms predict behaviour in online gaming. It is not simply that people who are prejudiced feel liberated to behave in such a way in online gaming, but that people adhere to group norms that seem to encourage this prejudiced behaviour. In future work, attempts should be made to target both elements (individual differences and norms) in an effort to reduce prejudice in online gaming.
Increasing individuation (i.e., reducing anonymity) might reduce the influence of norms. This effect has been found in research exploring the Social Identity model of Deindividuation Effects (Postmes et al., 1998). Increased individuation (or awareness of one’s personal identity, and a minimization of group identity) predicts less adherence to group norms. This work suggests that increasing individuation might reduce the extent to which gamers rely on social norms to determine their behaviour in the online gaming environment. Perhaps using actual names rather than gamer tags could reduce deindividuation and through this, reduce prejudiced behaviour.

The results from my third study also support the idea that reducing general prejudice might be effective in changing how people behave in online gaming. In Gray’s study of racism in online gaming, she found that gamers make racist comments then claim not to be racist, saying the racist comment does not reflect their actual attitudes (Gray, 2012). This notion that one can act racist without being racist can be seen in anecdotal reports of behaviour in online gaming as well. Matt Vaughn, a professional gamer, recently streamed a video of a match of Overwatch on Twitch TV. Matt was upset to be losing the match and expressed his frustration by yelling racial slurs at his opponent for thirty seconds. This rant cost Matt his position with Toronto Esports (a professional esports group). Matt responded with an apology, but also with a number of remarks that suggest he is not actually racist. He said he was tired, he was angry, his Internet was lagging, his opponent was cheating. He claimed he was just trying to say the most offensive thing that came to mind, because he was angry, but he is not racist (Van Allen, 2017). My third study refutes the claim that non-racist people make racist comments. In Study 3, I found that prejudiced traits predict self-reported prejudiced behaviour in online gaming. People who are more prejudiced are the people who are more likely to make prejudiced comments in online gaming. This suggests that traditional interventions to improve outgroup attitudes might be effective in changing how people behave in online gaming by targeting their general prejudice.

There are several limitations to this work. First is the lack of behavioural data. Although I measure perceptions of prejudice frequency and self-reported prejudiced behaviour, this is not equal to measuring how people actually behave in this environment. It would be possible to draw stronger conclusions about the role of norms and personality as predictors of prejudice in online gaming if we had objective measures of this behaviour. To this end, it would be useful to conduct
multi-method studies that use unobtrusive observational equipment such as electronically activated recorders (EAR; Mehl, Pennebaker, Crow, Dabbs, & Price, 2001) as well as collecting survey data. By having participants complete standard surveys in which they provide self-reported behaviour in online gaming and attitude measures as well as using electronically activated recorders while people are playing video games, we can test several important questions. We can assess how accurately participants report their own behaviour in online gaming by correlating the frequency of their self-reported prejudice with recordings of their actual behaviour while playing video games. As well, we can test how various attitude scales (e.g., RWA, SDO, etc.) predict actual behaviour. If self-reported behaviour and actual behaviour are correlated and are similarly predicted by attitude scales we can feel more secure using survey methods in future work. However, if reported and actual behaviour are not correlated or are differentially predicted by attitude measures, the importance of collecting behavioural data will be emphasized.

The gender balance of my samples is another issue that arose across many of my studies. For all studies, I attempted to recruit equal numbers of male and female gamers, and in Studies 1-3 I desired equal numbers of male and female non-gamers. This ideal sample proved quite challenging to procure. It was much easier to find male gamers than male non-gamers. In fact, finding male non-gamers seemed almost impossible. It was also much easier to recruit females who did not play video games than females who did play. These challenges with recruitment often led to unbalanced samples with unequal numbers of males and females who did and did not play video games. This is also reflected in the extent to which participants identified as a gamer, in Studies 1-3, men were higher on gamer identification than women. This makes it more challenging to parse gender effects from gamer identification effects. It seems easy to recommend that in future work researchers should try to recruit equal samples of male and female gamers, however, this is overly simplistic. The gaming community is not composed of equal numbers of male and female gamers. Although recent reports state that equal numbers of men and women play video games (ESA, 2014), this ignores the differences in the types of games that men and women play, and the extent to which they care about this identity. In my work, I find that men tend to play video games more hours per week and play more core video games (e.g., action and role-playing games) whereas women play more casual games (e.g.,
puzzle games and social games). Although equal numbers of men and women play video games, their experiences of video games are quite different. These differences need to be recognized and accounted for, when possible, in research about video games. I have attempted to recognize these differences in my research.

In studies 3 and 4 I explored participants’ perceptions of prejudice confrontation in online gaming. These studies suggest that confronting prejudice in online gaming is neither common nor effective. Many gamers reported that prejudice is ignored when it occurs. If not ignored, it is likely to be met with similarly prejudiced comments or amusement; confrontation is the least common response. Most participants reported that confronting prejudice does not change other gamers’ behaviour; only 15% reported that others change their behaviour following a confrontation. It was equally or more common for confrontation of prejudice to lead to the confronter being harassed or for others to increase the prejudiced behaviour following confrontation. Despite confrontation being effective at changing attitudes in other contexts (Czopp & Monteith, 2003) it does not appear to be an effective tool for change in online gaming. Future work should explore why it is ineffective. As well, future work should test other possible means to reduce prejudiced behaviour, like changing perceptions of prejudice norms.

It would be useful to know how quickly behavioural change follows changing information about relevant norms. Is it possible to change people’s perceptions of how acceptable prejudice is with a single manipulation of norms (e.g., an in-lab study that provides information about prejudice norms) or must perceptions of norms come from people’s own experiences in online gaming? If information about manipulated norms is sufficient to change perceptions of acceptable behaviour (and subsequent behaviour) this may provide a viable starting point for reducing prejudice in online gaming. If, however, norms are only shifted via actual experiences in online gaming, changing perceptions of these norms will prove more challenging and other intervention techniques such as banning accounts following prejudiced behaviour might be necessary.

It would also be useful to understand the impact that game content has on behaviour and perceived norms. In Study 2, I demonstrated that norms are different across genres of games. This is a helpful first step, but it is necessary to go further to understand the impact of games on behaviour. Games can be classified similarly by genre (e.g., World of Warcraft and Grand Theft...
Auto V) yet have very different objectives, game-play styles, and content. Are the norms about prejudice related to the portrayal of characters within a game? For example, do games, like Grand Theft Auto V that have highly sexualized female characters, create norms that accept or encourage sexism? Or, is the type of game-play what matters? Do highly competitive games, like Call of Duty, create norms that are accepting of prejudice? These questions are important to understand before designing interventions to reduce prejudice in online gaming. If the way that women are portrayed influences sexism norms, one way to change these norms would be to change how characters are portrayed. This might be simpler to address than if competitive game-play creates norms that are accepting of prejudice. Many (if not all) online games are competitive. If competition leads to norms accepting of prejudice, changing norms might be particularly challenging in these games.

The effects of exposure to prejudice and general positivity of online interactions on the well-being and group identification of participants in Study 4 emphasize the fact that video games, although a form of entertainment, have very real consequences. The experiences people have in video games are not meaningless but influence their lives more generally. Study 4 is limited such that it only explores experiences of sexism. Future work should be conducted that also studies the impact of exposure to homophobia and racism in online gaming. Importantly, it is necessary to understand how experiences of prejudice combine to influence people. Does witnessing homophobic slurs similarly impact gamers as witnessing sexist or racist slurs or are these experiences qualitatively different? I am unable to answer this with the work I have done so far.

Video games are a massively popular hobby and as technology advances, as virtual reality becomes more accessible, as new gaming systems are released, and as games offer more realistic graphics, their impact and influence on people’s lives is likely to grow. Understanding this environment becomes increasingly necessary as the impact of video games grows. This collection of studies provides a foundation for future work to determine what the important predictors of prejudice are, what the costs of this prejudice are, and how we can reduce these behaviours.
References


Appendix A: Materials Study 1

**Study 1**

Participants in the norms conditions evaluated the following 60 groups either on how acceptable it is to feel negatively towards them (real world norms) or how acceptable it is to say something negative about them while playing online video games (video game norms). Participants in the warmth conditions evaluated the following 60 groups on how warmly they felt towards them (real world warmth) or how warmly they feel towards them when they encounter them while playing online video games (video game warmth).

