Powering Up: Games for Sexual Violence Prevention

by

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Abstract

In recent decades video games have been adopted to tackle a slew of complex social problems, with games increasingly employed across health and social services. Yet the sexual violence prevention sector has been slow to adopt games as tools and little research exists to support or refute uses of games in reducing antisocial attitudes about sexual violence. The present research engages with the as-yet unexplored question of whether a prosocial video game can be an effective intervention for combating values that support sexual violence and rape culture. The thesis begins with an examination of the current state of research on sexual violence and games and provides some critique of the predominant focus of existing research, which is highly deficit-focused and draws little on the established practices of game studies. The research study was comprised of a pretest/posttest design that evaluated participants on the Illinois Rape Myth Acceptance scale (IRMA) to assess their level of endorsement of common myths about sexual violence. As an intervention, half of the participants played a portion of the video game *Decisions that Matter* (Patronus, 2015) and half of participants played the full game. Participants were re-tested on the IRMA and asked follow-up questions about the events of the game.

Analysis of the participants' responses revealed that the game was mildly effective in improving the attitudes of players in general towards sexual violence, but that the ambiguous nature of the game's messaging also led to moderate *increases* in rape myth acceptance in some cases. Participants with high initial levels of rape myth acceptance showed more proclivity to change than other participants, but a subgroup of these were highly resistant to prosocial interventions. Examination of the responses to survey questions about 'gamer' identity and game play habits also revealed that participants who self-identified as gamers had higher levels of rape myth acceptance than other participants. These findings yield some initial insights into the potential applicability of games for violence prevention, but also highlight the need for

precise and well-considered game design practices. Findings regarding the relationship between gameplay habits, gamer identity, and rape myth acceptance suggest a need for further research into the interplay between gamer culture and attitudes towards sexual violence. Overall, the study demonstrates that games do have the capacity to engage players in critical examination of their beliefs regarding sexual violence and provides a strong call to action for further research coupled with more refined design practices in creating games to tackle sexual violence.

Preface

This thesis is an original work by MacKenzie Gordon. The research project which comprised a portion of the thesis received research ethics approval from the University of Alberta Research Ethics Board 2 (REB 2), Project name "Video Games as Catalysts for Violence Prevention: Effects of *Decisions that Matter* on Rape Myth Acceptance", No. 00073742, October 26, 2017. No part of this thesis has been previously published.

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To the developers of *Decisions that Matter*, especially Stephanie Fawaz, thank you for creating such a wonderful tool, and for sharing with me your development process and goals – it is never easy to put one's work up for scrutiny, but your willingness to do so has contributed to our ability to understand what makes games against sexual violence tick.

Finally, I would like to thank my partner Sean Groten. You have been a constant source of encouragement, an endlessly patient proof-reader, and a wonderful sounding board. Your unwavering support has enabled me to follow this thread and to imagine where it might lead.

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> If you want to teach people a new way of thinking, don't bother trying to teach them. Instead, give them a tool, the use of which will lead to new ways of thinking.
>
> - Buckminster Fuller

When I first saw Jane McGonigal's TED Talk "Gaming can make a better world" (2010), I had been working and volunteering in front-line gender-based violence prevention for nearly three years. In that time, I had become familiar with the networks of (often underfunded) social workers and advocates working relentlessly towards a world free of gender-based violence, against a cultural and structural system that often opposed their efforts. This work happens in shelters, crisis centres, and courthouses around the world every day - but it also happens in classrooms and school gymnasiums, where public educators take a long-term approach to changing a culture that supports and perpetuates violence. I had seen occasional applications of media objects in violence prevention education - including many spirited discussions with teenagers about the relationships in *Twilight* - but I had never seen this dialogue include video games. McGonigal's infectious catchphrase, "Reality is broken. Game designers can fix it" invokes a realm of potential solutions to intractable social problems that is waiting to be accessed, but when I started looking into ways that games were being applied to gender-based violence prevention, I came up nearly empty handed. As I began to learn more about serious games and critical game theory, there seemed more and more potential to apply the world's fastest-growing media form to one of the most pressing public health epidemics of our time. Yet there is a critical dearth of literature examining either the content of gender-based violence in games, or the ways that players interact with and interpret prosocial representations of violence in games. My passion for games and growing suspicion that games might hold some potential to contribute to efforts to change our culture and eradicate gender-based violence led to this thesis.

In the interest of answering the question “Do games have the capacity to change their player’s beliefs about sexual violence?”, I began exploring what we already know about sexual violence and games.

In the field of violence prevention, video games are often seen as *persona non grata* - a whole genre of entertainment that is relentlessly violent and hopelessly gendered. It is not difficult to see why, given the widespread notoriety of games like *Grand Theft Auto* (Rockstar Games, various) and the hard-to-miss public misogyny that has declared itself the face of gaming. Queer, feminist, and PoC developers have begun to expand the kinds of themes and stories that are considered ‘appropriate’ for video games. There remains, however, a lot of ground to be recovered, and games that deal with sexual violence well are still few and far between. No wonder then, that with a handful of exceptions the violence prevention movement has been slow to pick up on applications of games, despite them becoming commonplace in fields like education and healthcare. Games are not only absent from sexual violence prevention work, they are also rarely to be found in feminist media studies texts on representations of sexual violence. In her otherwise comprehensive work *Domestic Abuse and Sexual Assault in Popular Culture*, Laura Finley spares a few paragraphs to note that video games contain sexual violence, never to return to the subject (2016.) Research on sexual violence in games has been largely superficial. The presence of any sexual violence in a game usually results in the game being written off as pro-violence, without consideration of the narrative context or the procedural rhetoric at play (Bogost, 2007.) Where scholarship has engaged with video games, it has primarily taken the form of empirical research examining whether playing games that contain sexual violence increase rape proclivity, sexist attitudes, and rape myth acceptance of players. Rape myth acceptance - a metric used to evaluate an individual’s endorsement of common misconceptions that promote sexual violence - in particular has been a significant focus of research on the learning effects of supposedly antisocial video games. Feminist game scholars have tackled many issues related to sexual violence, such as objectification, sexualized

violence, and sexist representations of female characters. Sexual violence in games remains critically uninterrogated.

Given the surprisingly large lacuna of knowledge around sexual violence in games, there is considerable space for scholarly endeavour. In the interests of narrowing the present research to a manageable size, I have chosen to focus on attitudes towards sexual violence among university students. While easy access to university students is certainly an advantage of studying their attitudes, in this case the issue at hand is also a major concern on post-secondary campuses. College is the time when men have the highest likelihood of perpetrating a sexual assault (Baldwin-White, Thompson, & Gray, 2016.) In North America, women and gender non-conforming students face the highest risk of assault in their lives in their first year of post-secondary education (RAINN, 2018.) In addition, most of today's university students are well-versed with video games, never having known a time where games were not widely available. Although games are not a medium enjoyed exclusively (or even primarily) by youth, most of the existing prosocial games about sexual violence are targeted towards youth and young adults, making them the best fit population for the games available for study. One such game is *Decisions That Matter (DTM)*, an interactive novel about bystander intervention in sexual violence on college campuses designed by students at Carnegie Mellon University (Patronus, 2015.)

In this thesis, I ask what effect *DTM* has on the attitudes of players towards sexual violence: are they able to translate their interactions in the game to real-world beliefs? This research is an initial foray into the efficacy of prosocial video games as interventions for attitudes towards sexual violence, not an attempt to produce a definitive statement on whether or not games are up to this task. Even though this research looks at one game applied in one context, *DTM* sets a valuable precedent for how games could engage in complex subject matter like sexual violence in a nuanced and thoughtful way.

Before outlining the sections of this document, I'd like to provide a note on terminology. Language has been a point of contention in sexual violence prevention for many years, with a great deal of debate surrounding the terminology used to describe the people involved in an assault, and the distinctions between rape and other forms of sexual violence. Although I have no intention of resolving any of these disputes here, I would like to provide a brief explanation of the terms I will use in this thesis and how they situate this work inside the violence prevention field. The most contested of these terms is the victim/survivor dichotomy. 'Victim', used by early feminist movements to draw attention to the locus of blame lying with the perpetrator of sexual violence, has in many circles been replaced with 'survivor', as a means of reclaiming one's narrative and suggesting that people who experience sexual violence are not defined by that experience (Arielle, 2016.) The attempt to balance the desire to reclaim autonomy with the desire to situate responsibility with the perpetrator has led to the development of a false dichotomy between the two terms, with 'victim' seen as connoting weakness, helplessness, and failure, and 'survivor' requiring unwavering strength. The term 'survivor' - most often applied to cisgender, white, able-bodied women - has been critiqued for excluding other forms of systemic oppression (Arielle, 2016) and in some ways erasing the long-term, incurable scars that sexual violence can leave behind. And of course, not everyone who is raped will survive the experience. Still, for lack of a better term, those who write about sexual violence are offered these two choices. I use the term 'survivor' when referring to people who have experienced sexual violence, because in the context of this research, the primary focus is on the culture and experiences surrounding sexual violence, not the act itself. 'Survivor' is a recognition of the harms done via sexual violence and all of the harms done via society that are engraved on bodies marked as targets for sexual violence. Virtually all women and gender minorities, and many men, are survivors of rape culture at large. I do not intend this linguistic choice to invalidate the preference of people who have experienced sexual violence and choose another term, and will use 'victim' when describing research that uses the term.

'Perpetrator' is the term most often set in opposition to survivor/victim (Arielle, 2016.) While 'perpetrator' does not evoke the same ghoulish apparitions as 'rapist' or 'assailant', it is sometimes critiqued in the violence prevention community for the stark line it draws between those who commit and those who experience sexual violence. In reality, the line is rarely so clear. Many people who commit sexual violence have also experienced it (for example, Diaz, 2018.)[1] I use the term 'perpetrator' to describe the person exercising abusive behaviour in a specific situation, or repeatedly across multiple situations, with acknowledgement that this may not be the only way that they have experienced sexual violence.

Finally, throughout this paper I use the terms 'sexual violence', 'sexual assault', and 'rape'. I use 'sexual violence' to refer to behaviours across the sexual violence continuum (Kelly, 1987), from micro-aggressions and the indirect harms of rape culture on one end to violent sexual assaults on the other. I do so with a recognition that all forms of sexual violence accrue harm in those who experience them, and that individuals may feel their harms differently. When speaking about any harms of a sexual nature, I will use 'sexual violence'. 'Rape' is decreasingly used in Canada, where the Criminal Code uses 'sexual assault' to describe any physical assault of a sexual nature (Department of Justice, 2016.) Canada has far more progressive sexual violence laws than many other countries, including the United States, which centres its definition of 'rape' around the act of penetration (US Department of Justice, 2012), a very limiting definition that unnecessarily ranks forms of sexual assault and still centers around a heteronormative conception of assault. Much of the research cited in this thesis is American and uses 'rape' to describe sexual assaults, without specifying what is considered rape. When I use the term 'rape', I use it as synonymous with sexual assault broadly conceived, and I am not invested in drawing firm definitional boundaries around what is an essentially contested concept (Reitan, 2001.) I

[1] Since the publication of this article, several female authors have accused Diaz of sexual harassment and misconduct. The fallout from the accusations and the publication of the article has resulted in a refreshingly nuanced conversation about the balance of accountability and recovery for perpetrator/victims of sexual violence (see Neary, 2018).

hope that my choices of language will open a space for a broad consideration of what falls into the spectrum of sexual violence and the definition of sexual assault. Many rape myths are structured around limiting what "counts" as sexual violence. My goal is to contribute to the dismantling of these myths by recognizing the harm of all sexual violence.

I would be remiss if I did not acknowledge the seismic shift in public perceptions of sexual violence that has occurred in the last year with the rise of the #MeToo movement. Activist Tarana Burke coined the hashtag in 2006, and it was revitalized in 2017 by Alyssa Milano and other celebrities who sparked a movement to call out sexual violence and harassment that has long been an open secret in many industries. While it remains to be seen how much concrete and long-term change results from #MeToo, the movement has created a much broader public dialogue about sexual violence than was previously possible and has normalized the practice of believing survivors when they share their stories. #MeToo and everything that has followed it has opened space for diverse and innovative approaches to sexual violence prevention and has helped debunk some prominent rape myths. I am fortunate for the opportunity to situate the present research in this historic moment, and optimistic that increased societal and institutional motivation to address sexual violence will create spaces for more innovations, like games, to move the needle on this issue. I also suspect that the high-profile nature of #MeToo has influenced the results of the research presented here - the same study, conducted six months earlier, might have had different results. As for gamer culture, it has yet to have its public reckoning with #MeToo, perhaps because even more explicit and publicly visible forms of gender-based violence still dominate conversations about gender and equity in gaming spaces. I hope that adding to the body of scholarly critique of representations of sexual violence in games and what these mean for players will contribute to the dismantling of rape culture and toxic masculinity in gaming.

Because of the dearth of literature on sexual violence in video games, this study will by necessity take a broad perspective on the issue. In Chapter One, I will introduce rape myths and

the rape myth acceptance scale as a metric for rape culture, examine the present state of knowledge regarding sexual violence in media and in games, and examine the theoretical underpinnings of educational game design. In Chapter Two, I undertake a more detailed analysis of the two instruments used in this study, the Illinois Rape Myth Acceptance scale (Payne, Lonsway, & Fitzgerald, 1999) and *Decisions That Matter* (Patronus, 2015.) In that chapter I will also explain the methodology and data cleaning procedures used for the research study. Finally, in Chapter Three I will present the results of the study, provide discussion of the outcomes from their analysis, and explore what significance these findings might have for applications of games in sexual violence prevention work.

Chapter One: The history and theory of sexual violence in games

As video games are adopted for an increasingly diverse range of social interventions, from connecting lonely seniors to building empathy for refugees, it seems inevitable that they will be applied to sexual violence, a 'global health problem of epidemic proportions' (World Health Organization, 2013.) However, to date very little academic research has explored the application of games as tools for intervention in sexual violence. The present study aims to explore the capacity of the game *Decisions That Matter* (Patronus, 2015) as an intervention to reduce rape myth acceptance levels in players, as an initial foray into the efficacy of games for these types of interventions. The existing research on sexual violence in games is almost entirely devoted to examining the hypothesized harmful effects of portrayals of sexual violence, extending the decades-long debate about the influence of violence in games on players and ignoring potentially beneficial applications of games. In this chapter I will introduce and explore the concept of rape myths and then introduce the rape myth acceptance scale, a research instrument that has been used in many empirical studies of sexual violence. I will then examine how media studies has grappled with sexual violence and examine how extant research has employed rape myth acceptance scales and other tools in the context of video games. Finally, I will briefly explore contemporary theory about learning in game environments and how these principles might be applied towards sexual violence prevention in games.