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<thead>
<tr>
<th>Blind people</th>
<th>Environmentalists</th>
<th>IRS agents</th>
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<tr>
<td>Deaf people</td>
<td>Homosexuals who raise children</td>
<td>Male prostitutes</td>
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<tr>
<td>Native Americans</td>
<td>Auto mechanics</td>
<td>People who smoke</td>
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<tr>
<td>Women</td>
<td>People who are illiterate</td>
<td>Tele-evangelists</td>
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<tr>
<td>Asian Americans</td>
<td>Homeless people</td>
<td>People who smell bad</td>
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<td>Hispanics</td>
<td>Accountants</td>
<td>Alcoholics</td>
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<td>Canadians</td>
<td>Fat people</td>
<td>Juvenile delinquents</td>
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<td>Black Americans</td>
<td>Rap music fans</td>
<td>Politicians</td>
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<td>Jews</td>
<td>Muslims</td>
<td>People who cut in line</td>
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<td>Elderly people</td>
<td>Mentally unstable people</td>
<td>Men who leave their families</td>
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<td>Spelling bee champions</td>
<td>Beauty contestants</td>
<td>People who make homophobic comments</td>
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<tr>
<td>People on Medicare</td>
<td>Welfare recipients</td>
<td>People who make sexist comments</td>
</tr>
<tr>
<td>Librarians</td>
<td>People who got a job due to Affirmative Action</td>
<td>Liars</td>
</tr>
<tr>
<td>Ugly people</td>
<td>Doctors</td>
<td>People who make racist comments</td>
</tr>
<tr>
<td>Dog owners</td>
<td>Rednecks</td>
<td>Pregnant women who drink alcohol</td>
</tr>
<tr>
<td>Women who play video games</td>
<td>Students who rarely study</td>
<td>Members of the American Nazi Party</td>
</tr>
<tr>
<td>Gay women</td>
<td>Members of the National Rifle Association</td>
<td>Racists</td>
</tr>
<tr>
<td>Farmers</td>
<td>Lawyers</td>
<td>Wife beaters</td>
</tr>
<tr>
<td>Whites</td>
<td>People who sell marijuana</td>
<td>Members of the Ku Klux Klan</td>
</tr>
</tbody>
</table>
Ambivalent Sexism Inventory (Glick & Fiske, 1996)

Below is a series of statements concerning men and women and their relationship in contemporary society. Please indicate the degree to which you agree or disagree with each statement using the scale provided (1 = disagree strongly, 2 = disagree somewhat, 3 = disagree slightly, 4 = neither agree nor disagree, 5 = slightly agree, 6 = agree somewhat, 7 = agree strongly).

1. No matter how accomplished he is, a man is not truly complete as a person unless he has the love of a woman.
2. Many women are actually seeking special favors, such as hiring policies that favor them over men, under the guise of asking for "equality."
3. In a disaster, women ought not necessarily to be rescued before men.
4. Most women interpret innocent remarks or acts as being sexist.
5. Women are too easily offended.
6. People are often truly happy in life without being romantically involved with a member of the other sex.
7. Feminists are not seeking for women to have more power than men.
8. Many women have a quality of purity that few men possess.
9. Women should be cherished and protected by men.
10. Most women fail to appreciate fully all that men do for them.
11. Women seek to gain power by getting control over men.
12. Women seek to gain power by getting control over men.
13. Men are complete without women.
14. Women exaggerate problems they have at work.
15. Once a woman gets a man to commit to her, she usually tries to put him on a tight leash.
16. When women lose to men in a fair competition, they typically complain about being discriminated against.
17. A good woman should be set on a pedestal by her man.
18. There are actually very few women who get a kick out of teasing men by seeming sexually available and then refusing male advances.
19. Women, compared to men, tend to have a superior moral sensibility.
20. Men should be willing to sacrifice their own well-being in order to provide financially for the women in their lives.
21. Feminists are making entirely reasonable demands of men.
22. Women, as compared to men, tend to have a more refined sense of culture and good taste.

Modern homo-negativity scale (Morrison & Morrison, 2003)

Please indicate the extent to which you agree with the following items on the provided 5-point scale (1 = strongly disagree, 5 = strongly agree).

1. Many gay men use their sexual orientation so that they can obtain special privileges.
2. Gay men seem to focus on the ways in which they differ from heterosexuals, and ignore the ways in which they are the same.
3. Gay men do not have all the rights they need.
4. The notion of universities providing students with undergraduate degrees in Gay and Lesbian Studies is ridiculous.
5. Celebrations such as “Gay Pride Day” are ridiculous because they assume that an individual’s sexual orientation should constitute a source of pride.
7. Gay men should stop shoving their lifestyle down other people’s throats.
8. If gay men want to be treated like everyone else, then they need to stop making such a fuss about their sexuality/culture.
9. Gay men who are “out of the closet” should be admired for their courage.
10. Gay men should stop complaining about the way they are treated in society, and simply get on with their lives.
11. In today’s tough economic times, Canadians’ tax dollars should not be used to support gay men’s organisations.
12. Gay men have become far too confrontational in their demand for equal rights.

Symbolic Racism Scale (Henry & Sears, 2002)
Please indicate your agreement with the following statements.

1. It’s really just a matter of some people not trying hard enough; if Black would only try harder they could be just as well off as Whites. (1 = strongly agree, 2 = somewhat agree, 3 = somewhat disagree, 4 = strongly disagree)
2. Irish, Italian, Jewish, and many other minority groups overcame prejudice and worked their way up. Black should do the same. (1 = strongly agree, 2 = somewhat agree, 3 = somewhat disagree, 4 = strongly disagree)
3. Some say that Blacks have been trying to push too fast. Others feel they have not pushed fast enough. What do you think? (1 = trying to push too fast, 2 = going to slowly, 3 = about right)
4. How much of the racial tension that exists in Canada today do you think Blacks are responsible for creating? (1 = all of it, 2 = most of it, 3 = some, 4 = not much at all)
5. How much discrimination against Blacks do you feel there is in Canada today, limiting their changes to get ahead? (1 = a lot, 2 = some, 3 = just a little, 4 = none at all)
6. Generations of slavery and discrimination have created conditions that make it difficult for Blacks to work their way out of the lower class. (1 = strongly agree, 2 = somewhat agree, 3 = somewhat disagree, 4 = strongly disagree)
7. Over the past few years, Blacks have gotten LESS than they deserve. (1 = strongly agree, 2 = somewhat agree, 3 = somewhat disagree, 4 = strongly disagree)
8. Over the past few years, Black have gotten more economically than they deserve (1 = strongly agree, 2 = somewhat agree, 3 = somewhat disagree, 4 = strongly disagree)

Please indicate the extent to which you agree to the following statements on the scale provided. Please note, there is no correct or incorrect response. (1 = strongly disagree, 9 = strongly agree).

2. I try to hide any negative thoughts about Black people in order to avoid negative reactions from others.
3. If I acted prejudiced toward Black people, I would be concerned that others would be angry with me.
4. I attempt to appear non-prejudiced toward Black people in order to avoid disapproval from others.
5. I try to act non-prejudiced toward Black people because of pressure from others.
6. I attempt to act in non-prejudiced ways toward Black people because it is personally important to me.
7. According to my personal values, using stereotypes about Black people is OK.
8. I am personally motivated by my beliefs to be non-prejudiced toward Black people.
9. Because of my personal values, I believe that using stereotypes about Black people is wrong.
10. Being non-prejudiced toward Black people is important to my self-concept.

Video Game Demographics

Do you play video games? Please use a liberal definition of video games when you consider your response to this question. Video games include games played on consoles, computers, hand held devices, and cellphones. (1 = yes, 2 = no).

NOTE: if no was selected, survey skips to gamer ID scale.

How old were you when you started playing video games?

What platform do you generally use to play? If you use more than one platform, please select the one on which you spend most of your time or that you enjoy the most.
- Xbox (original, 360, one)
- PlayStation (original, two, three, four)
- Computer
- Wii/WiiU
- Other console (Nintendo, Sega, etc.)
- Hand held device (PlayStation Portable, tablet, phone, etc.)
- I don’t play video games

What genre of video games do you play the most? If you play multiple genres, please select the one you devote the most time to or enjoy the most.
- Puzzle
On average, how many hours a week do you spend playing video games?

What percentage of the time (0=100%) do you use a voice or text chat option while playing video games? Please type the appropriate percentage in the box below.

Gamer Identification Scale

Referring to the scale provided, please indicate the extent to which you agree or disagree with each of the upcoming statements. (1 = disagree strongly, 7 = agree strongly).