Rape Myths

A central concept of rape culture is the 'rape myth'. First articulated by Schwendinger and Schwendinger in 1974, rape myths refer to cultural beliefs about rape that obscure its true nature and tend to shape our discussion of sexual violence in ways that implicitly endorses it. The questions that are often asked about rape, such as 'what were they wearing' or 'were they drinking' point to a set of beliefs about sexual violence that hold survivors responsible for preventing conditions 'favorable' to assault from arising in the first place, with the expectation

that those who are perceived as inherently vulnerable to sexual violence (predominantly, women) should moderate their behaviour in order to prevent their own victimization. The victim-blaming that so often accompanies the experience of sexual violence differentiates it from almost all other types of crimes (Cahill, 2001) and reveals how sexual violence is particularly positioned as a crime that reinforces hegemonic ideals that patriarchal forces in social, political, judicial, and penitentiary systems are invested in protecting. The structural effects of rape myths are particularly evident in law enforcement and legal systems, where high-profile news stories and empirical research have brought to light the continuing influence of rape myths on the respective treatment accorded to survivors and perpetrators of sexual violence. Research has demonstrated that acceptance of rape myths is connected to an unwillingness to convict perpetrators of sexual violence, and that endorsement of rape myths is generally high among judges (Du Mont & Parnis, 1999.) This was recently underscored in Alberta when Provincial Court Judge Robin Camp made international headlines for asking a complainant why she didn't "keep her knees together" to prevent her sexual assault. In early 2018 he was reinstated into the Law Society of Alberta after resigning from the bench following the controversy, with his lawyer asserting that belief in rape myths is not a significant problem for legal counsel (Anderson, 2018.) Before a sexual assault case even makes it to the court, it must first be received by police, who present a significant barrier - a 2017 Globe and Mail investigation found that Canadian police dismiss one in five reported sexual assaults as 'unfounded', meaning that the officer does not believe a crime occurred or was attempted (Doolittle, 2017.)

While law enforcement and judicial systems are rarely on the forefront of movements for social change and are thus reflective of deeply embedded retrograde ideas, it is tempting to believe that decades of feminist activism have reduced the influence rape myths have on society in general. Unfortunately, rape myths are still alive and well. Every few months, the media excitedly trumpets a new invention (often, it seems, developed by well meaning students) that will detect date rape drugs and help prevent sexual assault (see Sullivan, 2014; Lee, 2017.) This

approach to 'solving' the problem of sexual assault is heavily influenced by a bevy of myths, shifting the responsibility for preventing sexual assault onto survivors, obscuring the need for a culture-wide, structural approach to attitudes that support perpetrators, and promoting the 'stranger danger' narrative of sexual assault that obscures far more common and widespread assault experiences.

Perhaps more insidious than the influence of rape myths on legal and social systems is the influence of rape myths on survivors of violence themselves. Because rape myths provide so much explanation for why and how sexual violence occurs, they may become part of a survivor's interpretive framework for their assault, preventing survivors from processing and communicating their experiences (Jenkins, 2017.) This inability to articulate one's own experience is something that Miranda Fricker terms a 'hermeneutical injustice'. Fricker defines hermeneutical injustice as "the injustice of having some significant area of one's social experience obscured from collective understanding owing to persistent and wide-ranging hermeneutical marginalization" (2009, p. 158.) A key component of hermeneutical injustice is the absence of concepts that describe and interpret the experience of the marginalized individual, as opposed to the dominant group which often generates a wealth of resources for understanding (and propagating) its experiences. The solution to this problem is the naming and exploration of the gap, an oft-cited example of which is the case of Carmita Wood, whose fight against her treatment in the workplace at Cornell University gave rise to the term 'sexual harassment' and gave women who had for decades experienced gendered harassment in the workplace a framework for understanding the unspoken harm they experienced (Fricker, 2009.) There are serious consequences to unresolved hermeneutic gaps - research into rape myth acceptance among survivors of sexual violence suggests that individuals who accept myths about rape that align with their own past experiences are less likely to identify their experience as rape and subsequently seek appropriate support (Peterson & Muehlenhard, 2004.) High endorsement of rape myths has also been connected to self-censoring, secondary victimization,

and increased levels of self-blame among survivors (Ahrens, 2006.) Self-blame not only has negative impacts on the emotional and psychological well-being of survivors; survivors with high levels of self-blame following an assault are at an increased risk for re-victimization, due to their reduced sense of self-efficacy (Miller, Markman & Handley Lan, 2007.) Deconstructing rape myths at a cultural level will contribute to the rejection of rape culture (Burt, 1980), but at the individual level it will also allow survivors to process and interpret their experiences without self-blame.

Rape myths have become a rallying point for feminist activism around sexual violence, serving as indicators for societal endorsement of pro-violence norms. Unfortunately, the mainstream discourse on rape myths has followed the trends of many avenues of Western feminist inquiry in the 20th and 21st century by primarily centering the experiences of cisgender heterosexual white women. While numerous rape myths apply to all survivors of sexual violence, many are specifically oriented towards or leveraged differently against women of color, LGBTQ* people (especially transgender women) and sex workers (Mukhopadhyay, 2008; Wakelin & Long, 2003; Schulze & Koon-Magnin, 2017.) The mainstream sexual violence prevention movement, in positioning itself as fighting 'violence against women', has obscured the way that rape myths and patriarchal ideas about gender and sexuality operate in tandem with other forms of hegemony (Patterson, 2016.) Racist, cissexist, and homophobic beliefs have been reinscribed and operationalized in contemporary research on rape myths through the instruments used to assess rape myth acceptance, perhaps in part due to rape myth acceptance remaining fairly static as a concept since it was first described in the 1970s.

Rape Myth Acceptance

Following the articulation of rape myths as a force scaffolding social endorsement of sexual violence (Schwendinger & Schwendinger, 1974), feminist scholars sought to find ways to assess how individuals interacted with and supported these myths. Rape myth acceptance (RMA) explores the extent to which individuals agree with common rape myths - a high level of

acceptance suggests that someone will be likely to blame victims and exonerate perpetrators of sexual violence, and may be less likely to believe that an assault 'counts' as rape for a variety of reasons. While several initial forays into assessing rape myths made use of questionnaires and assessed attitudinal correlates, Burt's Rape Myth Acceptance Scale (RMAS) was the first to systematically organise rape myths and present them in a form that could be statistically analysed (1980.) As discussed above, among survivors, rape myth acceptance has been linked to self-blame and reluctance to categorize one's experience as rape (Miller, Markman, & Handley-Lan, 2007.) There is also a demonstrated relationship between RMA and Just World Belief, the idea that 'good things happen to good people' and 'bad things happen to bad people'. The belief that survivors of sexual violence did something to catalyse their victimization may serve as a (false) psychological protective factor for women in particular (Sham Ku, 2015), but contributes to increased self-blame when a sexual assault does occur. High levels of RMA have also been correlated with other forms of intolerance, including racism, sexism, homophobia, ageism, classism, and religious intolerance (Aosved & Long, 2006.)

Rape myth acceptance should not be confused with an individual's likelihood to commit sexual violence, although there is a relationship between the two. Men with high levels of RMA are more likely to have high levels of rape proclivity (Bohner, Jarvis, Eyssel, & Siebler, 2005), and research has demonstrated that pre-treatment convicted rapists report markedly higher RMA levels than the general population (Johnson & Beech, 2017), but not everyone with high RMA will commit sexual violence. Rape myth acceptance is important in feminist scholarship because of its relationship to violence perpetration, but its more insidious effects are the maintenance of rape culture and the silencing of survivors. Accepting rape myths allows for an individualistic interpretation of sexual violence, viewing it as an isolated incident rather than as a widespread social phenomenon supported by cultural belief systems. This shift serves to lift the responsibility from society for a collective response to the problem of sexual violence.

Rape myth acceptance scales provide researchers a concrete way to assess belief systems, but as a relatively simple instrument for measuring a very complex set of beliefs, they exclude more areas of belief than they include. Burt's RMAS (1980) and the Illinois Rape Myth Acceptance (IRMA) scale (Payne, Lonsway, & Fitzgerald, 1999) are the two scales most frequently in use around the world today, despite being strongly centered in Western belief systems about sexual violence and both being decades old. The scales have received minimal academic critique regarding the former shortcoming, with few attempts to modify the scales for use in different cultural contexts (one example is Xue et al., 2016.) More criticism has addressed the latter problem, with one update of the IRMA eliminating some questions that are no longer culturally salient (McMahon & Farmer, 2011), and another attempt to generate a more modern scale that also addresses other forms of sexual violence and harassment (Gerger, Kley, Bohner, & Siebler, 2007.) However, many areas of concern remain in employing rape myth acceptance scales through an intersectional feminist lens; these shortcomings are addressed at length in Chapter Two.

Sexual Violence in Media

Feminist cultural critic bell hooks argues that popular culture is one of the most powerful pedagogical mediums for understanding and engaging in the politics of difference (Gábriel et al., 1997.) Critical engagement with representations of sexual violence in the media has been concerned on one hand with the content and meaning of these representations, and on the other, with the potential effect on the audience. The current preoccupation with the relationship between video game violence and violent behaviour is an extension of the longstanding moral panic over portrayals of sexual violence in television, film and pornography (for example, see Linz, 1985), arguing that exposure to sexual violence will increase the proclivity of audiences towards these same behaviours. Although this causal relationship has not effectively been established and fails to acknowledge the different ways that audiences interact with media, representations of sexual violence are still significant:

> [Media] are culture myth makers: they supply us, socially, with ideas and scripts into our consciousness over time, especially when the myths are constantly recirculated in various forms. They accentuate certain aspects of social life and underplay others. They are a part of a larger culture in which these myths are already at work, making it possible for the myths to find fertile ground in which to take root and flourish. They can reinforce certain social patterns and trends, and invalidate others. They can gradually and insidiously shape our ways of thinking, our notions of what is normal and what is deviant, and our acceptance of behaviors and ideas that we see normalized on television, in films, and in other forms of popular culture. (Durham, 2008, p. 148-149)

It is too simplistic to assume that people will simply regurgitate and mimic behaviour they see in media; the manner in which sexual violence is presented in media matters. Complex, empathetic, and well-considered representations of sexual violence - like the rape of the male lead character in the television series *Outlander*, which considered the emotional effects of the rape and demonstrated the role that power and control play in sexual violence - can allow audiences to think about sexual violence in different ways and step outside their preconceptions about what it looks like and means. An excellent case study for the problematic ways that media often portrays sexual violence is the crime procedural *Law and Order: Special Victims Unit* (*SVU*), in 2018 entering its twentieth season. The show follows a police unit devoted to gender-based violence cases, and for many years was one of few primetime shows considered 'feminist' television, receiving praise in the media for addressing issues often overlooked by similar shows (Cuklanz & Moorti, 2006.) Although *SVU* frequently engages in storylines and topics that tend to be neglected or grossly mishandled by other shows in its genre, close content analysis of representations of sexual violence in *SVU* reveal that it too leans heavily on rape myths and perpetuates many misconceptions about sexual violence. A close reading of the fifth season of

SVU, for example, found that 45% of victims were portrayed as unlikable - actually a much kinder attitude towards victims than was taken in the other three crime procedurals examined in the same study, but a very anti-victim stance for a show purportedly concerned with victims (Rader & Rhineberger-Dunn, 2010.) The show has also been critiqued for the often-hostile ways in which detectives pursue victims and force them to participate in criminal investigations, which may be discouraging to real-life survivors considering a police report (Finley, 2016.) However, *SVU* has broken many of the problematic conventions that often plague representations of sexual violence in media, such as their decision to avoid on-screen depictions of assault (which often eroticize sexual violence) and their ongoing critique of the legal system (Cuklanz & Moorti, 2006.) Close critical study of *SVU* has allowed feminist media critics to create nuanced frameworks for analysis and demonstrated the ways that a piece of media can be both helpful and harmful when it comes to representations of sexual violence. Critical scholarly engagement and the ongoing public feminist conversation about *SVU* is a strong model for nuanced and deep engagement with representations of sexual violence in media, something that is sorely needed in game studies.

There has been substantial scholarly and public debate about the effects of witnessing sexual violence on screen. Many reactionary critiques of violence in media take a cultivation theory approach, arguing that viewers who are exposed to a large volume of violence in media tend to overestimate how much violence actually occurs in society. Research has suggested that this is not the case for sexual violence (Kahlor & Morrison, 2007), possibly because so many cultural myths downplay sexual violence as a rare or deviant event, counteracting the effects of media cultivation. However, research has demonstrated that extended exposure to violence against women in media does have a desensitization effect, with viewers who have seen more violence against women feeling less anxious about it (Linz, Donnerstein, & Penrod, 1988.) Whether or not the *volume* of media representations of sexual violence is having an effect, the nature of these representations certainly does. Rape myths and victim blaming are often re-

circulated in both fictional media and in reporting on sexual violence in the news, reinforcing "prototypical representations of sexual assault, making them more likely to dismiss or explain away claims of sexual assault that do not fit their narrow definitions" (Franiuk, Seefelt, Cepress, & Vandello, 2008, p. 300.)

Fortunately, more media is beginning to take a complex and nuanced approach to sexual violence. In the wake of #MeToo and the increasing prominence of feminist perspectives on sexual violence in media like *Buffy the Vampire Slayer*, *Jessica Jones* and *The Handmaid's Tale*, mainstream popular culture is increasingly debunking and challenging rape myths and providing survivor-centered narratives about sexual violence. Yet precious little research has examined whether these kinds of media can have a positive effect on social perceptions of sexual violence. A recent study found that viewing the music video for Lady Gaga's "Til It Happens To You", a 2015 song addressing campus sexual assaults, reduced RMA levels in participants (Bowman, Knight, Schlue, & Cohen, 2018), a promising finding that suggests that prosocial learning effects of media are possible, but the majority of research on popular culture and media continues to examine antisocial effects. This trend of a deficit-focused perspective on rape myths and popular culture is repeated in the research on rape myths and video games, which will be discussed at length below. Although feminist critiques of popular culture have long called for better representations of sexual violence, now that some of these representations are here there is a pressing need to examine their effects on viewers. Dismantling rape culture is a complex objective that will require intensive engagement from across social, political, and legal systems, but understanding the role the popular culture will play in this process is critical for moving forward.

Sexual Violence in Games

Feminist game scholars have been grappling with issues of gender, representation, objectification, sexism, and sexualized violence in games for decades. This work has spanned

examination of a single franchise or character (perhaps most notably, the perennially problematic Lara Croft - see Schleiner, 2001; Shaw, 2014), to challenging the sexist tropes frequently employed around women in games (Feminist Frequency, 2013), to surveys of women's representation in games overall (Lynch, Tompkins, van Driel, & Fritz, 2016.) Surprisingly, what has been almost completely absent from feminist game studies to date is content analysis of sexual violence in games. One of the earliest portrayals of sexual violence in a video game was 1982's *Custer's Revenge*, an Atari game whose central mechanic was attempting to rape a tied-up Native American woman. The game (rightfully) generated a maelstrom of controversy, with Native American and women's groups picketing against it and Atari suing the game's developer before the game was pulled from shelves (Associated Press, 1982.) Although game scholars have engaged in issues of representation and touched on the obvious problems with sexual violence in this game (Shaw, 2014), no thorough scholarly deconstructions of sexual violence in *Custer's Revenge* have been published. Lest one might be tempted to believe that this lack of attention is simply because *Custer's Revenge* is so blatantly pro-rape that it fails to merit deeper reading, we can turn to gaming's most notorious problem child, *Grand Theft Auto* (GTA) (Rockstar Games, various.)