1. I value being a member of the gaming community.
2. Being a gamer is important to me.
3. I like being a gamer.
4. Being a gamer is central to who I am as a person.
5. I feel an attachment to other gamers.
6. I feel similar to other gamers.
7. I have a strong sense of belonging to the gaming community.
8. When someone criticizes gamers, it feels like a personal insult.
9. I feel strong ties to the gaming community.

Gender Identification Scale

Please consider your GENDER when completing the following items and indicate the extent to which you agree or disagree with each statement. (1 = strongly disagree, 3 = somewhat disagree, 5 = somewhat agree, 7 = strongly agree).

1. My gender is important to me.
2. I feel similar to other people of the same gender.
3. In general, my gender is an important part of my self-image.
4. I feel an attachment to other people of the same gender.

Race Identification Scale

Please consider your RACE when completing the following items and indicate the extent to which you agree or disagree with each statement. (1 = strongly disagree, 3 = somewhat disagree, 5 = somewhat agree, 7 = strongly agree).

1. I value being a member of my racial group.
2. I feel included with other members of my racial group.
3. My racial group membership is central to who I am as a person.
4. I feel strong ties to my racial group.

Demographics

You have almost completed the survey. We would like you to answer a few questions about yourself and then you will be done.

How old are you? Please write an whole integer in the blank below:

What is the highest level of education you have achieved?
• Some high-school
• High-school diploma
• College diploma
• Bachelor’s degree
• Professional degree
• Master’s degree
• PhD, JK, or MD
• Other (please specify)

What is your gender?
• Male
• Female
• Other (please specify)

What is your gross yearly income (before taxes)?
• Less than or equal to $10 000
• $11-$20 000
• $21-$30 000
• $31-$40 000
• $41-$50 000
• $51-$60 000
• Greater than or equal to $61 000

What is your sexual orientation?
• Straight
• Gay
• Bisexual
• Other (please specify)
• Prefer not to say
What is your race?
- Black
- White
- Multiracial (please specify)
- Aboriginal
- East or Southeast Asian
- South Asian
- Middle Eastern
- Latin, Central, or South American
- Other, please specify

In what country were you born?

In what country do you currently reside?

If you have any comments about your experience completing this survey, please enter them here.
Appendix B: Materials Study 2

Study 2

The purpose of the present study is to examine perceptions of language and phrases in North American society. The study will take approximately 30 minutes to complete.

In this study, we're curious about your perceptions of language and phrases that are used in various contexts in North American society.

In this stage of the study, we are curious about the comments people make.

As you answer the following questions please keep in mind that we're not asking how often you make these comments. Instead, we are curious about how often the average person makes these types of comments.

Go with your first instinct as you answer these questions.

You will be asked to indicate how frequently these comments occur in a particular context.

Participants were then assigned to one of five conditions and read one set of the following five instructions:

1. You will now view 45 words and/or phrases.

   As noted earlier, we are interested in a variety of contexts. We would like you to answer the following questions about ONLINE ACTION VIDEO GAMES (e.g., Call of Duty, Mortal Kombat, etc.).

   For each comment, please indicate how often people make the following comments while they are playing ONLINE ACTION VIDEO GAMES.

2. You will now view 45 words and/or phrases.

   As noted earlier, we are interested in a variety of contexts. We would like you to answer the following questions about RACING AND/OR SPORTS GAMES (e.g., Need for Speed, NHL 13).

   For each comment, please indicate how often people make the following comments while they are playing RACING AND/OR SPORTS GAMES.

3. You will now view 45 words and/or phrases.
As noted earlier, we are interested in a variety of contexts. We would like you to answer the following questions about **ROLE-PLAYING GAMES** (e.g., World of Warcraft, Fallout).

For each comment, please indicate how often people make the following comments while they are playing **ROLE-PLAYING GAMES**.

4. You will now view 45 words and/or phrases.

As noted earlier, we are interested in a variety of contexts. We would like you to answer the following questions about **CASUAL OR PUZZLE GAMES** (e.g., FarmVille).

For each comment, please indicate how often people make the following comments while they are playing **CASUAL OR PUZZLE GAMES**.

5. You will now view 45 words and/or phrases.

As noted earlier, we are interested in a variety of contexts. We would like you to answer the following questions about **face-to-face conversations**.

For each comment, please indicate how often the comment is made by people while they are talking **face-to-face**.

Participants then indicated how frequently people say the following 45 phrases (in their assigned context; 1 = never, 4 = sometimes, 7 = always).

<table>
<thead>
<tr>
<th>Prejudiced Phrases</th>
<th>Negative Phrases</th>
<th>Positive Phrases</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chink</td>
<td>Fuck you</td>
<td>Nice move</td>
</tr>
<tr>
<td>Don’t be such a fag</td>
<td>Douchebag</td>
<td>Awesome play</td>
</tr>
<tr>
<td>You’re such a slut</td>
<td>Asshole</td>
<td>That was a good try</td>
</tr>
<tr>
<td>Learn to speak English</td>
<td>Kill yourself</td>
<td>You’re really good</td>
</tr>
<tr>
<td>Fucking twink</td>
<td>Idiot</td>
<td>Have fun</td>
</tr>
<tr>
<td>Go back to Africa</td>
<td>How are you so useless?</td>
<td>Good luck</td>
</tr>
<tr>
<td>Show us your tits</td>
<td>Noob</td>
<td>Keep it up</td>
</tr>
<tr>
<td>Stop being such a Jew</td>
<td>You suck</td>
<td>How did you get so good?</td>
</tr>
<tr>
<td>You’re such a fairy</td>
<td>You’re a dumbass</td>
<td>Great work</td>
</tr>
<tr>
<td>That’s so gay</td>
<td>You’re a loser</td>
<td>That was awesome</td>
</tr>
</tbody>
</table>
Participants then received one of the following sets of instructions (same context as the frequency ratings).

1. We would now like you to indicate how offensive the following phrases/comments are.

   We would now like you to indicate how offensive the following phrases/comments are. For each comment, please indicate how offensive it is when made by people while they are playing **ONLINE ACTION VIDEO GAMES** (e.g., Call of Duty, Mortal Kombat, etc.).

2. We would now like you to indicate how offensive the following phrases/comments are.

   For each comment, please indicate how offensive it is when made by people while they are playing **RACING AND/OR SPORTS GAMES** (e.g., Need for Speed, NHL 13).

3. We would now like you to indicate how offensive the following phrases/comments are.

   For each comment, please indicate how offensive it is when made by people while they are playing **ROLE-PLAYING GAMES** (e.g., World of Warcraft, Fallout).

4. We would now like you to indicate how offensive the following phrases/comments are.

   For each comment, please indicate how offensive it is when made by people while they are playing **CASUAL OR PUZZLE GAMES** (e.g., FarmVille).

5. We would now like you to indicate how offensive the following phrases/comments are.

   For each comment, please indicate how offensive it is when made by people while they are talking to **face-to-face**.

Participants then evaluated the 45 words/phrases, presented in random order, for offensiveness. (1 = not at all offensive, 4 = somewhat offensive, 7 = very offensive).
Please indicate how descriptive each statement is of your beliefs by selecting the number that corresponds to your response (1 = strongly disagree, 7 = strongly agree).

1. Some groups are simply inferior to other groups.
2. In getting what you want, it is sometimes necessary to use force against other groups.
3. It’s OK if some groups have more of a chance in life than others.
4. To get ahead in life, it is sometimes necessary to step on other groups.
5. If certain groups stayed in their place, we would have fewer problems.
6. It’s probably a good thing that certain groups are at the top and other groups are at the bottom.
7. Inferior groups should stay in their place.
8. It would be good if groups could be equal.
9. All groups should be given an equal chance in life.
10. We should do what we can to equalize conditions for different groups’ increased social equality.
11. We would have fewer problems if we treated people more equally.
12. We should strive to make incomes as equal as possible.
13. No one group should dominate in society.

Right-Wing Authoritarianism (Rattazzi, Bobbio, & Canova, 2007)

Please indicate how descriptive each statement is of your beliefs by selecting the number that corresponds to your response.

You may find that you sometimes have different reactions to different parts of a statement. For example, you might very strongly disagree (“-4”) with one idea in a statement, but slightly agree (“+1”) with another idea in the same item. When this happens, please combine your reactions, and indicate how you feel on balance (a “-3” in this case).

9-point scale (-4 = strongly disagree, -2 = moderately disagree, 2 = moderately agree, 4 = strongly agree).