The *GTA* franchise has the dubious honor of being the most controversial gaming franchise in history, and has been the subject of over 4,000 articles since its inception in 1997 (Guinness World Records, 2009), in large part due to the so-called 'realism' of its violence. The game has also been roundly critiqued by feminist scholars for its portrayals of sexual violence against sex workers; but no published scholarship has specifically engaged with the nature of sexual violence in the game as narrative and mechanic. This glaring gap in the literature prevents game scholars (not to mention players and developers) from engaging in a deeper conversation about the nature of sexual violence in games, which touches on many well-established areas of game studies including ethics, player agency, identification, and representation. In her description of hermeneutical injustice, Miranda Fricker states,

> a group's unequal hermeneutical participation will tend to show up in a localized manner in hermeneutical hotspots—locations in social life where the powerful have no interest in achieving a proper interpretation, perhaps indeed where they have a positive interest in sustaining the extant misinterpretation… But then in such a hotspot as this, the unequal hermeneutical participation remains positively disguised by the existing meaning attributed to the behaviour… and so it is all the more difficult to detect. (2009, p. 152-153)

I contend that the absence of any engaged discussion of representations of sexual violence in games constitutes a gap in our collective hermeneutical resource for understanding the meaning and implications of these portrayals, which overwhelmingly concern groups already marginalized in gaming communities. If the role of the cultural critic is to shine a light on aspects of media objects that beg further attention and exploration, then game studies has allowed sexual violence in games to exist in the shadows.

Although the content and nature of sexual violence in games has been thus far unexamined by scholars, a small but growing body of research has examined the learning effects of representations of sexual violence on players. This has largely come in the form of empirical studies examining the harmful effects of engagement with games that include antisocial representations of sexual violence on the rape myth acceptance and sexism levels of participants, as well as attempts to correlate high levels of rape myth acceptance with overall violent gameplay. Almost none of this work has been conducted from a research perspective situated inside the field of game studies - most is conducted by social psychologists and criminologists. Several studies have used a pretest/posttest model, having the test group of participants interact with a game as the ‘intervention’ stage of the research. Although earlier research examined sexual objectification and representation, a 2008 study was the first to engage specifically with the issue of sexual violence in games. They had participants view slideshows containing images of objectified female characters in games, then measured their

level of endorsement for sexual harassment and their rape supportive attitudes and found that the exposure to objectified female characters created a short-term increase in support of sexual harassment among men (Dill, Brown, & Collins, 2008.)

There are major methodological flaws with this study (some of which are described in Beck & Rose, 2018): viewing a PowerPoint slide of game characters eliminates the interactive nature of games completely, and therefore any narrative or mechanical interactions that would normally mediate engagement with these characters. Subsequent research, such as the work of Beck, Rose, Boys and Beck (2012), which examined whether engagement with *Grand Theft Auto IV* (Rockstar Games, 2008) increased the rape myth acceptance scores of male participants, has likewise struggled with methodological design. This study had participants watch a video of someone else playing an optional portion of *GTA* in which the player hires a sex worker, then after receiving sexual services kills her and gets their money back. The study's authors argued that their results indicated an increase in rape myth acceptance scores in male participants, but did not find a correlation between overall hours spent playing "violent video games" and negative attitudes towards women. This research too suffered design flaws, yet again preventing participants from actually playing the game and using an unnamed 'baseball game' as a control, a game which certainly differed from *GTA* in almost all respects. In a more recent study, the same authors had participants actually play one of three *GTA* games after watching a confederate play a portion of the game that includes objectification and violence against women. In this study, none of the participants chose to replicate the violence against women and the experimental group showed a *decrease* in rape myth acceptance that grew over subsequent measurements (Beck & Rose, 2018.) The difference in findings between the first and second study suggests that actual engagement with games produces far more complex player responses than static engagement with individual game components. One of the most significant shortcomings of these types of studies is their lack of concern for the nature of representations of sexual violence in games - although some of them may describe the plot through which the

sexual violence occurs, none examine the other aspects of the game or the procedural arguments it may be making that complicate presentations of sexual violence. Likewise, attempts to correlate sexist and pro-violence attitudes with overall gameplay longitudinally have met with mixed results (Breuer, Kowert, Festl, & Quandt, 2015; Fox & Potocki, 2016), and have struggled to establish a causal relationship. The fact that the study with the strongest methodological design (from a perspective that views interactivity as central to games) to date had results that ran counter to their hypothesis (Beck & Rose, 2018) suggests that the research on RMA and games to date has barely scratched the surface of what is actually happening with players when they engage with representations of sexual violence in games.

I am not arguing that representations of violence against women in games have no adverse impacts on players - the present research takes as foundational that games impact players and are a space for engaged social learning (Klopfer, 2008; McGonigal, 2011.) However, research on sexual violence in games has often taken the same theoretical position as those who argue that games make people violent in general - a blanket perspective in which all forms of violence in games lead to antisocial outcomes (for example, Anderson & Dill, 2000.) The rise of 'moral panic' research on video games in the wake of the Columbine shooting is well documented (Markey and Ferguson, 2017), and much of the research on sexual violence in games has followed this thread. What is absent from this discussion is an examination of the ways that learning in semiotic domains requires the player learn how to situate meaning in context - in other words, develop an interpretive frame for understanding their experiences (Gee, 2007) and in so doing, reflect on the experience. Games ethicist Miguel Sicart argues that the ethics of computer games should be seen as a complex network of responsibilities and moral duties (2009), providing the player the opportunity to reflect on the morality of their choices. In such a view of games, understanding the reciprocal interactions between game and player becomes especially important. Although game scholars have complicated the notion of the 'magic circle' as a space removed from the mores and norms of the regular world (Consalvo,

2009), games are still a different kind of embodied space, and interactions within them may carry multiple and interactive levels of meaning. We cannot in good conscience view sexual violence in video games as existing absent from context or meaning, and to do so willfully ignores the complex ways in which humans interact with and make meaning in media.

Learning in Games

In light of this lacunae, briefly revisiting the research on learning in games may be instructive of ways that representations of sexual violence in games could be better understood in the future. Serious game scholars consider games to be well aligned with two theoretical perspectives that are currently in vogue in educational theory: constructivism and situated learning. Constructivist theory, pioneered in large part by psychologist Jean Piaget, suggests that people learn by constructing their own understandings of principles and phenomena, based on the combination of their past experiences and the present learning environment. A well-designed constructivist learning environment will include opportunities to explore and to learn through success and failure, and provide feedback that students can use to adjust their understanding (Klopfer, 2008.) Many games (serious or 'leisure') meet the criteria for constructivist learning environments, and as such establish the possibility for the player to learn in engaged and dynamic ways, rather than through more traditional learning methods like rote memorization. Situated learning (Lave & Wenger, 1991) focuses on the process of learning as one that is highly social and embedded in the everyday lives of learners. Video games enable situated learning by providing opportunities for social interactions, both real and simulated, inside their environments (Squire, 2011.) They also require players to adopt and experiment with different and multiple layers of identity, encouraging them to adopt a new perspective and employ that perspective in a social context (Gee, 2007.) Klopfer further notes that connections between the social aspects of the learning environment and the real world are key to situated learning (2008); students are capable of reflecting on the relationship between what exists in

the possibility of the game space, and what exists outside it. This fluid relationship is reflected in Consalvo's application of 'frames' to game spaces as an alternative for the magic circle - rather than a space divorced from the real world, games are in dynamic conversation with it at multiple levels, and players are able to easily alternate between them (2009.) Applying constructivist and situated learning perspectives to understanding representations of sexual violence in games opens possibilities for players to interpret interactions in a variety of ways. In Beck and Rose's recent study, participants who witnessed a confederate committing sexual violence in *GTA* deliberately chose not to enact that violence themselves, and showed a reduction in rape myth acceptance (2018.) Could their knowledge that they are watching another player interacting with the game (and in turn, are being watched) be pushing players into a different frame that is situated part-way between the game space and the real world, causing discomfort with the casual way that *GTA*'s protagonist is encouraged to violate women's bodily autonomy, and a reflection on how this encouragement is reproduced in society at large? Understanding the relationship between player and game as a dynamic, multi-directional one in which the player also shapes their own experience of the game space opens significant potential for learning in games and problematizes research methodologies that view the relationship as uni-directional.

In the early decades of video games, the question of whether interactions in games could engender empathy was hotly debated, iconically and succinctly captured by a 1983 Electronic Arts advertisement that asked, "Can a computer make you cry?" (Anable, 2018.) Today, the answer (inside game studies at least) is emphatically, 'Yes'. Games can develop emotional responses through narrative engagement, as do other forms of media, but they also have the capacity to create what James Paul Gee terms "embodied empathy for a complex system" - a deep engagement with multiple aspects of a game environment (2005, p. 82.) The complexity of representation in games increasingly provides opportunities for feeling to be interwoven across bodies and machines in meaningful ways (Anable, 2018), providing the opportunity to trigger emotions and create a setting in which to understand and negotiate these emotions. When

applied intentionally, this capacity of games affords many possibilities for learning about sexual violence, but little research has examined this potential to date. What we do know about learning about sexual violence seems poised to be picked up by games. Multiple studies have found that people who knew a rape victim were less likely to accept rape myths themselves (Sham Ku, 2015; Anderson, Cooper, & Okamura, 1997.) Could 'knowing' a virtual rape victim, such as *Decisions That Matter*'s (*DTM*) protagonist Natalie, have a similar effect? Studies with groups of men have found that men with a low level of rape myth acceptance can have a positive peer modelling effect, reducing the levels of rape myth acceptance and rape proclivity in other men (Bohner, Siebler, & Schmelder, 2006.) Might video games be able to simulate the same type of positive peer modelling in virtual environments? Given the vast and ever-growing application of games to society's wicked problems (McGonigal, 2011), it seems very likely that games will increasingly take up this challenge in the near future.

There is a small but growing body of games that take a distinctly prosocial orientation towards sexual violence, the best known being indie developer Nina Freeman's autobiographical game *Freshman Year* (Freeman, 2015), in which the player acts as Nina prior to and during a sexual assault. *Freshman Year* is a deeply moving experience, and the game's procedural rhetoric actively debunks rape myths that place the blame for assault on survivors. Perhaps the most unsettling and powerful dynamic of the game is inhabiting the position of a victim of violence and sharing her feeling of helplessness when the assault occurs; this is an embodied perspective on sexual violence that is extremely rare in mainstream games. Nina Freeman is part of a wave of game developers queering both the way in which games are produced, and the types of subject matter they take on. The development of more games grappling with sexual violence will broaden the hermeneutical resource both of games (in representing sexual violence from survivor perspectives and in empathic, embodied ways) and of players, providing new lens through which to interpret their own experiences. Serious games have also begun to tackle issues of gender-based violence; alongside *Decisions That Matter*, a number of games about

teen dating violence have been produced by the non-profit organization Jennifer Ann's Group (Crecente, 2014), and a recent project with the Sexual Assault Centre of Edmonton developed a video game for bystander intervention training (Betkowski, 2018.) However, to date no empirical research exists to support the efficacy of these applications of games, or to suggest aspects of games that are more or less suited to address specific areas of sexual violence.

There is an urgent need for more effective interventions in sexual violence and rape culture. Meta-analysis (Suarez & Gadalla, 2010) and a report issued by the Centers for Disease Control and Prevention (2014) have both found that rape prevention programs tend to have limited longitudinal impact. Types of interventions that are accessible and dynamic enough to be engaged with over time are clearly necessary in order to move the needle on sexual violence. The present study is situated squarely in the intersection of game studies and sexual violence prevention. In light of the current state of research with concern to sexual violence and games, there is a distinct need for further study of representations of sexual violence in games from a game studies perspective, and research that begins to explore whether prosocial applications of games for sexual violence are feasible. This research provides an initial foray into both. In the next chapter, I will problematize some elements of rape myth acceptance scales as tools for intersectional feminist study, provide discussion of the content of the game employed in this research, and introduce the methods used in the empirical portion of the study, which attempt to circumvent some of the methodological challenges in studying sexual violence in games.

Chapter Two: Tools and Methodology

There are two primary tools employed in this study - the Illinois Rape Myth Acceptance Scale and the game *Decisions That Matter*. While my primary focus in this thesis is examining the efficacy of the game as an intervention for rape myth acceptance, understanding the limitations of both tools in creating and evaluating this value change is critical for creating a realistic picture of what this game, and games like it, might be able to do. Anti-oppressive and intersectional theory calls us to interrogate the value systems and biases that are embedded in the frameworks that we use. As Audre Lorde so famously warns us, "the master's tools will never dismantle the master's house" (1984, p. 111). It is incumbent upon feminist scholars to examine whose ends are served by the tools we use. The first two sections of this chapter will explore some of the limitations of the tools used in this study, followed by a description of the study's methodology and data cleaning procedures.

The Illinois Rape Myth Acceptance Scale

While the critique of games is central to modern game studies, much of the research specifically pertaining to sexual violence and video games has overlooked critique of the measurement tools used. Most of the extant literature in this field (which, as discussed previously, is quite limited) has accepted the Illinois Rape Myth Acceptance scale uncritically. Meanwhile, in the field of rape myth acceptance research, two divergent strands of scholarship have emerged: one examining the legitimacy of the scales used to quantify rape myth acceptance, and the other concerned with applying the scales in practice. Scholars who have taken up the critique of rape myth acceptance scales tend to focus on the construct validity and statistical legitimacy of the tool, or on the relevancy of the scale's items to changing perceptions about sexual violence in Western culture. Although I have elected to use the Illinois Rape Myth Acceptance (IRMA) scale as the measurement tool in this study, I believe it is essential that this,

or any tool used for quantifying a social phenomenon, not be used without first asking some pointed questions.

The use of Rape Myth Acceptance scales as a tool for empirical measurement of rape acceptance arose following Brownmiller's seminal work on rape culture (1975) and Schwendinger and Schwendinger's articulation of the concept of rape myths (1974.) Many RMA scales proliferated in the late 70s and early 80s, most notably the Rape Myth Acceptance Scale, or RMAS (Burt, 1980) which correlated clusters of attitudinal variables with acceptance of various rape myths. There were no doubt some advantages to the use of RMA scales designed in a specific research context - the types of myths included could be tailored to the target population, and the length and scope of the questionnaire could be adapted to the limitations of the research study. However, lack of consistency across tools in which myths were included and the ways they were correlated meant that few cross-study comparisons could be made, and inferences about the overall levels of rape myth acceptance in the general population were not feasible (Lonsway & Fitzgerald, 1994). The development of the Illinois Rape Myth Acceptance scale in 1999 was targeted specifically at a thorough investigation of rape myth structure, the establishment of strong construct validity, and a break from the heavy use of colloquialisms present in other scales (Payne, Lonsway, & Fitzgerald.) The IRMA began with 120 items, and 6 subsequent studies on content and construct validity reduced the scale to 45 questions divided into 7 categories. Content validity concerns the relevance of the items on the scale to participants, ensuring that the myths being measured are culturally salient, while construct validity is concerned with the relationship between the different items and groups, and the fit of the scale to a structural equations model. The division of the rape myths into categories allowed users of the scale to differentiate between different kinds of rape myths and how acceptance might vary - a participant might measure quite high on one category and low on others. For example, one study found that survivors of sexual violence who did not label their experience as rape scored especially high on myths related to victim culpability that matched their own

experience (Peterson & Muehlenhard, 2004.) The authors also developed a 'short form' version of the scale, with only 20 questions assessing general levels of rape myth acceptance. Since its development, the IRMA has become one of the most prevalent scales used in research measuring rape myth acceptance worldwide. Although some scholars have adapted the scale to their cultural contexts (for example, Xue et al., 2016), most use the scale 'as-is' in either the long-form or short-form variation.