1. Our country desperately needs a mighty leader who will do what has to be done to destroy the radical new ways and sinfulness that are ruining us.
2. The majority of those who criticize proper authorities in government and religion only create useless doubts in people’s mind.
3. The situation in our country is getting so serious, the strongest method would be justified if they eliminated the troublemakers and got us back to our true path.
4. What our country really needs instead of more “civil rights” is a good stiff dose of law and order.
5. Obedience and respect for authority are the most important values children should learn.
6. The facts on crime, sexual immorality and the recent public disorders all show we have to crack down harder on deviant groups and troublemakers, if we are going to save our moral standards and preserve law and order.
7. What our country needs most is disciplined citizens, following national leaders in unity.
8. The only way our country can get through the crisis ahead is to get back to our traditional values, put some tough leader in power, and silence the troublemakers spreading bad ideas.
9. Once our government leaders give us the “go ahead”, it will be the duty of every patriotic citizen to help stamp out the rot that is poisoning our country from within.
10. What our country really needs is a strong, determined leader who will crush evil, and take us back to our true path.
11. Atheists and others who have rebelled against the established religions are no doubt every bit as good and virtuous as those who attend church regularly.
12. A lot of our rules regarding sexual behavior are just customs which are not necessarily any better or holier than those which other people follow.
13. There is absolutely nothing wrong with nudist camps.
14. Homosexuals and feminists should be praised for being brave enough to defy “traditional family values”.
15. Everyone should have their own lifestyle, religious beliefs, and sexual preferences, even if it makes them different from everyone else.
16. People should pay less attention to the Church and the Pope, and instead develop their own personal standards of what is moral and immoral.
17. It is good that nowadays young people have greater freedom “to make their own rules” and to protest against things they don’t like.
18. Gays and lesbians are just as healthy and moral as anybody else.
19. There is no “ONE right way” to live life; everybody has to create their own way.
20. There is nothing wrong with premarital sexual intercourse.
21. We should treat protestors and radicals with open arms and open minds, since new ideas are the lifeblood of progressive change.

Gaming Demographics

Now we're going to ask some questions about your media use and attitudes towards internet, television, and video games.

If you are unsure of the best response, please go with your initial reaction. Please answer all questions honestly and provide as much detail as possible.

How many hours, each day, on average, do you use the internet?
How many hours, each day, on average, do you watch television?
How many hours, each day, on average, do you play video games?

Do you watch television programming (through any means including but not limited to cable, Netflix, etc.)? 1 = yes, 2 = no

What are you favourite television shows (please list up to three)?
Do you have internet in your primary residence? 1 = yes, 2 = no

Please list the top three activities you engage in online. Please consider an average week when completing this item.

How many hours do you spend on each activity? Please write a whole number in the fields below.

Do you play video games? Please use a liberal definition of video games, including games played on devices including, but not limited to, hand-held devices, cell-phones, consoles, PC, etc. 1 = yes, 2 = no

How old were you when you started playing video games?

On average, how many hours a week do you play video games?

What proportion of these hours are spent playing multiplayer or online games?

• Less than or equal to 10%
• 11-20%
• 21-30%
• 31-40%
• 41-50%
• 51-60%
• 61-70%
• 71-80%
• 81-90%
• 91-100%

What are your favourite games to play? Please list up to six.

What is your favourite platform to play on?

• Xbox (original, 360, one)
• Play Station (Original, Two, Three, or Four)
• Wii/WiiU
• Other console (Nintendo, Sega, etc.)
• Handheld device (Play Station Portable, tablet, phone, etc.)

Referring to the scale provided, please indicate the extent to which you agree or disagree with each of the upcoming statements. (1 = strongly disagree, 3 = somewhat disagree, 5 = somewhat agree, 7 = strongly agree).

1. I value being a member of the gaming community.
2. Being a gamer is important to me.
3. I like being a gamer.
4. I am proud to be a gamer.
5. Being a gamer is central to who I am as a person.
6. I feel an attachment to other gamers.
7. I have a strong sense of belonging to the gaming community.
8. I find support and comfort from being a member of the gaming community.
9. In general, belonging to the gaming community is an important part of my self-image.

How often do you use voice or text chat while playing?
- Less than or equal to 10%
- 11-20%
- 21-30%
- 31-40%
- 41-50%
- 51-60%
- 61-70%
- 71-80%
- 81-90%
- 91-100%

When you use a chat option during a game, what percent of the time do you use it only to talk with people you already know?
- Less than or equal to 10%
- 11-20%
- 21-30%
- 31-40%
- 41-50%
- 51-60%
- 61-70%
- 71-80%
- 81-90%
- 91-100%

Do you prefer voice or text chat?
- Voice
- Text

How often do you play games with friends in real-life (i.e., in the same room as the people you are playing with)? (1 = Never, 4 = half of the time, 7 = always).

Demographics: same as Study 1.
What do you think the purpose of this study was?
At what point in the survey did you suspect the purpose?
Appendix C: Materials Study 3

**Study 3**

Modern homonegativity scale (same as Study 1).
Ambivalent Sexism Inventory (same as Study 1).
Symbolic Racism Scale (same as Study 1).

**Attitudes towards Equality**

Please indicate the extent to which you agree with each item on the following scale (1 = not at all, 4 = somewhat, 7 = very much).

1. It is important that there are programs in place to assist minority students gaining access to education.
2. Although women have gained important rights there are still important steps that need to be taken to achieve true gender equality.
3. Affirmative action plans are outdated and favour women over equally qualified male job applicants.
4. Although gay men and women are gaining more rights recently such as legal status to marry in USA, there are still important steps that need to be taken.
5. Society is very egalitarian in terms of race and sex.
6. Feminism is trying to take what is rightfully men's.

**Internal and External Motivation to Respond Without Prejudice**. Modified from study 1 “Black people” replaced with “people”.

The Motivation to Express Prejudice. (Forscher, Cox, Graetz, & Devine, 2015).

Please indicate the extent to which you agree with the following statements on the scale provided (1 = strongly disagree, 7 = strongly agree). Please note, there is no correct or incorrect response.

1. I express negative thoughts about people to avoid negative reactions from others.
2. If I expressed positive feelings about people from other groups, I would be concerned that others would be angry with me.
3. I minimize my contact with people from other groups in order to avoid disapproval from others.
4. I avoid interactions with people from other groups because of pressure from others.
5. To meet the standards of others, I express negative views about people from other groups.
6. According to my personal beliefs, I should express negative feelings about people from other groups.
7. According to my personal values, it is wrong to withhold negative thoughts about people from other groups.
8. Avoiding interactions with people from other groups is important to my self-concept.
9. Based on my personal values, expressing positive feelings about people from other groups is wrong.
10. Minimizing my contact with people from other groups is personally important to me.
11. My beliefs motivate me to express negative views about people from other groups.
12. According to my morals, expressing positive thoughts about people from other groups is OK.

Social Dominance Orientation (same as Study 1).
Right-Wing Authoritarianism (same as Study 1).

Toronto Empathy Questionnaire (Spreng, McKinnon, Mar, & Levin, 2009).

Referring to the scale provided, please indicate the extent to which you agree or disagree with each of the upcoming statements (1 = strongly disagree, 5 = strongly agree).
1. When someone else is feeling excited, I tend to get excited too.
2. Other people’s misfortunes do not disturb me a great deal.
3. It upsets me to see someone being treated disrespectfully.
4. I remain unaffected when someone close to me is happy.
5. I enjoy making other people feel better.
6. I have tender, concerned feelings for people less fortunate than me.
7. When a friend starts to talk about his/her problems, I try to steer the conversation towards something else.
8. I can tell when others are sad even when they do not say anything.
9. I find that I am “in tune” with other people’s moods.
10. I do not feel sympathy for people who cause their own serious illnesses.
11. I become irritated when someone cries.
12. I am not really interested in how other people feel.
13. I get a strong urge to help when I see someone who is upset
14. When I see someone being treated unfairly, I do not feel very much pity for them.
15. I find it silly for people to cry out of happiness.
16. When I see someone being taken advantage of, I feel kind of protective towards him/her.

Impulse Control (Barrett, 1995; this is a shortened version of the original scale)
People differ in the ways they act and think in different situations. This is a test to measure some of the ways in which you act and think. Read each statement and select the appropriate response on the scale provided (1 = rarely/never, 2 = occasionally, 3 = often, 4 = almost always).

Do NOT spend too much time on any statement. Answer quickly and honestly.

1. I plan tasks carefully.
2. I do things without thinking.
3. I don’t “pay attention”.
4. I am self-controlled.
5. I concentrate easily.
6. I say things without thinking.
7. I like to think about complex problems.
8. I act “on impulse”.
9. I get easily bored when solving thought problems.
10. I am a steady thinker.
11. I can only think about one thing at a time.
12. I am more interested in the present than the future.

Short Dark Triad Scale (Jones & Palhaus, 2014)

Please indicate how descriptive each statement is of your beliefs by selecting the number that corresponds to your response. (1 = strongly disagree to 7 = strongly agree).

1. It’s not wise to tell your secrets.
2. I like to use clever manipulation to get my way.
3. People see me as a natural leader.
4. I hate being the center of attention.
5. Many group activities tend to be dull without me.
6. I like to get revenge on authorities.
7. I avoid dangerous situations.
8. Payback needs to be quick and nasty.
9. People often say I’m out of control.
10. Whatever it takes, you must get the important people on your side.
11. Avoid direct conflict with others because they may be useful in the future.
12. It’s wise to keep track of information that you can use against people later.
13. You should wait for the right time to get back at people.
14. There are things you should hide from other people to preserve your reputation.
15. I know that I am special because everyone keeps telling me so.
16. I like to get acquainted with important people.
17. I feel embarrassed if someone compliments me.
18. I have been compared to famous people.
19. It’s true that I can be mean to others.
20. People who mess with me always regret it.
21. I have never gotten into trouble with the law.
22. I am an average person.
23. I insist on getting the respect I deserve.
24. Make sure your plans benefit yourself, not others.
25. Most people can be manipulated.
26. I enjoy having sex with people I hardly know.
27. I’ll say anything to get what I want.

Social connectedness (Lee & Robbins, 1995; a shortened version of the original scale is included in this survey)
Referring to the scale provided, please indicate the extent to which you agree or disagree with each of the upcoming statements (1 = strongly disagree, 7 = strongly agree).

1. I feel disconnected from the world around me.
2. Even around people I know, I don't feel that I really belong.
3. I feel so distant from people.
4. I have no sense of togetherness with my peers.
5. I don't feel related to anyone.
6. I catch myself losing all sense of connectedness with society.
7. I feel more comfortable when someone is constantly with me.
8. I'm more at ease doing things together with other people.
9. My life is incomplete without a buddy beside me.
10. I stick to my friends like glue.
11. I join groups more for the friendship than the activity itself.
12. I wish to find someone who can be with me all the time.

Personality Traits (The Big Five Inventory, John & Srivastava, 1999).

Here are a number of characteristics that may or may not apply to you. Please select the appropriate number of the scale provided to indicate the extent to which you agree or disagree with each statement (1 = strongly disagree, 7 = strongly agree).

I see myself as someone who...

1. Is talkative
2. Tends to find fault with others
3. Does a thorough job
4. Is depressed, blue
5. Is original, comes up with new ideas
6. Is reserved
7. Is helpful and unselfish with others
8. Can be somewhat careless
9. Is relaxed, handles stress well
10. Is curious about many different things
11. Is full of energy
12. Starts quarrels with others
13. Is a reliable worker
14. Can be tense
15. Is ingenious, a deep thinker
16. Generates a lot of enthusiasm
17. Has a forgiving nature
18. Tends to be disorganized
19. Worries a lot
20. Has an active imagination
21. Tends to be quiet
22. Is generally trusting
23. Tends to be lazy
24. Is emotionally stable, not easily upset
25. Is inventive
26. Has an assertive personality
27. Can be cold and aloof
28. Perseveres until the task is finished
29. Can be moody
30. Values artistic, aesthetic experiences
31. Is sometimes shy, inhibited
32. Is considerate and kind to almost everyone
33. Does things efficiently
34. Remains calm in tense situations
35. Prefers work that is routine
36. Is outgoing, sociable
37. Is sometimes rude to others
38. Makes plans and follows through with them
39. Gets nervous easily
40. Likes to reflect, play with ideas
41. Has few artistic interests
42. Likes to cooperate with others
43. Is easily distracted
44. Is sophisticated in art, music, or literature

Social anxiety (Liebowitz, 1987; a selection of items from the original scale were included in this survey)

For the following situations, please indicate how anxious you feel in this situation. (1 = none, 2 = mild, 3 = moderate, 4 = severe).

1. Participating in small groups.
2. Talking to people in authority.
3. Going to a party.
4. Working while being observed.
5. Calling someone you don’t know very well.
6. Talking with people you don’t know very well.
7. Meeting strangers.
8. Being the center of attention.
9. Speaking up at a meeting.
10. Expressing a disagreement or disapproval to people you don’t know very well.
11. Looking at people you don’t know very well in the eyes.
12. Giving a report to a group.

What do you think the purpose of this study is?
Gamer Identification (same as Study 2).

Gender Identification

Referring to the scale provided, please indicate the extent to which you agree or disagree with each of the upcoming statements (1 = not at all, 7 = very much).
1. I value being a member of my gender group.
2. Being part of my gender group is important to me.
3. I like being a member of my gender group.
4. I am proud to be a member of my gender group.
5. Being part of my gender group is central to who I am as a person.
6. I feel an attachment to other people of the same gender group as me.
7. I have a strong sense of belonging to my gender group.
8. I find support and comfort from being a member of my gender group.

Racial Identification

Referring to the scale provided, please indicate the extent to which you agree or disagree with each of the upcoming statements (1 = not at all, 7 = very much).
1. I value being a member of my racial group.
2. Being part of my racial group is important to me.
3. I like being a member of my racial group.
4. I am proud to be a member of my racial group.
5. Being part of my racial group is central to who I am as a person.
6. I feel an attachment to other people of the same race as me.
7. I have a strong sense of belonging to my racial group.
8. I find support and comfort from being a member of my racial group.

Orientation Identification

Referring to the scale provided, please indicate the extent to which you agree or disagree with each of the upcoming statements (1 = not at all, 7 = very much).
1. I value being a member of my sexual orientation group.
2. My sexual orientation is central to who I am as a person.
3. I can't imagine not being straight/homosexual.
4. I believe that having my sexual orientation is a positive experience.
5. When someone criticizes people of the same sexual orientation as mine, it feels like a personal insult.
6. I find support and comfort from other people who have the same sexual orientation as I do.
7. I feel as if problems of those with the same sexual orientation as mine are my own.
8. I feel similar to others with the same sexual orientation.
9. I feel included with others with the same sexual orientation.

Media Demographics

Now we're going to ask some questions about your media use and attitudes towards internet, television, and video games.

If you are unsure of the best response, please go with your initial reaction. Please answer all questions honestly and provide as much detail as possible.

How many hours, each day, on average, do you use the internet?
How many hours, each day, on average, do you watch television?
How many hours, each day, on average, do you play video games?

Do you have cable? (1 = yes, 2 = no)?
Do you watch television programming (through any means including, but not limited to cable, Netflix, etc.)? (1 = yes, 2 = no).
   NOTE: If no was selected, the survey skipped to questions about internet use.

What genre of television do you prefer to watch? Please list up to three.

How many hours of the week do you spend watching each of your top three genres? Please type a whole integer in the opening provided.

What are your favourite television shows? Please list up to three.

What age did you first watch television? Please estimate the age you started watching television on a regular basis (at least one hour each week).

How much do you agree with the following statements? (1 = strongly disagree, 2 = disagree, 3 = somewhat disagree, 4 = neither agree nor disagree, 5 = somewhat agree, 6 = agree, 7 = strongly agree).
   1. The quality of GRAPHICS (high definition) is important to how much I enjoy a television show.
   2. The quality of ACTING is important to how much I enjoy a television show.
   3. The PLAUSIBILITY of the plot is important to how much I enjoy a television show.

Do you have internet in your primary residence? (1 = yes, 2 = no).
   NOTE: If no was selected, the survey skipped to questions about video game use.

Please list the top three activities you engage in. Please consider an average week when completing this item.
How many hours do you spend on each activity?

Do you play video games? Please use a liberal definition of video games, including games played on devices including, but not limited to, hand-held devices, cell-phones, consoles, PC, etc. (1 = yes, 2 = no).

NOTE: If no was selected, the survey skipped to questions about anonymity.

Remaining media demographics questions were the same as in Study 2.

Anonymity

How much do you agree with the following statements? (1 = strongly disagree, 4 = neither agree nor disagree, 7 = strongly agree).
1. I am anonymous while playing online video games.*
2. My real-life identity is not associated with my online identity.*
3. I identify with TV characters very well.
4. I am anonymous while commenting on Internet forums.
5. I like spending time with people who watch similar shows as I do.
6. I often spend too much time online even when I have other things to do.
7. I share very few details about my real-life with the people I interact with online.
8. It is very easy for people in video games to determine my real-life identity.*
9. I want to meet up with people I got to know online.