Since the 1999 release of the original IRMA, only two alternative scales have achieved any level of mainstream success. One is an adaptation of the original IRMA - in 2011 McMahon and Farmer undertook an update of the IRMA, conducting validation studies with the tool and removing three of the rape myth categories which participants no longer deemed salient ('She Wanted it', 'Rape is a Trivial Event', and 'Rape is a Deviant Event') because they were too overtly anti-victim and socially unacceptable. This review also updated some of the language in the IRMA and added four new items, three of which related to perpetrator culpability when alcohol is involved (McMahon & Farmer, 2011.) The only real challenger to the IRMA in anti-violence scholarship to date has been the Acceptance of Modern Myths about Sexual Aggression scale (AMMSA), which as the name suggests encompasses a broader range of sexual violence, including harassment (Gerger, Kley, Bohner & Siebler, 2007.) The AMMSA has gained traction in recent years, particularly in scholarship outside of North America (see Sham Ku, 2015; Hantzi, Efthymios, Katerina, & Bohner, 2016), but many AMMSA studies still use the IRMA as a reference point for the correlation of values across the two scales.

While the widespread acceptance of the IRMA has allowed scholarship on sexual violence to make more general comparisons and assertions, the ways in which the tool has been implemented have at times been problematic. Studies employing the IRMA often use it uncritically, without devoting any discussion to whether the tool is appropriate for their population, especially in non-Western contexts (for example, see Nafuka & Shino, 2014; Canan,

Jozkowski & Crawford, 2016.) The decrease in validation studies on the IRMA in recent years may also signal that the tool has attained a level of acceptance that views it as the 'default' option (Baldwin-White, Thompson, & Gray, 2016.) Because the limitations of the tool will in turn contribute to the limitations of this research, it is essential to identify the limitations and impacts they might have on my results and on the measurement of rape myth acceptance in general.

The original pool of items in the IRMA validation study was drawn from the existing literature and conversations with experts in the field, for a total of 120 items. These items were then extensively reviewed through numerous validation studies to narrow the IRMA down to its final form (Payne, Lonsway & Fitzgerald, 1999.) Like many psychometric tools, the IRMA was developed using undergraduate university students in the United States, in this case at the University of Illinois Urbana-Champaign. Although Kimberlé Crenshaw's concept of intersectionality (1991) was nearly a decade old at the time of IRMA's development, it is clear that the authors did not subscribe to a model of intersectionality. The IRMA validation studies collected only the gender (from binary options) and age of participants. No consideration was made for how different racial backgrounds, gender identities, sexual orientations, socio-economic backgrounds, or religious affiliations, for example, might influence the kinds of rape myths that are seen as salient. Indeed, the definition of rape myths employed by the authors of the IRMA indicate that they are concerned with a certain type of sexual violence to the exclusion of all others. They explicitly state that they are concerned with men's violence against women, citing its prevalence as the primary form of sexual violence, and more troublingly, that:

> [T]here exists no corresponding set of cultural beliefs that serve to deny and justify the existence of female violence or male victimization. Because the rape myths themselves focus exclusively on male sexual aggression against women, so too does our theoretical definition for the construct. (Payne, Lonsway, & Fitzgerald, 1999, p. 29-30)

Queer sexual violence theorists such as Jennifer Patterson have identified and critiqued the tendency of the mainstream violence prevention movement to centralize cisgender heterosexual experiences of sexual violence to the exclusion of all others (2016); the belief that violence against straight women perpetrated by straight men is the 'the important' form of sexual violence is evident in the IRMA's definition of sexual violence. The idea that no myths serve to obscure the existence of male victimization of rape is itself a myth - statistics show that one in ten rape victims are male (RAINN, 2016), but misconceptions about sexual violence against men persist and often prevent men from reporting or disclosing their assault.

As discussed above, Jenkins has argued that rape myths constitute a form of hermeneutical injustice in the ways that they obscure the reality of victims' experiences from the collective narratives of sexual violence, and in so doing constrict the interpretive frameworks victims can apply to their own experiences (2017.) I contend that modern rape myth acceptance scales replicate and extend this hermeneutical marginalization by codifying certain types of rape myths as the myths that are 'worthy of being challenged', narrowing the scope of violence prevention movements and centralizing certain types of violence (and as a result, certain types of victims) as more severe and worthy of activist attention than other types of violence and victims. The authors of the IRMA acknowledge that violence against [cisgender, heterosexual] women is the explicit focus of the tool; unacknowledged are the other groups potentially excluded by the range of myths included in the scale. Validation of the myths on the scale was conducted with undergraduate students at the University of Illinois Urbana-Champaign. While the authors did not ask participants to list their race, demographic data collected by the University in the year of the scale's publication indicate that 71% of students identified as White, with the next largest groups being Asian American (13%) and Black (7%) (Oliver, 2017.) We can assume that if the study sample was representative of the population of the university, the majority of participants in the study were white. Implicit in the IRMA authors' decision not to collect data on the race of participants is the assumption that race is not an important factor in

construction and acceptance of rape myths. Yet subsequent research on several rape myth acceptance scales has consistently registered higher levels of rape myth acceptance among participants of colour than among white participants (Suarez & Gadalla, 2010; Kahlor & Morrison, 2007; Nagel, Matsuo, McIntyre & Morrison, 2005.) Although users of these scales sometimes problematize the way the samples studied with these tools may not be representative of the total population (for example, the lack of racial or educational diversity among undergraduate college students), few have questioned whether the range of myths included in the scale's validation might be different given a different validation sample population. Do non-white participants genuinely have a higher level of acceptance of all rape myths, as we might extrapolate from the repeated findings of studies on RMA, or do non-white participants only have higher levels of acceptance on the kinds of rape myths that would be identified by a largely-white validation group in the first place? It seems self-evident that different cultural groups would hold different beliefs about sexual violence. Indeed, in the development of the Chinese version of the IRMA (CRMA), half of the 40 questions included in the validation study were removed because they were found not to have cultural relevance among Chinese participants (Xue et al., 2016.) Underlying both the original validation and most subsequent validation studies of the IRMA seems to be the assumption that there is a single, cohesive set of rape myths across North American culture (and perhaps beyond), one that has been developed in the context of the white majority.

There are many categories extending beyond race that are likely being done a disservice by the uncritical application of the IRMA, and therefore the hermeneutic resource about sexual violence that is constructed and perpetuated by this work. We now know that sexual violence is equally prevalent in queer relationships as in straight ones (Dickson, 2016) and that the kinds of myths held about sexual violence seem to be different when victims and/or perpetrators are members of queer communities (Wakelin & Long, 2003.) But per the IRMA, straight cis-women are the exclusive subject of our society's most pernicious rape myths. The kinds of scenarios

described on the IRMA (and even more significantly on the 2011 updated IRMA) are largely centered around the sexual violence experiences of college-aged women, focusing on situations that might arise around drinking, parties, and short-term hook-ups. None of the questions on the IRMA cite a situation in which the victim might be married to the perpetrator, despite the fact that marital rape was only fully recognized as a crime in the United States in 1993, and that persistent myths about the 'right to sex' in a marriage continue to plague the justice system (Ross, 2015.) The list of exclusions from the rape myths codified in the scale continues along nearly every axis of identity - ability, religion, age, and social class, to name a few.

Given the focus of the contemporary violence prevention movement on survivor-centered advocacy, the most substantial gap in the validation process of the IRMA is the absence of participants with first-hand experience of rape and rape myths. None of the validation procedures in either IRMA study included consultation with sexual assault survivors regarding what rape myths they felt were most relevant to their experience or were creating a hermeneutical gap in their ability to communicate and interpret their own rape experiences. Whether or not one concurs that the list of rape myths assembled in the IRMA are representative of the most prominent false beliefs about rape in Western culture, what is undeniably absent from the scale's validation process is an assessment of which myths are most harmful to the ability of survivors to communicate and interpret their experiences. The stated goal of the IRMA's authors is "to provide much needed guidance to the efforts of rape prevention education, counseling with rape survivors, and training programs for police and hospital personnel" (Payne, Lonsway, & Fitzgerald, 1999, p. 63.) Feedback from survivors of sexual violence on which myths most influence their experiences with service providers and their communities, and which myths are most harmful in inciting self-blame in the wake of a sexual assault, might provide insight into totally different categories of rape myths that do not appear on the current IRMA scale. Survivors are not a monolithic group, and the perspectives of

marginalized survivors in particular would likely have yielded new sets of myths that do not match the narratives of violence constructed in the IRMA.

When she first articulated the concept of rape myth acceptance, Burt suggested that RMA contributed to the breadth of an individual's definition of rape - what *counted* as 'really' rape (1980.) In the same vein, I would suggest that our list of rape myths expresses a belief about what kinds of sexual violence and attendant myths are worthy of examination by the violence prevention movement. The rape myths that 'matter' as conceptualized by the IRMA exclude the experiences of anyone whose experience falls outside the presumed white, cisgender, heterosexual, able-bodied, college-aged female experience canonized in the scale.

Although the values embedded in the IRMA have received little critique in academic literature, statistical problems with the scale have been the subject of several validation studies. An exploratory factor analysis suggested caution is needed when using the IRMA to measure shifts in beliefs before and after an intervention, and found that factor structure shifted between pre-test and post-test (Baldwin-White, Thompson, & Gray, 2016.) Given the interrelated nature of rape myths and categories of myths, this is a predictable outcome and perhaps is even beneficial in anti-violence education, but it means that we cannot easily isolate a particular group of myths from others when performing interventions. The IRMA has also faced critique for issues pertaining to its design, in particular the way that items are phrased, which tends to load responses on to one end of the Likert scale, creating a skewed distribution that inhibits our ability to test correlational or experimental hypotheses against the scale (Gerger, Kley, Bohner, & Siebler, 2007.) This limitation was a factor in my own research design and constrained the range of statistical comparisons that can be made with the data; because the results were not normally distributed, parametric tests such as paired sample T-tests were not a viable option.

A further challenge with the scale, addressed in the IRMA update (McMahon & Farmer, 2011), is the tendency for items on the scale to become less useful over time, as social mores

about sexual violence develop and change. Attitudes or statements about sexual violence that functioned as rape myths at the time of the scale's development, such as "[m]any women secretly desire to be raped", would now be fairly recognizable to the average person as a myth. This is related to the issue of skew - once the vast majority of respondents are strongly opposed to most or all of the items on the scale, these particular myths have been debunked by social value change. This does not mean we can assume that rape myth acceptance in general is decreasing or that the problem of rape myths has been solved. New myths, or old myths that have not been the subject of anti-violence advocacy efforts (perhaps because they were not on the scale in the first place), should take their place. The slow pace of change for tools for empirical measurement is therefore a persistent challenge in measuring social values that are subject to relatively quick change over time. While the IRMA update did resolve some of the problems with the original scale, it also re-introduced some of the construct issues that were resolved in the first version of the scale. These include slang, such as the term 'hooking up', which many participants in this study struggled to define, and the re-introduction of some double-barrelled questions, such as 'If a girl initiates kissing or hooking up, she should not be surprised if a guy assumes she wants to have sex', which may confuse participants and force them to answer two questions at once, muddying the clarity of responses.

Despite its many shortcomings, there are still compelling reasons for using the IRMA in empirical research on rape myth acceptance. As the foremost tool for measuring RMA, the IRMA provides us the best opportunity to see whether the particular myths highlighted on the scale are understood differently in different settings or groups of participants. The version of the scale employed in this study is the McMahon and Farmer (2011) updated IRMA - this was selected because the terminology is newer and likely more familiar to students, and because the updated set of questions helped decrease the risk of asking questions that would be universally rejected. This version of the scale has also been validated in a university student study population with slightly higher ethnic diversity (63% white and 21% Asian) than assumed in the

original IRMA. While I believe that the 2011 IRMA has in some ways re-introduced the issues of slang that prompted the development of the original IRMA (such as changing 'men and women' to 'guys and girls' because university students identified more with the latter), it has generally maintained the validity and relationships of the original IRMA categories while eliminating those that may no longer be culturally salient. While the IRMA's origins in post-secondary student samples are an impediment to applications of the scale in society at large, it may in fact be helpful when applying the scale in similar university campus settings. Since the game intervention being examined here is designed specifically for university students, it seemed appropriate to maintain the focus on university students in both sample population and the tool for analysis. The updated IRMA's relative brevity (only 20 questions) makes it more feasible for pretest/posttest applications than a longer form scale might, while still providing a cross-section of questions from the different myth categories on the scale.

The other existing research on the relationship between video games and rape myth acceptance, such as studies conducted on *Grand Theft Auto IV* (Rockstar North, 2008), has also employed the IRMA (Beck, Boys, Rose, & Beck, 2012.) Using a version of the same scale will allow the potential pro-social effects of *Decisions That Matter* to be brought into conversation with scholarship on the supposed antisocial effects of certain mainstream games. I chose to continue the use of the IRMA in this research because I felt it would still meet the objectives of the study, yielding some insight into the initial efficacy of the game as an intervention tool. As such, the research presented here only engages with a very limited range of myths about rape, which are primarily salient to the experiences of college-aged, white, cisgender heterosexual women. While participants in the study have some characteristics in common (they are all university students), many of them do not fit this description and so the study instrument may not be inquiring about the rape myths that are most pertinent to them. The research on identification in games suggests that people of colour and other groups rarely represented in games often identify with white protagonists in games (for lack of better options), but

participants may also view the events of the game as not relevant to themselves or their own experiences (Shaw, 2014.) Rape myths tend to be applied differently to different groups of people (Schulze & Koon-Magnin, 2017), but it will be unclear from the survey instruments whether participants view the myths presented on the IRMA as applying to all people or to a subset of people. These limitations will be revisited in the findings, as they may limit the generalizability of results and suggest the need for more precise and inclusive survey instruments.

Decisions That Matter

The game *Decisions That Matter* (*DTM*), developed by a group of students for a term project at Carnegie Mellon University, takes a hands-on approach to bystander intervention and the topic of sexual violence on college campuses (Patronus, 2015.) Designed in the form of an interactive graphic novel, *DTM* puts players in the role of a freshman student who witnesses several situations along the sexual violence continuum (Kelly, 1987), giving them the opportunity to intervene on their friends' behalf throughout the game. There are four different scenes that gradually escalate along the sexual violence continuum. In the first, the player character (whose gender is not stated in the game) is walking on campus with some female friends when a stranger on the street catcalls the women in the group. The player can choose to respond to the catcaller, ignore him, or complain about him to the others. In all three cases, the women share their different perspectives on responding to street harassment, and male friends of the group arrive, expressing disgust at the catcaller's actions. In the next scene, the whole group is gathered at a cafeteria for lunch, where they are discussing a house party they will be attending later in the evening. The player witnesses an interaction between two friends in the group, Luke and Natalie, with Luke putting his hand on Natalie's thigh under the table. The player can choose to intervene by kicking Luke, make a joke at his expense in front of the group, or wait to talk to Natalie later. In all three cases, the player discovers that Natalie has a crush on

Luke and enjoyed this advance. In the final scene, the player and their friends arrive at a house party and begin drinking and dancing. Luke encourages Natalie to drink more than she is used to, and later in the evening begins making sexual advances on the dance floor. Although Natalie does not tell him to stop, her body language and facial expressions make it clear that she is uncomfortable with the interaction. The player witnesses this interaction and has the choice of creating a distraction by talking to Luke and Natalie, getting help from the other women in the group, or confronting Luke directly about his behaviour. If the player confronts Luke directly, or succeeds in indirectly extricating Natalie from the situation via the distraction, they prevent a sexual assault from taking place. If the player attempts to create a distraction but does not give Natalie an 'out', or goes to look for help, Luke and Natalie leave, and the sexual assault occurs off camera. In both instances, after the party scene the game cuts to a video monologue delivered by the actors used as models for Luke and Natalie. If the assault was prevented, Luke thanks the player for intervening and acknowledges that he was deliberately pushing Natalie's boundaries, knowing that she wasn't ready for sex. Natalie also thanks the player for intervening, expressing that she may not have been able to find a way out of the situation on her own. If the assault took place, Luke does not seem to recognize that what he did was wrong, expressing confusion at why Natalie is no longer answering his calls and text messages. Natalie appears depressed and traumatized in the wake of the assault, blaming herself for what happened.