*items indicated with an asterisk were included in the anonymity measure.

Consequences of online behaviour

How much do you agree with the following statements? (1 = strongly disagree, 7 = strongly agree).
1. It doesn’t matter what I do while playing online video games.
2. It doesn’t matter what I say while playing online video games.
3. No one cares what people do or say in online video games.
4. If I say something offensive while playing online video games I might be punished.
5. There are no consequences for how I behave online.
6. Watching violent movies or shows has nothing to do with my behaviors.
7. I want to behave like the movie/TV show characters.

Online communities as welcoming

Please indicate the extent to which you agree with each item on the following scale (1 = not at all, 4 = somewhat, 7 = very much).
1. The internet/online communities welcome all people.
2. The gaming community should be a diverse community.
3. All people can enjoy watching television.
4. It doesn't matter what your gender is, everyone can enjoy playing video games.
5. The internet is a welcoming environment for all people.
6. Not everyone should expect to feel comfortable in the gaming community.
7. Some people are going to disagree with what other people post online.
8. Only certain people should play video games.
9. No matter your preferences, there is something for everyone on the internet.
10. Everyone should feel welcome in online video games.
11. Video games should only be played by certain people.
12. Only some people should post comments on the internet.
13. Regardless of orientation, everyone can enjoy online gaming.
14. Some people are not going to feel comfortable in the online gaming environment.
15. Some people are not going to feel comfortable in internet communities.
16. Everyone is welcome in the gaming community.
17. Generally, everyone can find a television show they enjoy watching.

Connections and Online Identity

Referring to the scale provided, please indicate the extent to which you agree or disagree with each of the upcoming statements. (1 = disagree, 5 = agree).
1. It is easier to connect with others through screens than talking in person.
2. The Internet is anonymous so it is easier for me to express my true feelings or thoughts.
3. It is easier to write things online that would be hard to say in real life because you don't see the other's face.
4. It is easier to communicate online because you can reply anytime you want.
5. I have an image of the other person in my head when I read their e-mail or messages online.
6. I feel like a different person online.
7. I feel that online I can communicate on the same level with others who are older or have higher status.
8. I do not mind writing insulting things about others online because it is anonymous.
9. It is easy to write insulting things online because there are no repercussions.
10. There are no rules online therefore you can do whatever you want.
11. Writing insulting things online is not bullying.

Next, we are going to ask you some questions about the ways in which people behave while they are online. Some of these questions ask about the ways in which other people behave and some ask about your own behaviour.

Please answer honestly, remembering that all of your responses are anonymous.
(1 = never, 4 = some of the time, 7 = very often).

1. How often are other inappropriate comments made by other players (i.e., aggressive/threatening, excessive swearing)?
2. How often do you see/hear comments about a players’ ability or status (i.e., noob)?
3. How often do you make comments about other players’ race?
4. ….. sexual orientation?
5. ….. gender?
6. How often do your friends make comments about other players’ race?
7. …..sexual orientation?
8. …..gender?
9. How often does the average gamer make comments about other players’ race?
10. …..sexual orientation?
11. …..gender?

What sort of comments do you make? (open-ended).

Please indicate how reflective each question is by circling the number that corresponds to your response. (1 = strongly disagree to 7 = strongly agree).

1. To what extent do you care what opinion your friends in online gaming have of you?
2. To what extent do you behave in ways you know your friends in online gaming will approve of?

What are the most common insults that the average player uses (please list as many as you think are commonly used)?

How often do you see/hear the following types of comments made by other players in games? (1 = never, 4 = some of the time, 7 = very often).

1. Racist
2. Homophobic
3. Sexist

How often do you see racist, sexist, or homophobic comments confronted when they’re made? (1 = never, 4 = some of the time, 7 = very often).

How do people generally respond to racist, sexist, or homophobic comments?
• People ignore the comment
• People find it amusing
• People confront the comment
• People make similar comments
How often do you confront racist, sexist, or homophobic comments when they’re made? (1 = never, 4 = some of the time, 7 = very often).

Do you think racist, sexist, or homophobic comments should be confronted? (yes/no).

Why or why not?
Why do you think players might chose not to confront these comments?

Please indicate how descriptive each statement is by selecting the number that corresponds to your response. (1 = strongly disagree to 7 = strongly agree).

1. How often do YOU use the word “gay” when playing videogames?
2. How often does the AVERAGE PLAYER use the word “gay” when playing?
3. How often do YOU use the word “fag” when playing videogames?
4. How often does the AVERAGE PLAYER use the word “fag” when playing?
5. How often do players mock others by insinuating that they are women?

Do you think people behave differently while playing video games than in face-to-face interactions? (yes/no).

Please explain your answer. If yes, why do you think people behave differently while playing video games. If no, why not?

Do you think people are more likely to make comments based on gender, race, or orientation while playing online video games than in face-to-face interactions? Why or why not?

People might have different reasons for making comments about other player’s gender, race, or orientation while playing online video games, please respond to the following items about your own behaviour (1 = strongly disagree, 2 = disagree, 3 = somewhat disagree, 4 = neither agree nor disagree, 5 = somewhat agree, 6 = agree, 7 = strongly agree).

1. I use comments about other people’s race, gender, and/or orientation strategically to gain an advantage while playing video games.
2. I think it is fun to make comments about people’s race, gender, and/or orientation.
3. Most gamers make comments that refer to people’s race, gender, and/or orientation so I make similar comments.
4. I think making comments based on people’s race, gender, and/or orientation helps me belong in the gamer community.
5. I feel free to make comments about people’s race, gender, and/or orientation while playing video games.
6. I am able to make comments about people’s race, gender, and/or orientation while playing video games without consequences.
Please complete the following items thinking about why MOST people would make comments about race, gender, and/or orientation. (1 = strongly disagree, 2 = disagree, 3 = somewhat disagree, 4 = neither agree nor disagree, 5 = somewhat agree, 6 = agree, 7 = strongly agree).

1. Most gamers’ comments about other people’s race, gender, and/or orientation strategically to gain an advantage while playing video games.
2. Most gamers think it is fun to make comments about people’s race, gender, and/or orientation.
3. Most gamers make comments that refer to people’s race, gender, and/or orientation because other gamers make similar comments.
4. Most gamers think making comments based on people’s race, gender, and/or orientation helps them belong in the gamer community.
5. Most gamers feel free to make comments about people’s race, gender, and/or orientation while playing video games.
6. Most gamers able to make comments about people’s race, gender, and/or orientation while playing video games without consequences.

Please answer the following questions about the people you typically play video games with. (1 = never, 7 = always).

1. How often do you play with people who are from different regions of the world?
2. How often do you play with people who are of a different racial background?
3. How often do you play with people who are of a different gender?
4. How often do you play with people who are of a different sexual orientation than you?

Please answer the following questions about how much you enjoy playing video games with various people. (1 = not at all, 7 = very much).

1. How much do you enjoy playing with people who are from different regions of the world than you?
2. How much do you enjoy playing with people who are of a different racial background than you?
3. How much do you enjoy playing with people who are of a different gender than you?
4. How much do you enjoy playing with people who are of a different sexual orientation than you?

Please answer the following questions about how much MOST GAMERS playing video games with various people. (1 = not at all, 7 = very much).

1. How much do MOST GAMERS enjoy playing with people who are from different regions of the world than are?
2. How much do MOST GAMERS enjoy playing with people who are of a different racial background than they are?
3. How much do MOST GAMERS enjoy playing with people who are of a different gender than they are?
4. How much do MOST GAMERS enjoy playing with people who are of a different sexual orientation than they are?
What race of people do you most often play with? (same race/other race).

Please specify the race of the players with whom you most frequently play:
- Black
- White
- Multiracial
- Aboriginal
- East/Southeast Asian
- South Asian
- Middle Eastern
- Latin, Central, or South American
- Other (please specify)

What race, other than your own, do you most often play with?
- Black
- White
- Multiracial
- Aboriginal
- East/Southeast Asian
- South Asian
- Middle Eastern
- Latin, Central, or South American
- Other (please specify)

Please answer the following questions. (1 = not at all, 4 = somewhat, 7 = very much).
1. How much do you enjoy playing with people who are your own race?
2. How much do you enjoy playing with people who are another race?

Demographics (same as Study 1).

What did you think the purpose of this study was?
At what point in the survey did you suspect the purpose?
Appendix D: Materials Study 4

**Study 4: Intake Survey**

NOTE: Questions that referred to the participant’s gender were modified as necessary to fit for the male and female sample.

**Gender Identification**

Referring to the scale provided, please indicate the extent to which you Agree or Disagree with each of the following statements. (1 = strongly disagree, 7 = strongly agree).

1. I value being a member of my gender community.
2. Being a woman is important to me.
3. I like being a woman.
4. I am proud to be a woman.
5. Being a woman is central to who I am as a person.
6. I feel an attachment to other women.
7. I feel included with other women.
8. I have a strong sense of belonging to the female community.
9. I find support and comfort from being a member of the female community.
10. I feel strong ties to other women.
11. In general, being a woman is an important part of my self-image.
12. Women's successes are my successes.

**Satisfaction with Life Scale (Diener, Emmons, Larsen & Griffin, 1985).**

Below are five statements that you may agree or disagree with. Using the 1 - 7 scale below, indicate your agreement with each item by the response that is most accurate of your own experiences.

Please be open and honest in your responding.

(1 = strongly disagree, 4 = neither agree nor disagree, 7 = strongly agree).

1. In most ways my life is close to ideal.
2. The conditions of my life are excellent.
3. I am satisfied with my life.
4. So far I have gotten the important things I want in life.
5. If I could live my life over, I would change almost nothing.

**State Self-Esteem Scale (Heatherton & Polivy, 1991)**
This is a questionnaire designed to measure what you are thinking at this moment. There is, of course, no right answer for any statement. The best answer is what you feel is true of yourself at the moment. Be sure to answer all of the items, even if you are not certain of the best answer.

Again, answer these questions as they are true for you RIGHT NOW.

(1 = not at all, 2 = a little bit, 3 = somewhat, 4 = very much, 5 = extremely).
1. I feel confident about my abilities.
2. I am worried about whether I am regarded as a success or failure.
3. I feel satisfied with the way my body looks right now.
4. I feel frustrated or rattled about my performance.
5. I feel that I am having trouble understanding things that I read.
6. I feel that others respect and admire me.
7. I am dissatisfied with my weight.
8. I feel self-conscious.
9. I feel as smart as others.
10. I feel displeased with myself.
11. I feel good about myself.
12. I am pleased with my appearance right now.
13. I am worried about what other people think of me.
15. I feel inferior to others at this moment.
16. I feel unattractive.
17. I feel concerned about the impression I am making.
18. I feel that I have less scholastic ability right now than others.
19. I feel like I'm not doing well.
20. I am worried about looking foolish.

Rosenberg Self-Esteem Scale (Rosenberg, 1965)

Please indicate how strongly you agree with each item below. (1 = strongly disagree, 2 = disagree, 3 = agree, 4 = strongly agree).
1. On the whole, I am satisfied with myself.
2. At times I think I am no good at all.
3. I feel that I have a number of good qualities.
4. I am able to do things as well as most other people.
5. I feel I do not have much to be proud of.
6. I certainly feel useless at times.
7. I feel that I'm a person of worth.
8. I wish I could have more respect for myself.
9. All in all, I am inclined to think that I am a failure.
10. I take a positive attitude toward myself.
Stigma Consciousness (Pinel, 1999).

Referring to the scale provided, please indicate the extent to which you Agree or Disagree with each of the upcoming statements. (1 = strongly disagree, 7 = strongly agree).
1. Stereotypes about women have not affected me personally.
2. I never worry that my behaviors will be viewed as stereotypically female.
3. When interacting with men, I feel like they interpret all my behaviors in terms of the fact that I am a woman.
4. Most men do not judge women on the basis of their gender.
5. My being female does not influence how men act with me.
6. I almost never think about the fact that I am female when I interact with men.
7. My being female does not influence how people act with me.
8. Most men have a lot more sexist thoughts than they actually express.
9. I often think that men are unfairly accused of being sexist.
10. Most men have a problem viewing women as equals.

Ambivalent Sexism (as in Study 1).
Modern Homonegativity Scale (as in Study 1).
Symbolic Racism Scale (as in Study 1).
Internal and External Motivation to Respond Without Prejudice (as in Study 1).
Video game demographics (as in Study 1).

Gamer Identification

Referring to the scale provided, please indicate the extent to which you Agree or Disagree with each of the upcoming statements. (1 = strongly disagree, 7 = strongly agree).
1. I value being a member of the gaming community.
2. Being a gamer is important to me.
3. I like being a gamer.
4. I am proud to be a gamer.
5. Being a gamer is central to who I am as a person.
6. I feel an attachment to other gamers.
7. I feel included with other gamers.
8. I have a strong sense of belonging to the gaming community.
9. I find support and comfort from being a member of the gaming community.
10. I feel strong ties to the gaming community.
11. In general, belonging to the gaming community is an important part of my self-image.
12. The gaming community’s successes are my successes.

Discrimination Experiences

The following questions ask about your experiences and interactions with other people while playing online video games.
How often do other gamers insult you because of how well or how poorly you are doing in a game? (1 = never, 4 = sometimes, 7 = often).

How offensive are these comments, on average? (1 = not at all offensive, 4 = somewhat offensive, 7 = very offensive).

How often do you use each of the following methods to respond to these types of comments? (1 = never, 4 = sometimes, 7 = often)
1. Ignore
2. Respond in kind (e.g., with an insult about the other players’ ability)
3. Mute/block the player
4. Quit the game
5. Other

How often do people make obscene or offensive comments to you while you are playing online video games (e.g., violent language, swearing, etc.)? (1 = never, 4 = sometimes, 7 = often).

How offensive are these comments, on average? (1 = not at all offensive, 4 = somewhat offensive, 7 = very offensive).

How often do you use each of the following methods to respond to these types of comments? (1 = never, 4 = sometimes, 7 = often)
1. Ignore
2. Respond in kind (e.g., with an insult about the other players’ ability)
3. Mute/block the player
4. Quit the game
5. Other

Does your gender typically affect your experiences in online gaming? If so, please select all that apply below.
- Receive preferential treatment
- Am a target of prejudice/discrimination
- Experience harassment
- Does not affect my experiences
- Other

What comments do you typically hear about GENDER in online gaming?

How offensive are these comments, on average? (1 = not at all offensive, 4 = somewhat offensive, 7 = very offensive).
To whom are these comments about GENDER typically directed?

• A target group member (i.e., a person who WAS the gender about which the comment was made)
• A non-target member (i.e., a person who was NOT the gender about which the comment was made)
• Targets and non-targets
• Not sure
• Other

Same questions as above (what comments, how offensive, made towards whom) were then asked for race and sexual orientation.

How common is prejudice in online gaming? (1 = not at all common, 4 = somewhat common, 7 = very common).

What type of prejudice/discrimination do you typically see in online gaming? Please check all that apply.

• Racist comments
• Sexist comments
• Anti-gay comments
• Racist behaviours
• Sexist behaviours
• Anti-gay behaviours

How often are you the target of prejudice/discrimination while participating in online video games? (1 = never, 4 = sometimes, 7 = always).

How often are you exposed to prejudice and/or discrimination while playing online video games? Please consider times when you hear/witness prejudice/discrimination but are not the target of that prejudice/discrimination. (1 = never, 4 = sometimes, 7 = always).

How much are you affected by the prejudice and/or discrimination that occurs in online video games? (1 = not at all, 7 = a lot).

How much do you think most gamers are affected by the prejudice and/or discrimination that occurs in online video games?

What effect do you think this has on these gamers?

Do you experience prejudice and/or discrimination in your daily life (outside of online video games)? (yes/no).

In what contexts do you experience prejudice in your daily life?
• Education
• Interactions with strangers (e.g., people at the shops, people on the bus, etc.)
• Interactions with friends
• Interactions with family
• Employment
• I am not affected by prejudice in my daily life
• Other

How much does this prejudice/discrimination affect you? (1 = not at all, 7 = very much).

How does prejudice/discrimination in daily life affect you as compared to prejudice in online gaming? (1 = Prejudice in online gaming has a larger effect, 4 = they have the same effect, 7 = prejudice in real life has a larger effect, 8 = neither has an effect).

Do you avoid situations in which you expect prejudice to occur (for example, specific games)? (1 = never, 4 = sometimes, 7 = always).

How effective is this technique at avoiding prejudice and/or discrimination? (1 = not at all effective, 4 = somewhat effective, 7 = very effective).