Decisions That Matter was designed as part of a Carnegie Mellon course called "Morality Play: Laboratory for Interactive Media and Values Education", a mixed undergraduate/graduate course on tackling real world problems with digital objects (Rea, 2015.) The game was born from a request from the campus department for gender programs and sexual violence prevention, and is specifically oriented towards the issue of date rape among freshman students. The developers took a nuanced view of sexual violence:

> It was important to us that even if we couldn't encompass the breadth of sexism and rape culture in all aspects of life, we wanted very much to have our product reflect that sexual violence is systemic rather than only caused by "bad guys". (S. Fawaz, personal communication, January 3, 2018)

The designers of *DTM* seem to primarily view the game as tool for provoking an emotional response in players, which may be a starting point for further learning and conversations (Martens, 2015.) They also wished to complicate the notion that intervening in sexual violence is always an easy and uncomplicated choice - it is sometimes unclear what is the 'right' thing to do in the game. *DTM* does not set out to teach people *how* to intervene in sexual violence, instead dropping them into situations where they must quickly decide how to act on their own. Players never receive clear instructions or feedback that tells them what to do, rather they must proceed through trial and error, and may receive negative pushback for actions that seem to be supporting the people who are targets of violence. Indeed, people with training in bystander intervention, such as the popular Green Dot Bystander Intervention program (UCI Green Dot, 2018), may find it challenging to 'succeed' in the game. In the party scenario with Luke and Natalie, going to get help (the 'Delegate' response promoted in bystander intervention models) is a 'wrong' response, leading to the assault taking place.

The learning environment of *Decisions That Matter* is constructivist in nature, providing spaces for exploration, the opportunity to learn through success and failure, multiple possible outcomes, and feedback that learners can use to adjust their understanding (Klopfer, 2008.) Players are given feedback on their choices by the non-player characters in the game, which often emphasizes that there is more than one way to intervene in sexual violence. In the street harassment scene, two NPCs are targeted by the catcaller; Natalie, a white woman, expresses that she prefers someone to intervene directly in the harassment, while Maria, who is black, believes that engaging in direct confrontation only makes incidents of harassment worse. While

in my personal communications with the developers they did not indicate that they deliberately created this racial contrast, Natalie and Maria's different responses align with black feminist arguments about the strong pressure on black women to be silent about their experiences of sexual violence (Crenshaw, 1992; S. Fawaz, personal communication, January 3, 2018.) There are several instances throughout the game where nuanced arguments about the experience of sexual violence, in particular sexual violence perpetrated by a romantic partner, are presented through characters' responses to the player's actions. However, the lack of explicit information about these topics leaves much of the nuance up to the interpretive capacity of the player. One of the goals of this research is to determine how effectively players are able to interpret these messages, especially if they do not have a strong foundational knowledge about sexual violence. There are several acts along the sexual violence continuum that occur in the game but go entirely unchecked. For example, when Natalie arrives at the party, numerous male partygoers comment on her appearance and encourage Luke to "get some", explicitly positioning Luke as the rightful pursuer of Natalie's body and sex. While this dialogue is likely included to set the scene and demonstrate the pervasiveness of rape culture on college campuses, these characters never receive any negative pushback, and the female characters in the game often giddily go along with the collective encouragement of Luke to aggressively pursue Natalie. Will players of *Decisions That Matter* see this dialogue as exemplary of rape culture, or will they read it as a normal part of dating and sex among college students?

The final monologue is a unique mechanic used in *DTM*, to some extent acting as a cut scene. The transition from the rotoscoped characters to their human counterparts is a powerful one, wherein Luke and Natalie cease to be 'non-player' characters and are revealed as 'real' human agents. The monologues extend *DTM* to be something slightly more than a game - it is as though the characters have come to life and are speaking directly to the player, breaking the fourth wall and emphasizing the effect of the player's actions on their lives. To the extent that the magic circle existed in *DTM* before the monologues, it is further broken by the NPCs

reaching out from the screen to the player (Huizinga, 1955), enacting a shift between different frames of the game and pushing the story out into the real world (Consalvo, 2009.) The monologues are also the only place in the game where players receive clear and direct feedback on what has happened, and Natalie's monologue in the 'failed' ending is the only way that players know that a rape occurred. The two different sets of monologues not only change the way the scenario ends, they likely change the interpretation of the game's events for players. If the assault is prevented, Luke confesses that he was planning to coerce Natalie into having sex with him and acknowledges that he knows this behaviour is wrong. If the assault takes place he shows no such remorse and feels totally justified in his actions. The intent of the developers may have been to demonstrate the powerful effect peer interventions can have in sexual violence, with the player's intervention forcing Luke to reflect on his choices, but it also creates two different versions of Luke: one a ruthless predator blissfully ignorant of the ramifications of his actions, and the other a young man struggling with pressures of toxic masculinity. The player's interpretation of Luke's motives, and by extension the motives of perpetrators of sexual violence in general, may be influenced by which Luke they encounter. I hypothesized that the monologues added an interpretive element to the game that it otherwise is missing, and that their 'mixed-media' format might be more impactful than the interactive portion of the game on its own. Thus the participants in the study were split into two groups, one which engaged with the monologues and one which did not. The monologues add two elements to the game: the direct, emotional connection between the player and the characters, and the explicit information about sexual violence that is otherwise absent.

Although *DTM* as a whole accepts the concept of the continuum of sexual violence (Kelly, 1987), some of the violence that occurs in the final scenario is minimized if the rape does not occur. While dancing at the party, Luke can be seen kissing Natalie and putting his hand up her dress as she visibly pulls away, but if the rape is prevented, both characters act as though no sexual violence has occurred at all. Unwanted sexual touching and kissing are listed under both

the Canadian (Women's Legal and Action Fund, 2014) and American (Department of Justice, 2012) legal definitions of sexual assault. In the game's framing of sexual violence, these actions only take on real significance as precursors to a rape. Otherwise, they are treated as simply warning signs that things were getting out of hand, and not an assault in their own right. To explore how players might interpret these actions, all groups of participants were asked whether sexual violence took place in their playthrough of the game.

Some of the limitations of *Decisions That Matter* as an anti-violence education tool parallel those of the IRMA. The game's developers chose to focus on male-on-female peer violence, citing its heightened prevalence on college campuses (S. Fawaz, personal communication, January 3, 2018.) While a single game or media object cannot be expected to represent as broad a range of experiences as we might expect from a tool designed for numerous applications like the IRMA, the narrative of sexual violence constructed by the game - which is entirely performed by straight men against straight women - reinforces the hermeneutical lacuna which writes non-heterosexual experiences of violence out of existence (Jenkins, 2017.) Queer games theorist Adrienne Shaw posits that "[t]he goal in increasing representation in games is… making more games that reflect more modes of being in the world" (2014.) The mainstream violence prevention movement has focused on cis-men's violence against cis-women, largely to the exclusion of other forms of violence, for the last forty years (Patterson, 2016.) In most violence prevention circles, there is a mindset that addressing other forms of violence will come at the expense of focusing on the 'true' victims whose experiences take priority. Implicit in this belief is the idea that other forms of violence can be addressed once the crisis of men's violence is solved, as if this is a tangible goal post to work towards. Not only are the violence experiences of marginalized people just as important as those of "traditional" victims, they are exacerbated by the conditions of marginalization. The values of patriarchy and toxic masculinity inform all types of violence, and must be tackled as a cohesive whole, not just as they apply to a particular group of people. If, as Shaw argues, queer representation in games

only occurs 'when it matters', we may be waiting a very long time for the mainstream movement to develop violence prevention games that reference anything but cisgender men's violence against cisgender women.

Although the heterocentric nature of both *Decisions That Matter* and the IRMA serve to construct a violence prevention paradigm built around a narrow strip of sexual violence experiences, these parallels also mean that the myths addressed in the 2011 IRMA are very well aligned with the violence experiences of women in *DTM*. Both tools are designed with the sexual violence experiences of cisgender, heterosexual, college-aged women in mind, which makes them well-suited for study together. These synchronicities, and their implications, will be addressed further in Chapter Three. This research proceeds with the acknowledgement that both of the tools involved are concerned with a very limited segment of all sexual violence experiences and survivors, and have excluded many groups in their design. While participants in this study are relatively heterogeneous in many ways, the types of myths examined remain constrained by the tools I have used.

Methodology

Participant Recruitment and Assignment. This study was approved by the University's Research Ethics Board 2, and the materials provided to participants are attached in Appendices B-D. Data collection was conducted over the course of 8 weeks. Notices about the study were posted on bulletin boards across the University of Alberta North Campus and were distributed on listservs for both graduate and undergraduate students. The only listed eligibility criteria for the study were fluency in English and current status as a student at the University of Alberta. A total of 101 students were recruited - one participant's results were discarded due to technical problems during their session, and only the 100 valid participants will be reported here. When participants confirmed a research appointment, they were assigned to either Study Group 1 (Full game) or Study Group 2 (Partial game.) These assignments sometimes had to be

switched at the time of appointment in the interests of keeping back-to-back sessions running on time. Altogether, 50 participants were assigned to each group.

Although participant recruitment was random, participants were fairly representatively split by gender, with 54 female, 44 male, and 2 non-binary participants. Participants ranged in age from 18 to 36, with the majority (68%) between ages 19-24. The participants were primarily white and Asian, with: 3 FNMI[2], 48 white, 22 East and Southeast Asian, 9 South Asian, 2 African, 3 Middle Eastern, 5 Latinx, and 8 participants of mixed ancestry. The University of Alberta does not publish the ethnic demographics of students, but the proportion of white participants in the study group (48%) was lower than the proportion of white residents in the city of Edmonton at large (64.7%) (Statistics Canada, 2013.) Given the relatively high number of East and Southeast Asian participants, this discrepancy is likely due to the large body of Chinese international students at the University, who significantly outnumber other groups of international students (Graney, 2017.) A participation incentive of a $10 gift card was provided to participants, and it is possible that students facing higher financial pressures - such as international students - were more likely to participate than domestic students.

A significant proportion of respondents indicated identification as a sexual minority: as compared to 1.7% of the general population who identify as homosexual (Statistics Canada, 2015), 4% of participants did so. 10% of participants identified as bisexual, versus 1.3% in the general population. Another 4% of participants identified as pansexual, 2% were unsure, and 5% indicated another sexual orientation. Overall, 25% of participants identified as members of a sexual minority group, 58% identified as heterosexual, and 17% declined to provide their sexual orientation.

Use of Deception. One of the challenges of measuring rape myth acceptance is minimizing the amount of interference or social pressure that influences responses, with the

[2] First Nations, Métis, and Inuit

goal of gaining as clear an insight into an individual's actual beliefs and values as possible. As part of a public discourse about sexual violence, rape myths are subject to change over time. The ongoing need to update the IRMA because some myths come to be seen as 'too overt' (McMahon & Farmer, 2011) may reflect genuine changes in belief systems, but it may also be indicative of increased social pressure to present certain attitudes, whether an individual actually accepts these attitudes or not. Some research on rape myth acceptance has demonstrated that people's responses to scale items vary in part based on external factors. For example, men with high RMA in one study were influenced to lower their responses by the perceived low RMA level of other men (Bohner, Siebler, & Schmelder, 2006.) The media attention to sexual violence initiated by the #MeToo movement in the months immediately preceding the study has moved conversation about sexual violence into mainstream discourse, potentially increasing the social pressure to be seen as progressive on these issues. Meanwhile, high-profile movements like GamerGate and the attacks on Anita Sarkeesian have demonstrated that a small but vocal minority of gamers hold highly misogynistic and violent views towards women and gender minorities, and will act violently to exclude these groups from gaming spaces. One concern in the design and advertising of the study was that participants with high levels of rape myth acceptance would self-select out of the study, because they perceived it to be explicitly feminist and rejected the premise of connecting games and sexual violence prevention. There was also a risk that participants would sign up for the study but feel pressured to provide more prosocial responses on the IRMA given the obvious feminist orientation of the research. An explicit violence-prevention orientation also might make the study more appealing to feminist potential participants - while it is obviously ideal that the largest number of people possible have low levels of rape myth acceptance, having these people overrepresented in the sample population would be detrimental for several reasons. For one, rape myths are measured on a Likert-type scale, which has received significant critique for the tendency of responses to skew to one end to begin with. Overloading the sample with participants with low levels of rape myth acceptance

would inhibit my ability to measure value change as a result of the intervention. While the aim of the study was not to establish an accurate snapshot of the level of rape myth acceptance in the broader student population at the University of Alberta, it is much more helpful to test the efficacy of anti-violence interventions on the people who might most significantly benefit from this education. However, I wished to avoid completely obscuring the true nature of the research, primarily so that survivors of sexual violence who might be triggered by the intervention could self-select out of the study if they chose to do so.

To balance between the need to hint at the inclusion of sexual violence content in the study without clearly signalling the feminist orientation of the study, the research was advertised as "Exploring the Relationship Between Video Games and Attitudes on Casual Sex". Participants were told that the research project was examining "video games, hook-up culture, casual sex, and sexual violence." I hoped that positioning sexual violence as one of several topics being examined in the study would reduce the number of potential participants who avoided the study on ideological grounds, while providing notice to survivors of violence of the potentially triggering content. The Research Ethics Board approved this use of deception, and the measures used in relation to it are described below.

Procedure. Participants completed the research procedures in a single, 30-40 minute session with the researcher. Participants attended sessions one at a time and did not interact with each other. After reviewing the study information letter and having an opportunity to ask questions, participants were asked to complete the demographic and pre-test questionnaires on a provided computer. They were then directed to play through *Decisions That Matter* in-browser. Participants in Group 1 were told they would play the game through to the end, while participants in Group 2 were told the researcher would tell them when to stop playing the game. Both groups then completed the post-test questionnaire. Participants were able to ask for help at any time during the session - those that did so mostly had questions about terminology they did not understand.

When participants completed the post-test survey, they were given a copy of the study debriefing letter (Appendix C) to review, then had the opportunity to ask any follow-up questions about the study. They were then provided with an information and resource sheet on sexual violence (Appendix D) and received a $10 grocery store gift card for their participation.

Pretest Measures

Demographics. Participants were asked to provide basic demographic information, including their year of birth, gender, ethnic background, and sexual orientation (optional.) The latter three items allowed free text responses and participants could list as many identity categories as desired.

Gaming Patterns. Participants were asked 'Do you consider yourself a gamer', with possible responses of 'Yes', 'No', and 'Unsure'. All participants then indicated how frequently they played each of the following types of games: smartphone games, browser-based games, computer games, console games, and handheld games. They could indicate that they played each game type 'daily', 'multiple times per week', 'once per week', 'multiple times per month', 'once per month', or 'less than once per month/not at all'.

Illinois Rape Myth Acceptance Scale (2011.) Participants responded to items on the 2011 updated version of the short-form IRMA (items listed in Table 1, below.) The scale contains twenty statements affirming rape myths (for example, "If both people are drunk, it can't be rape"), sorted into four sub-scales: She Asked For It, He Didn't Mean To, It Wasn't Really Rape, and She Lied. Each item is answered via a Likert scale rating, from Strongly agree (1) to Strongly disagree (5.) Higher scores on the scale mean a stronger rejection of rape myths. The 2011 IRMA has been specifically validated for use with university students who have or have not received education about sexual violence, making it appropriate for testing the efficacy of sexual violence interventions (McMahon & Farmer, 2011.) The 2011 IRMA questions were included in both the pre-test and the post-test, with the questions supplied in the same order in both tests.

Filler Questions. As part of the deception aspect of the study design, 20 Likert-style filler questions were included in the pre-test and post-test questionnaire (Appendix E.) The use of filler questions is consistent with the original IRMA, which used filler items to inhibit response sets (Payne, Lonsway, & Fitzgerald, 1999.) While the original IRMA used filler items that were not rape myths but related to opinions about rape, such as "Self-defense classes should be available to women without charge", the filler items used in this study related to casual sex and hook-up culture, to encourage participants to view the IRMA items as part of a spectrum of questions about sexual interactions. The filler items were also designed to elicit higher numbers of positive responses (Strongly agree or Agree) than are expected on the IRMA items, with questions such as "Casual sex is more socially acceptable now than it was ten years ago." The filler items were alternated with the IRMA questions to inhibit response sets and maintain the deception aspect of the study. The filler items were written by the author and are not part of any validated survey measure, and therefore were removed for the final analysis.

Posttest Measures

The IRMA and filler items were repeated on the posttest in the same order. Although it would be ideal to randomize the order of questions, the need to evenly intersperse filler questions with IRMA items was an obstacle to randomizing procedures. Given the scope of the study, I decided to forego randomization and use the same order of questions for all participants.

Sexual Violence Assessment Questions. Two questions were added to the end of the post-test questionnaire to assess the participants' interpretation of Luke and Natalie's interactions in *Decisions That Matter*. The first question asked "Did a sexual interaction occur between Luke and Natalie in your game?" Rather than record the results of each participant's play session, this question evaluates how the player viewed the events preceding the assault, regardless of outcome. The second question, "Was the interaction a sexual assault?" explored participants' understanding of what defines sexual assault. As discussed, per Canadian and

American law, a sexual assault occurs in the game prior to the possible off-screen rape, but it was unclear whether participants' operative definitions of sexual assault would include actions beyond rape. This question also examined whether the participants who viewed the monologues had a different interpretation of the game than those who did not.

Data Cleaning and Standardization

The open-ended demographic questions required some cleaning and standardization to allow for statistical analysis. Given that the ways in which identity categories are constructed is largely informed by ideological lenses, I have provided some background on the standardization decisions made in cleaning the dataset to give some insight into how participants' original responses may be altered in the final data.

Gender. The original gender responses all fell into three categories - non-binary, female, and male. Cleaning these results was simply a matter of standardizing a variety of responses (eg. 'F', 'woman') indicating the same gender identity.

Ethnicity. The ethnicity results were cleaned into the 2016 Statistics Canada Census Ethnic Origins groups, with the exception of those who reported 'Canadian' and 'European' identities being coded as 'White' for the purposes of data analysis. Some challenges were presented by participants who listed their ethnic background as 'Asia' - one of these respondents was coded as 'East and Southeast Asian' based on their name, which was Chinese. The other two participants who listed 'Asia' also listed a White background, so they were coded as 'Mixed ancestry' - this category was added so that individuals with multiple ethnic backgrounds would not be duplicated in both groups they listed, and in recognition that condensing them into either of their backgrounds would obscure the complexity of their identities and their experiences as people of colour (Eddo-Lodge, 2017.) For the purposes of analysis, 'Mixed ancestry' will not be considered a discrete category (given the wide variety of backgrounds this encompasses), except in general comparisons between people of colour and white participants.

Sexual Orientation. Researchers have struggled with the tension between providing lists of discrete sexual orientations that can be easily analysed, and the need to allow participants to self-describe and perhaps minimize the risk of non-response error if a participant's orientation is not listed, as per Institute of Medicine (US) Committee on Lesbian, Gay, Bisexual, and Transgender Health Issues and Research Gaps and Opportunities (2011.) In the interest of maintaining an anti-oppressive research design framework (Strier, 2007), participants were able to enter their own sexual orientation responses. These were then minimally cleaned, where possible, to create groups for analysis. Results that obviously referred to the same category using different language, such as 'Straight' and 'Hetero', were standardized as Heterosexual. Two participants listed their orientation as 'Heterosexual maybe Asexual', which were re-coded as 'Unsure'. A small number of respondents indicated 'Lesbian', 'Gay', or 'Homosexual' as their sexual orientation. These were standardized as Homosexual with the understanding that the respondents' respective gender responses would allow their sexual orientations to be disambiguated in analysis if necessary, however, the number of responses in this group is so small that they cannot be reported on as a category. A few respondents clearly did not understand the question or provided answers that could not be categorized without follow-up, such as 'Homogenous', 'Female', and 'Interesting game' - these were deleted from the cleaned dataset. All remaining sexual orientations that had only one response which could not be combined into a category without obscuring its meaning, such as 'Bicurious', 'Heteroflexible', and a rating on the Kinsey scale, were left as-is, since they were too few in number to provide any quantitative insight but could still be counted among LGBTQ* respondents as a whole when contrasted with heterosexual respondents. For their import into SPSS, these were assigned to a number corresponding to an 'Other' category simply to ensure that their presence in the dataset was not lost. I did not ask participants to indicate if they identified as cisgender or transgender, so it is possible that transgender participants who identify as 'male' or 'female' *and* heterosexual

may have been captured in the heterosexual group and not the LGBTQ* group. The final list of coded categories was:

- Heterosexual
- Homosexual
- Bisexual
- Pansexual
- Unsure
- Other

Gender, ethnic background and sexual orientation were the only free-form questions on the survey that required in-depth cleaning. Other modifications made to the dataset prior to analysis included removal of one participant's responses, as technical problems during their participation session invalidated their responses, and removal of duplicate responses from participants that clicked the 'submit' button multiple times. The decoy hook-up and casual sex items were also removed from the dataset, and all nominal and ordinal responses were converted to numbers linked to a codebook for statistical analysis.

In this chapter, I have provided critique of the tools used in the study and examined some of their potential implications for the research findings. The Illinois Rape Myth Acceptance (IRMA) scale has significant limitations in the scope and focus of rape myths included, and inadvertently perpetrates hermeneutic marginalization of survivors whose sexual assault experiences do not match those captured by the myths on the scale. Consequently, this research study will also only examine a very narrow subset of all rape myths, and the myths examined may not correspond to those familiar to all participants in the study. *Decisions that Matter* is valuable as one of few violence prevention games publicly available today, and its clear prosocial orientation and development in connection to a violence prevention context make it a useful tool. However, its goals are not completely matched to the goals of the present research, and its narrative ambiguity may present some difficulties for player interpretation. I have outlined the methodology for the study, which relies on a pretest/posttest design with the game as an 'intervention' stage and uses two study groups (Full and Partial game) in lieu of a control

group. In the interest of transparency and revealing how I have handled the standardization of sensitive information like ethnicity and sexual orientation, I have given some explanation for how the dataset was cleaned. In the next chapter, I will provide the results from the statistical analysis of the study data and discuss some of the meaning and ramifications of these findings.

Chapter Three: Results and Discussion

Following data collection and cleaning, the participant responses were analysed using a statistical software package and examined for points of significant change or intergroup variability. In this chapter, I will expand on the statistical analysis performed on the results and present the most relevant findings. The results will be followed by a brief overview of the limitations of the present study, and discussion of the possible meaning and implications of the research findings.

Preliminary Analysis

For the purposes of statistical analysis, the Likert-scale responses to the IRMA items were converted into numbers from 1-5, with lower numbers representing higher levels of rape myth endorsement. As discussed previously, one of the challenges of using the IRMA is the tendency for results to be highly skewed to one end of the scale (lower endorsement of myths), which results in a non-normal distribution of values (Gerger, Kley, Bohner, & Siebler, 2007.) On an individual level, Likert scale responses are challenging to interpret because they are discrete and ordinal in nature, with no clear indicator of what the difference between two points on the scale means - just how much more endorsement is a 3 than a 4? However, by aggregating the sample together, we gain some insight into general response trends across groups of participants. As almost all questions were mandatory, there were no missing responses in the data, with the exception of sexual orientation which was retained as optional, and 17 participants opted not to provide their sexual orientation. Outliers were retained in the data as they give interesting insights into how people with exceptionally high levels of rape myth acceptance received the intervention. Due to the nature of the data, I did not conduct regressions, instead calculating a 95% confidence interval for the mean of each item in the IRMA. In lieu of using p values to determine significance, changes in mean that fell outside the

confidence interval are considered statistically significant.[3] The structure of the revised IRMA is such that low numbers represent a high level of rape myth acceptance (for example, 1 = Strongly Agree), and vice-versa. This can be somewhat confusing in discussion, as an increase in RMA is a decrease in numerical score, and I will differentiate the two throughout this discussion as clearly as possible.

As research has consistently demonstrated that gender is the most salient contributing demographic factor to levels of rape myth acceptance (Suarez & Gadalla, 2010), gender has been adopted here as the primary point of analysis. While participants self-identified into three gender groups (non-binary, female, and male), the number of non-binary participants (n=2) was too small for statistical analysis. Thus, when gender is referenced in the following statistical tests, only female (n=54) and male (n=44) responses are analysed. When participants are not being grouped by gender, the non-binary participants are included.

Pretest Results. Meta-analysis demonstrates that IRMA data are not typically normally distributed (Gerger, Kley, Bohner, & Siebler, 2007), which was consistent in this

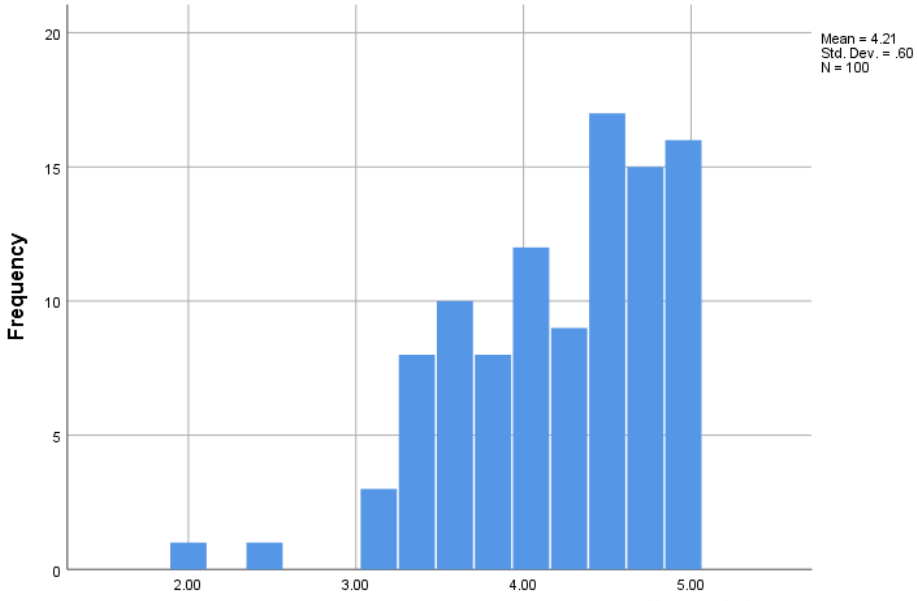

Figure 1. Pretest mean responses - All participants

[3] An explanation of the statistical legitimacy of this substitution can be found in the Minitab Blog (Minitab Blog Editor, 2015).

dataset. The pretest mean results were negatively skewed (-.891), with the vast majority of respondents averaging a response of 3.00 or higher (Figure 1.) A few outliers with extremely high levels of rape myth acceptance clustered towards the bottom end of the scale.

Although participants were randomly assigned to either Study Group 1 (Full Game) or Study Group 2 (Partial Game), the two groups had significantly different pretest results on many items, sometimes varying from each other by as much as 0.40 on an individual item, while being nearly identical on others. There does not seem to be a consistent demographic or gameplay characteristic that differentiates the two groups, although there were a slightly larger number of respondents who were pretest high-RMA outliers in the Partial Game group. Barring a confounding variable, this is the result of random chance. Presumably, if the sample were randomized again this difference would be negated. As a result of the difference, it is not particularly useful to compare the relative levels of the posttest results between Group 1 and Group 2, since they often begin from highly divergent pretest points. Rather, a comparison of the degree of change between pre- and posttest results in each group will be more indicative of actual change after playing *Decisions That Matter (DTM.)*

As Table 1 indicates, participants overall had very low levels of pretest rape myth acceptance, with an overall mean score of 4.21. The subscales of myths addressing the idea that men sometimes commit rape 'by accident' (He Didn't Mean To) and the myths suggesting that women often lie about experiencing rape (She Lied) were the mostly highly endorsed, with respective means of 4.00 and 4.03. The subscale 'It Wasn't Really Rape' was most consistently rejected by participants, with a mean of 4.75 overall.