Do you confront people who behaviour in a discriminatory manner? (yes/no/maybe). Why or why not?

How do people respond when you confront them? Please select the most common response.
• Ignore the confrontation
• Increase the behaviour that elicited the confrontation
• Taunt/harass me for confronting them
• Find it funny
• Change their behaviour
• Other

Demographics (same as Study 1).

Study 4: Daily Entry

How was your day today? (1 = terrible, 2 = bad, 3 = neutral, 4 = good, 5 = great).

How much time did you spend interaction with other people face-to-face? (hours/minutes)

How much time did you spend interacting with other people using your phone (via text-message or phone calls)? (hours/minutes)
How much time did you spend interacting with other people online (but NOT in video games, e.g., Facebook, email)? (hours/minutes)

How much time did you spend interacting with other people in online video games? (hours/minutes)

Shortened life-satisfaction, stigma consciousness, gender, and gamer identity questionnaire.

Referring to the scale provided, please indicate the extent to which you Agree or Disagree with each of the upcoming statements. (1 = strongly disagree, 4 = neither agree nor disagree, 7 = strongly agree).
1. Being a woman is important to me.
2. I like being a woman.
3. Being a gamer is central to who I am as a person.
4. I feel strong ties to the gaming community.
5. Stereotypes about women have not affected me personally.
6. When interacting with men, I feel like they interpret all my behaviors in terms of the fact that I am a woman.
7. On the whole, I am satisfied with myself.
8. I feel I do not have much to be proud of.
9. Today, I feel like my life is close to ideal.
10. The conditions of my life today are excellent.
11. Today, I am satisfied with my life.

Positive and Negative Affect Scale:

Please think about what you have been doing and experiencing today. Then report how much you experienced each of the following feelings, using the scale below. (1 = very little/not at all, 3 = somewhat, 5 = very much).
1. Positive
2. Negative
3. Good
4. Bad
5. Pleasant
6. Contented
7. Interested
8. Stressed
9. Unpleasant
10. Happy
11. Sad
12. Angry
13. Afraid
14. Loving
15. Depressed
16. Joyful

Daily gaming experiences

Did you play video games today (yes/no)?

   NOTE: If the participant had not played video games that day, they completed a set of filler questions that were designed to take approximately the same amount of time as the gaming experience questions.

How much time did you spend playing video games today? (hours/minutes).

What video games did you play today (please list up to three), what genres were they, what platforms do you play them on, and for how long did you play each game?

Did you use voice or text chat while playing video games today?
   • Yes, voice chat
   • Yes, text chat
   • Yes, both voice and text chat
   • No

During what percentage of the time you played today did you use voice or text chat? Please enter a whole number in the space below from 0 - 100%.

What percentage of the time you used a chat option today did you chat with people you know (e.g., people you play with regularly or people you know outside of video games)? Please enter a whole number in the space below from 0 - 100%.

The following questions ask about your experiences in the online gaming environment. There are no right or wrong answers to any of these questions. We want to know about your perceptions and understanding of how people behave in online gaming. We are curious about all aspects of your experiences; please provide as much detail as possible in your answers.

How positively/negatively would you evaluate the interactions you had while playing online video games today? (1 = very negative, 4 = neutral (neither negative nor positive), 7 = very positive).

Did you have any of the following experiences while playing online video games today?

Please select all that apply.
   • Received preferential treatment
   • Was a target of prejudice/discrimination
   • Experienced harassment
Other
• Did not experience any of the above

Did your gender positively affect your experiences in online gaming today? (1 = very little, 4 = somewhat, 7 = very much).

Did your gender negatively affect your experiences in online gaming today? (1 = very little, 4 = somewhat, 7 = very much).

We are first going to ask questions about comments made to or about you. These are any comments that were directed towards you or comments that were about you that people made to each other. Later, we will ask you about comments you heard that were not directed to you. Please be sure to only describe the comments that concerned you directly in the following boxes.

Did people make comments to or about you based on your gender? (yes/no).

How many comments (based on your gender) were made to you today? Please select the option below that is most accurate. If you cannot recall exactly how many comments were made to you, please make your best guess.
• None
• 1 or 2
• Less than 5
• 5-10
• 11-15
• 16-20
• More than 20

What was the gender of the person/people who made these comments to you?
• Only men
• Only women
• Mostly men, some women
• Mostly women, some men
• Equal numbers men and women
• Don’t know

What comments were directed towards you? Please write as many as you can remember encountering today.

How offensive were these comments, on average? (1 = not at all offensive, 4 = somewhat offensive, 7 = very offensive).
Now we are curious to know what comments you heard today in online gaming that were not directed towards you (i.e., comments that were directed towards other gamers). Please keep this in mind as you answer the following questions.

How many comments did you hear about gender that were directed towards other gamers? Please enter a whole number in the box below.

What was the gender of the person/people who made these comments to you?
- Only men
- Only women
- Mostly men, some women
- Mostly women, some men
- Equal numbers men and women
- Don’t know

What comments were directed towards other gamers? Please write as many as you can easily recall.
How offensive were these comments, on average? (1 = not at all offensive, 4 = somewhat offensive, 7 = very offensive).
To whom were these comments directed?
- A target group member (i.e., a woman)
- A non-target group member (i.e., a man)
- Targets and non-targets (both women and men)
- Not sure
- Other

How many comments did you hear about RACE while playing online video games today? Please enter an integer (a whole number) in the box below. If you heard no comments about race while gaming today, please enter a "0".

How many comments did you hear about SEXUAL ORIENTATION while playing online video games today? Please enter an integer (a whole number) in the box below. If you heard no comments about sexual orientation while gaming today, please enter a "0".

How many hostile or aggressive comments did you hear while playing online video games today? Please enter an integer (a whole number) in the box below. If you heard no aggressive or hostile comments please enter a "0".

There are multiple methods people use to cope with prejudice and discrimination. We are interested in what methods you use when you encounter prejudice and/or discrimination while participating in online gaming. Please answer the following questions with this in mind.
Which of the following methods did you employ today to cope with prejudice and/or discrimination you experienced in online video games? Please select all that you employed.

- Mute chat options
- Avoid games in which you've experienced prejudice/discrimination before
- Only play with people you know
- Only play single-player games
- Confront people who make prejudiced comments
- Did not experience prejudice/discrimination
- Other

How effective was this technique at avoiding prejudice and/or discrimination? (1 = not at all effective, 4 = somewhat effective, 7 = very effective, 8 = n/a).

How many times did you experience or witness prejudice and/or discrimination today outside of online video games? By experience, we mean you were the target of the prejudice/discrimination (i.e., someone made prejudiced comments to you or about you). Be witness, we mean you saw/heard someone being prejudiced towards another person. Please enter a whole number in the box below (if you did not encounter any prejudice/discrimination, please enter a "0").

In what context did you EXPERIENCE or WITNESS prejudice and/or discrimination?

Please select all that apply.

<table>
<thead>
<tr>
<th>Context</th>
<th>Experienced (was the target of)</th>
<th>Witnessed (was not the target of)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Online (outside of video games)</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>Face-to-face interactions</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>Text message of phone call</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>other</td>
<td>O</td>
<td>O</td>
</tr>
</tbody>
</table>

What type of prejudice did you experience? Please check all that apply.

<table>
<thead>
<tr>
<th>Type of Prejudice</th>
<th>Experienced</th>
<th>Witnessed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Racism</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>Sexism</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>Anti-gay prejudice</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>Other</td>
<td>O</td>
<td>O</td>
</tr>
</tbody>
</table>

How many instances of each did you experience?

<table>
<thead>
<tr>
<th>Prejudice</th>
<th>Experienced</th>
<th>Witnessed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Racism</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sexism</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Anti-gay prejudice  
other

How offensive was the prejudice you EXPERIENCED today? (1 = not at all offensive, 4 = somewhat offensive, 7 = very offensive). NOTE: This item is completed for racism, sexism, anti-gay prejudice, and “other”.

How offensive was the prejudice you WITNESSED today? (1 = not at all offensive, 4 = somewhat offensive, 7 = very offensive). NOTE: This item is completed for racism, sexism, anti-gay prejudice, and “other”.

**Study 4: Exit Survey**

The exit survey including the following scales from the intake survey

- Gender identification
- Life satisfaction
- Self-esteem
- Stigma consciousness
- Internal and External Motivation to Respond Without Prejudice
- Gaming demographics
- Gamer identification
- Discrimination experiences in online gaming
- The impact of prejudice in online gaming
- Coping mechanisms