Table 1

Pretest IRMA Scores – All participants and by gender

Item	Mean (SD): all participants (n=100)	Mean (SD): female participants (n=54)	Mean (SD): male participants (n=44)
Subscale: She Asked for it	4.15 (0.65)	4.26 (0.64)	4.00 (0.65)
If a woman is raped while she is drunk, she is at least somewhat responsible for letting things get out of control.	4.42 (0.97)	4.43 (1.00)	4.39 (0.95)
When girls go to parties wearing slutty clothes, they are asking for trouble.	4.38 (0.92)	4.50 (0.80)	4.20 (1.05)
If a girl goes to a room alone with a guy at a party, it is her own fault if she is raped.	4.78 (0.63)	4.83 (0.54)	4.7 (0.73)
If a girl acts like a slut, eventually she is going to get into trouble.	3.52 (1.28)	3.72 (1.25)	3.23 (1.27)
When girls are raped, it's often because the way they said "no" was unclear.	4.43 (0.91)	4.48 (0.93)	4.36 (0.92)
If a girl initiates kissing or hooking up, she should not be surprised if a guy assumes she wants to have sex.	3.36 (1.22)	3.61 (1.25)	3.09 (1.29)
Subscale: He Didn't Mean To	4.00 (0.72)	4.22 (0.70)	3.72 (0.65)
When guys rape, it is usually because of their strong desire for sex.	3.63 (1.23)	3.98 (1.16)	3.18 (1.21)
Guys don't usually intend to force sex on a girl, but sometimes they get too sexually carried away.	3.51 (1.10)	3.80 (1.11)	3.14 (1.10)
Rape happens when a guy's sex drive gets out of control.	4.00 (1.12)	4.19 (1.10)	3.77 (1.14)
If a guy is drunk, he might rape someone unintentionally.	3.97 (1.09)	4.33 (0.97)	3.57 (1.14)
It shouldn't be considered rape if a guy is drunk and didn't realize what he was doing.	4.53 (0.94)	4.67 (0.80)	4.34 (1.08)
If both people are drunk, it can't be rape.	4.34 (0.99)	4.35 (0.99)	4.32 (1.01)
Subscale: It Wasn't Really Rape	4.71 (0.56)	4.73 (0.66)	4.70 (0.41)

Item	Mean (SD): all participants (n=100)	Mean (SD): female participants (n=54)	Mean (SD): male participants (n=44)
If a girl doesn't physically resist sex—even if protesting verbally—it can't be considered rape.	4.65 (0.81)	4.67 (0.99)	4.32 (1.01)
If a girl doesn't physically fight back, you can't really say it was rape.	4.79 (0.66)	4.74 (0.83)	4.86 (0.35)
A rape probably didn't happen if the girl has no bruises or marks.	4.86 (0.60)	4.85 (0.60)	4.86 (0.63)
If the accused "rapist" doesn't have a weapon, you really can't call it a rape.	4.88 (0.59)	4.87 (0.58)	4.89 (0.62)
If a girl doesn't say "no" she can't claim rape.	4.38 (1.02)	4.50 (1.10)	4.23 (0.94)
Subscale: She Lied	4.03 (0.91)	4.21 (0.97)	3.77 (0.79)
A lot of times, girls who say they were raped agreed to have sex and then regret it.	3.93 (1.10)	4.11 (1.18)	3.68 (0.98)
Rape accusations are often used as a way of getting back at guys.	3.92 (1.15)	4.19 (1.07)	3.55 (1.17)
A lot of times, girls who say they were raped often led the guy on and then had regrets.	4.09 (1.08)	4.22 (1.16)	3.89 (0.97)
A lot of times, girls who claim they were raped just have emotional problems.	4.53 (0.87)	4.61 (0.92)	4.41 (0.82)
Girls who are caught cheating on their boyfriends sometimes claim that it was a rape.	3.67 (1.06)	3.94 (1.09)	3.32 (0.93)
Overall Mean	4.21 (0.60)	4.35 (0.65)	4.03 (0.50)

Although the data did conform to the IRMA's tendency to skew to one end of the scale, there was significant variability between different groups of participants. The pretest results demonstrate the same gendered patterns as other rape myth acceptance studies, with male participants overall endorsing almost all rape myths at higher levels than female participants (Suarez & Gadalla, 2010.) Male and female participants differed most significantly on myths excusing perpetrator behaviour, with respective subscale means of 3.72 and 4.22, and they were in highest agreement in rejecting myths about what 'counts' as rape, with near identical subscale means of 4.70 and 4.73 respectively. The pretest responses were also in line with the limited

research on rape myth acceptance levels in LGBTQ* populations (Schulze & Koon-Magnin, 2018), with LGBTQ* respondents overall averaging 4.59 (n=25) as compared to heterosexual respondents' 4.08 (n=58.) Research in Canada and the United States has generally found that white participants have lower levels of RMA than non-white participants. Although some ethnic groups represented in the data are too few in number to draw any robust conclusions, there are some interesting differences in the mean responses of both groups. Table 2 indicates the responses for all groups with n >= 5 respondents.

Table 2

Pretest mean responses by ethnicity

Ethnicity	Pretest mean	n
White	4.27	48
East and Southeast Asian	4.02	22
South Asian	4.13	9
Latinx	4.41	5
Full Sample	**4.21**	**100**

The Latinx participants in the sample had significantly lower levels of RMA than any other group of 5 or more participants, but because at least three of the Latinx participants knew and recruited each other to participate in the study, the participants in this group may also have been part of a social group that influenced their RMA levels. East and Southeast Asian respondents had the highest levels of RMA, consistent with Kennedy & Gorzalka's findings that East Asians in Canada overall have higher levels of RMA than their white counterparts (2002.)

One further identity category that had a significant effect on pretest levels of RMA was self-identification as a gamer. People who identified themselves as gamers (n=57) had a mean RMA of 4.13, as compared to 4.27 among non-gamers (n=34), and 4.47 (n=9) among those 'unsure' about their gamer identity. The impact of this identity category on RMA, its relationship

to actual gameplay habits, and the potential implications of these findings will be discussed below.

Posttest Results

General Study Population. There was significant variability between the pretest and posttest responses for most of the IRMA items queried, although only a few items demonstrated sufficient change to be statistically significant. Most of the items that remained static across the pre- and posttests were in the subscales of 'It Wasn't Really Rape' and 'She Lied', with the former being the most strongly rejected set of myths across all study groups (pretest mean of 4.71, posttest 4.75.) In particular the item 'A rape probably didn't happen if the girl has no bruises or marks' saw no change in mean responses across all populations. This item also had the highest level of rejection of all myths included in the questionnaire. The inter-group variability between pretest responses was generally reflected in the posttest results, with most groups on most items maintaining the same approximate difference between their scores. In a few cases, one group saw a decrease in score while another saw an increase (such as women in the full game group decreasing their score on the item 'Rape accusations are often used as a way of getting back at guys' while men in the full game group saw an increase) but none of these changes reached the threshold for statistical significance.

Four items saw statistically significant changes across the intervention in the general study population, with all four of these changes occurring in the Full Game group (Table 3.) Similar but smaller changes also occurred in the Partial Game group for each item, resulting in statistically significant changes for all participants overall on the same 4 items.

Table 3

Statistically significant changes in mean in the general study population

	Everyone, full game group: change in mean	Everyone, both groups: change in mean
If a girl acts like a slut, eventually she is going to get into trouble	**+0.44**	**+0.27**
When girls are raped, it's often because the way they said "no" was unclear	**-0.28**	**-0.25**
If a girl initiates kissing or hooking up, she should not be surprised if a guy assumes she wants to have sex	**+0.42**	**+0.33**
If both people are drunk, it can't be rape.	**+0.28**	**+0.21**

All of the statistically significant changes that occurred among female participants were in the subscale 'She Asked For It' (Table 4.) There were only three items that changed, with 'If a girl acts like a slut, eventually she is going to get into trouble' seeing a significant decrease in acceptance with over +0.50 of change in both groups. However, the other two items that changed for female participants both saw a slight increase in acceptance. The second of these, 'When girls are raped, it's often because the way they said "no" was unclear', was a consistent problem area for all participants. Male participants demonstrated largely minor changes across the study intervention, with only one item demonstrating significant change in a particular study group (-0.20 on 'If a girl doesn't physically fight back, you can't really say it was rape' for men in the partial game group.) Across both groups of men, there was also an improvement on 'When guys rape, it is usually because of their strong desire for sex', of +0.18.

Table 4

Areas of statistically significant change among female participants

	Women, full game group: change in mean	Women, partial game group: change in mean
If a girl goes to a room alone with a guy at a party, it is her own fault if she is raped.	**-0.15**	+0.04
If a girl acts like a slut, eventually she is going to get into trouble	**+0.58**	**+0.57**
When girls are raped, it's often because the way they said "no" was unclear	**-0.16**	-0.04

Note: Bolded values are statistically significant.

Results by Rape Myth Acceptance level groups. Some research has demonstrated that men at 'high risk' for using sexually coercive behaviours are less likely to show a change in RMA across an educational intervention than men who are 'low risk' for sexually coercive behaviour (Elias-Lambert & Black, 2016.) While likelihood to use sexually coercive behaviour was not measured in this study, these findings suggest that there may be a difference in how sexual violence prevention interventions are received based on the existing value system of participants. To explore this possibility, I separated participants into three additional groups for analysis. All participants with an overall pre-test mean more than one standard deviation below the sample mean (SD=.6, mean <3.61) were tested separately as the 'high myth acceptance' group (n=19.) All participants with a pre-test mean more than one standard deviation above the sample mean (SD=.6, mean >4.81) were tested in the 'low myth acceptance' group (n=18.) The remaining participants, whose mean responses fell within one standard deviation of the sample mean, were tested as the 'medium myth acceptance' group (n=63.) Dividing the participants in this way proved extremely informative - participants in the 'high RMA acceptance' group

showed considerably more statistically significant value change in both directions than participants in either of the other two groups (see Appendix A, Table A5.)[4]

Of all high RMA participants, males who played the full game saw the greatest decrease in their overall RMA levels, with mild improvement on all subscales and overall. There was some fluctuation among participants in the partial game group, but a net minor increase in RMA. Any decreases in RMA among women in the full game group was negated by increases on other items. The item which elicited the most significant value change was 'When girls are raped, it's often because the way they said "no" was unclear' - all high RMA participants were significantly more inclined to agree with this statement after playing *DTM*, with some demographic/study groups moving a full point down the scale. The high RMA group was roughly two-thirds male and one-third female, and all but one were heterosexual. They were roughly equally divided along ethnicity and age, and divided in the same proportions as the full sample on their self-identification as gamers. Therefore, heterosexuality seems to be the only known variable connected to their higher levels of RMA, but it does not fully explain their strong endorsement of rape myths, as many other heterosexual participants had lower RMA levels.

While the changes in responses of individual participants cannot provide us with any broad statistical insights, the RMA trajectory of the two most prominent outliers in the sample may be instructive in understanding how people with extremely high endorsement of rape myths received the intervention. The participants with the two lowest pretest means (highest RMA endorsement) had means of 2.41 and 2.00. One was female and one was male, both were white and heterosexual, in their early twenties, and self-identified as gamers. Both also increased their rape myth acceptance across the intervention by a statistically significant amount, dropping to 2.14 and 1.77 respectively. They increased RMA in three of the four

[4] Given the smaller number of participants in these three groups, the standard deviations of the general study population (for each of the Full Game, Partial Game, and Overall groups) were used to calculate confidence intervals and thus statistical significance in the split-RMA groups and other small groups through the analysis.

subscales, remaining static only on 'She Lied', although one of them was already at the extreme bottom end of the scale on the pretest and had no further to go. They were also in agreement in their assessment that no sexual assault took place in the game. These participants, while at the extreme end of responses collected, were not alone in their trend - of the 19 participants in the high RMA group, a total of 10 actually increased their level of rape myth acceptance over the intervention.

Less drastic changes were seen in the low RMA group (n=18), with only a handful of significant changes on individual items. However, almost all of the changes occurred amongst the 2 male participants in the group, so limited conclusions can be drawn from their results. Perhaps most notable about this group was their relative stability on a majority of measures - on most items, they demonstrated no change in values across the intervention, including on the 'When girls are raped, it is often because the way they said "no" was unclear' item which was often a site of increased RMA in other subgroups. The middle RMA group (n=63) saw moderate improvement on several items, which was the primary contributor to the reductions in RMA seen in the general population. The middle group also showed moderate increases in acceptance on four items.

Rape Myth Acceptance and Gamer Identity. As mentioned above, in the pretest results self-identification as a gamer was a major predictor of high levels of rape myth acceptance (Figure 2.) Gamers had significantly higher levels of rape myth acceptance than either non-gamers or those who were not sure about their gamer identity, and those who were unsure had significantly lower levels of RMA than the other two groups on most subscales and overall. This finding is consistent with some limited research that also examined gamer identity and RMA (Nunez, Paz, & Fares, 2016; Toledo, Medrano, Holzman & Sandoval, 2015), but I believe these findings require further unpacking and they will be addressed in the discussion section. There did not seem to be a significant difference in the impact of the game between different gamer identity categories, with no group demonstrating a statistically significant

change at the subscale or full-scale level. The 'unsure' group saw very minor increases in their RMA on two subscales ('She Asked for It' and 'It Wasn't Really Rape') and their overall results, but their posttest results were still higher than those of the gamer group.

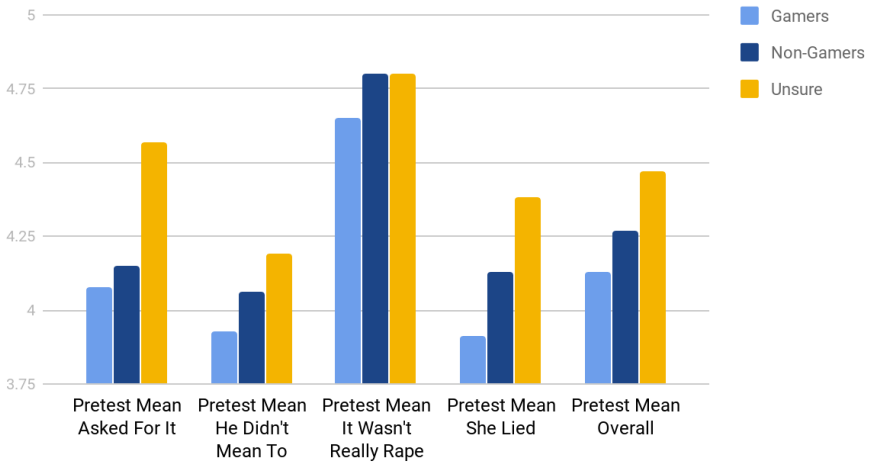

Figure 2: Pretest response means by gamer identity

Much discussion has taken place in game studies and the broader gaming community about the exclusionary nature of mainstream gamer culture and the way that so-called 'power gamers' conduct gatekeeping around who is allowed to identify as a gamer. Many people who play games have expressed a desire to distance themselves from that label when the misogyny of some gamer communities is seen as emblematic of the group as a whole (Kowert, 2014.) I asked participants about their actual gameplay habits in the interest of exploring the relationship between gamer identity and actual practice. Participants answered how frequently they played games on a number of different platforms: smartphones, portable gaming devices, consoles, computers, and internet browsers. The results were aggregated into four levels of frequency, with those who played 'Daily' or 'Multiple times per week' marked as 'High' frequency, those who played 'Once per week' or 'Multiple times per month' as 'Medium' frequency, those who

played ‘Once per month’ as ‘Low’ frequency, and those who played ‘Less than once per month’ as ‘None’. The results (Figure 3) are indicative of some interesting trends.[5]

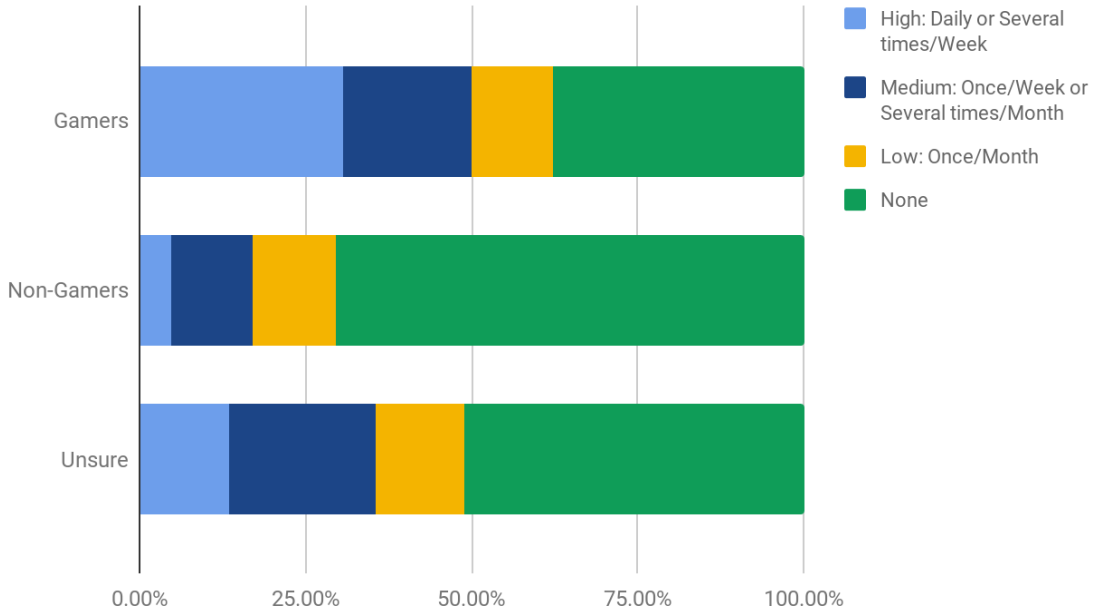

Figure 3: Frequency of play by gamer self-identification

As expected, the largest proportion of ‘High’ frequency gameplay occurred among the ‘Gamers’. However, 7 out of the 34 ‘Non-gamers’ and 4 of the ‘Unsure’ participants also indicated they played games on a daily or multiple times per week basis. The ‘Unsure’ participants actually indicated more consistent levels of ‘Medium’ frequency gaming that either of the other groups. These findings suggest that gameplay habits are not the only thing informing participants’ self-identification as ‘Gamers’. Some possible reasons for these responses, and their relationship to rape myth acceptance, will be discussed below.

Results by Demographic Characteristics. Although, as indicated in the pretest results, there were significant differences in pretest RMA levels between different ethnic groups in the study, there was little evidence that the intervention yielded substantial differences in

[5] Note that the figure is an aggregation of all platforms, so many ‘None’ responses for less popular platforms (especially browser games) are included

effect size for different ethnic groups, with no statistically significant changes occurring at the level of ethnicity.

LGBTQ* respondents had considerably lower levels of rape myth acceptance on all subscales than their heterosexual counterparts, with a consistent half-point difference between their pretest means. However, there were no significant changes in RMA scores when calculated at the level of sexual orientation. There was some variation among LGBTQ* participants. Participants in the homosexual, bisexual, pansexual, and unsure groups had relatively similar responses, but participants coded as 'Other' had markedly different responses. 'Other' participants had an overall pretest mean of 4.15 and a posttest mean of 4.28, slightly higher than the Heterosexual group means (4.08 and 4.18) but substantially lower than other LGBTQ* groups, which were all over 4.60. The sexual orientations in the 'Other' category included 'Heteroflexible', 'Bicurious', 'Gray-A', 'Asexual', and a rating on the Kinsey scale.

Labeling Character Interactions

At the end of the posttest survey, participants answered whether they felt that a sexual interaction occurred in the game, and whether the interaction was a sexual assault. 76% of participants indicated that a sexual interaction had occurred, 13% said no sexual interaction had occurred, and 11% were unsure. They were much less certain about whether the interaction was an assault, with 43% answering yes, 28% no, and 29% uncertain. This result presents an interesting contrast to participants' seemingly low levels of RMA, which would be expected to correlate with higher levels of knowledge about sexual violence. The events of the party in *DTM* are by Canadian legal definition technically a sexual assault regardless of the final outcome of the game, so all players encountered at least one if not two sexual assaults in the game. Less than half of players managed to identify any sexual violence in the game, suggesting that their low levels of RMA are not necessarily correlated to high levels of knowledge about sexual violence in general. Playing the full game did not have an impact on whether the participants

identified Luke and Natalie's interaction as a sexual one, with almost exactly equal responses between the two study groups. Likewise, study group had little effect on whether participants identified the interaction as a sexual assault - 21 participants in the Full Game group and 22 participants in the Partial Game group indicated that an assault took place, with the rest roughly equally split between 'No' and 'Unsure', despite the fact that the Partial Game group had no information about what occurred after the party scene.

The 'High RMA' group was much less likely to identify the interaction between Luke and Natalie as sexual, with only 57.9% agreement that it was sexual as compared to 77.8% in the 'Low RMA' group and 81% in the 'Mid RMA' group. However, the 'High' and 'Low' RMA groups were about equally likely to identify the interaction as sexual assault, at 31.6% and 33.3% respectively, while 49.2% of the 'Mid RMA' group correctly identified it as sexual assault. Women in all groups were significantly more likely to identify the interaction as sexual (81.5% to men's 68.2%) but were less likely to label the interaction sexual assault (40.7% to men's 45.5%.) I believe that some flaws in the methodological design for these questions may have influenced participants' interpretations and the extent to which this data can be used in analysis; the findings and potential consequences of these flaws will be discussed below.

Study Limitations

As a preliminary study with limited control conditions, the goal of this research was not to draw longitudinal causational links between playing *DTM* and rape myth acceptance levels, but rather to explore whether the tool demonstrated any efficacy in causing participants to think about sexual violence differently. Anecdotally, many participants indicated that playing the game and then returning to the IRMA questionnaire made them reconsider the items on the questionnaire in a different light, but as the survey findings indicated, this reflection did not always have a prosocial effect. Although the results are fairly limited by scope and design, reviewing the results and their potential implications may provide useful directions and insight for future research.

I chose not to track participants' in-game decisions and outcomes because I wanted them to feel free to engage in the game in the way that they wanted to, without feeling pressured to respond in a particular way. I also hoped that by responding in an authentic manner, participants would receive feedback from the game that more directly addressed their actual beliefs about sexual violence, such as the dialogue after the street harassment scene which more explicitly condemns harassment if the player expresses ambivalence about it. While the experience of the majority of the game is not substantively different based on gameplay choices, the ending monologues are extremely different in information and tone depending on whether or not the assault has occurred - as discussed previously, the Luke who did not commit rape is much more upfront about his intentions and motives than the Luke who does commit the rape, and post-rape Natalie portrays survivor self-blame in a way that the other version does not. Knowing which version of the monologues the Full Game group participants viewed would have been very helpful information in interpreting both their changes in RMA, and their assessment of the sexual interaction/sexual violence that occurred in the game. While this is anecdotal and I did not track the results, from my presence in the room during the participant sessions it seemed like the majority of participants managed to prevent the rape from occurring, which means they would have engaged with the repentant Luke (in my opinion, by far the more powerful and informative of the two Luke monologues) and the thankful Natalie (which conveys more positive feedback about bystander information but less clear information about experiencing rape.) Unfortunately, without information about the outcomes of gameplay, it is difficult to interpret some of the results, in particular participant feedback on whether a sexual interaction occurred (are they reflecting on the interaction at the party, or the rape?) and whether it was a sexual assault (again, it is unclear if the question refers to the party or the rape.) In a revised version of the study, I would track gameplay outcomes to aid in interpretation. For the current research, this limitation applies to the findings below especially as concerns the final sexual interaction and sexual assault identification questions.

The generalizability of these findings is also limited. The University of Alberta does not publish detailed statistics on student demographics, but the relative diversity of participants in terms of age, gender, sexual orientation, and ethnicity suggests that the sample population may be fairly representative of undergraduate University of Alberta students in general. Few Canadian universities collect or publish detailed demographic information about their student population, so it is difficult to make comparisons to Canadian university students overall. McGill's student demographic survey is one potential point of comparison for generalizability. Their Student Demographic Survey found 58.6% of undergraduate students were female, 11.7% of students identified as LGBTQ*, and 71% of students were white (McGill University, 2009.)[6] Relative to the McGill student body, this sample was more diverse in both sexual orientation and ethnicity, which may limit generalizability to Canadian university students in general. The problems with generalizing from student research samples to the general population have been well documented (Hanel & Vione, 2016) and also apply to this research. Further research on games and rape myth acceptance should be conducted with broader sample populations. However, given the specific focus of *DTM* and the IRMA on university students, the results of this research should provide valuable initial insight into the use of games as interventions for a targeted population.

The design of the research and my choice to utilize tools developed with (and implicitly, for) white, middle-class, cisgender heterosexual populations also present a significant limitation to interpreting the results of the study. Little research has demonstrated how LGBTQ* populations interpret rape myths and their relative levels of rape myth acceptance, and even less has explored what different types of rape myths might be operant in these communities (besides the well-examined misconception that sexual violence does not exist at all in queer communities, see Dickson, 2016.) This research has not contributed to widening this gap, and

[6] Only 'Female' and 'Male' were available as gender options on the survey

while clear differences in RMA levels between LGBTQ* and heterosexual participants were evident, more qualitative investigation will be needed to understand the nuances of rape myth acceptance and interpretation in LGBTQ* communities. This shortcoming extends to other demographic groups in the survey, based on ethnicity and gender, as well as other unexamined variables such as ability level or socioeconomic status. I believe there is a need for considerable public and academic discussion about the expansion of what 'counts' as a rape myth and a corresponding re-examination of rape myth acceptance scales based on the experiences of diverse populations. Research on games also needs to critically examine the tools being used and consider whether they have been adapted to fit the population in question, or are making oppressive assumptions about the universality of white experiences.

Another limitation concerns the use of *DTM*, a game about bystander intervention, for research on rape myth acceptance. Although deconstructing rape myths is a routine component of violence prevention education and a necessary part of educating people to act as engaged bystanders, this game was not designed with the explicit intention of reducing rape myth acceptance. The stated goal of the game's developers was to increase players' confidence in responding to situations of sexual violence: "we definitely wanted players to understand and internalize the fact that their actions and decisions very much make a difference" (S. Fawaz, personal communication, January 3, 2018.) Given the relatively small number of published sexual violence prevention games, *DTM* seemed to be the best fit in terms of clearly delineated learning outcomes, a specific target audience, and intentional design informed by violence prevention theory and practice - but it is still not a game designed to reduce rape myth acceptance. The findings of this research should not be considered an evaluation of *DTM*'s effectiveness as a bystander intervention tool, but rather an exploration of how players interpret and understand sexual violence in games when it is presented in an informed and compassionate way, and a reflection on how their pre-existing beliefs may interact with

information presented in media.

Discussion

Pretest Findings. It is clear from the pretest results that this study population had particularly low levels of rape myth acceptance compared to other research using the IRMA-SF. As compared to the results gathered by McMahon and Farmer (2011) in a validation study with a study group that was also comprised primarily of White and Asian university students, the participants in this study have consistently lower levels of rape myth acceptance with an overall mean of 4.21 as compared to McMahon & Farmer's 3.51. Given the strong influence of social and cultural factors on RMA, it is impossible to identify a specific cause for these lower scores, however, there are a few plausible contributing factors. The present research was conducted in the months immediately following the media's extensive coverage of the #MeToo movement, which has brought sexual violence awareness into the public consciousness in a way that has previously been lacking. This could have caused participants to either have genuinely lower RMA levels because of improved knowledge about sexual violence, or to report lower RMA levels because of perceived social pressure to do so. The university campus where the research was conducted has a very active sexual assault centre which conducts substantial programming and outreach across campus, which may have an effect on campus culture around sexual violence. There is also a relatively small fraternity and sorority presence on this campus as compared to the institutions in the United States where much of the RMA research is conducted. Fraternity and sorority membership have been demonstrated as strong correlates of high levels of RMA (Canan, Jozkowski, & Crawford, 2016), so the absence of this influence could have reduced RMA levels. There was a very high proportion of LGBTQ* participants in the study (25% of participants) and their RMA levels were considerably lower than those of heterosexual participants, which in the overall sample resulted in lower levels of RMA. However, this is

obviously not the only factor at play as the heterosexual participants in the study still had lower levels of RMA than in other research findings. Finally, as identified by both the IRMA's designers and modifiers, rape myth acceptance is a concept constantly in flux, as the social acceptability of certain myths decreases over time (Payne, Lonsway, & Fitzgerald, 1999; McMahon & Farmer, 2011.) It may be that the shelf life of the myths on the updated IRMA-SF is beginning to expire, especially given rapid cultural shifts around sexual violence. As discussed in Chapter Two, the lower levels of adherence to the myths on the IRMA-SF is not necessarily indicative of a culture that is low in rape support overall, and it is quite possible that entirely different sets of myths are operative in this study population that are not queried by the instruments used here.

The differences in pretest results between the two study groups has been difficult to account for, with no single demographic factor seeming to account for the extent of the variation. It may simply be a vagary of individual differences combined with unlucky random assignment, or it may be that an unseen factor in the research design or assignment contributed to an imbalance in the respondents. There was some interesting variation in the acceptance of the different subscales on the IRMA-SF, with 'It Wasn't Really Rape' being very strongly rejected. This finding suggests that participants were fairly quick to reject myths structuring what 'counts' as rape. However, the relatively low rate at which participants identified that sexual violence had occurred in *DTM* - only 43% - suggests that their scripts about sexual violence are still narrower than the breadth of violence covered under Canadian law. Anecdotally, participants took a long time to answer the final two questions about what occurred in the game, and several participants asked me for the definition of sexual assault at the end of the session (prior to receiving the information sheet.) This suggests that reflecting on whether an assault had actually occurred in the game was a good way for participants to reconsider their own definition of sexual violence, even if *DTM* did not provide them with an answer.

Participants endorsed the subscales 'He Didn't Mean To' and 'She Lied' on the pretest at much higher rates than the other two subscales (4.00 and 4.03.) These findings are not very surprising. Although no research has yet been published on the relationship between IRMA myths and the #MeToo movement, there has been significant push-back to the movement, especially by powerful men and their supporters who have attempted to reframe accusations by exonerating the perpetrator and placing blame on the victim. In fact, Hollywood producer Harvey Weinstein's lawyer Benjamin Brafman made statements in a March 2018 article in *The Times* that spoke almost directly to both myths, saying "The casting couch in Hollywood was not invented by Harvey Weinstein", and "If a woman decides that she needs to have sex with a Hollywood producer in order to advance her career and actually does it and finds the whole thing offensive, that's not rape" (Pavia, 2018.) Brafman's confidence in making these statements as a defense of Weinstein's behaviour suggests that these particular areas of rape myths may be more palatable to the general public than myths about the use of violent force, for example. Overall, while the pretest findings in the general study population give reason to have a positive outlook on rape myth acceptance levels in at least this particular subset of society, there is still ground to be made up in debunking some of the more persistent myths about sexual violence.

Changes from Pretest to Posttest. In the general population, there was very limited change between the pretest and the posttest, with only four items showing statistically significant change for all genders, and three items each for both women and men. In the full population, moderate improvements in 'If a girl acts like a slut, eventually she is going to get into trouble' and 'If a girl initiates kissing or hooking up, she should not be surprised if a guy assumes she wants to have sex' suggest that participants' closer knowledge of Natalie's experiences and expectations for her interaction with Luke made them more sympathetic to her. As the Full Game group saw a greater degree of change than participants overall on these two items, the ending monologues may have helped them gain further insight into her perspective and her feelings of self-blame. Natalie addresses both of these myths in the post-rape

monologue, blaming herself for sending what she believes may have been mixed signals to Luke, so seeing her grapple with this myth first-hand may have encouraged participants to reflect on it more closely.

The myth 'When girls are raped, it's often because the way they said "no" was unclear' was the most obvious place that *DTM* not only failed to yield improvements in rape myth acceptance, but actually seemed to lead to consistent *increases* in myth endorsement. While participants in all groups saw some increase in myth acceptance on this item, participants who played the full game were the ones who experienced statistically significant change, especially men (a change of -0.44.) The moderate effect size on this myth would be easier to understand with information on which game end state participants witnessed - the post-rape Luke monologue would certainly enforce this belief, as he seems to have almost entirely failed to recognize Natalie's signals that she was not interested in sex, and a post-rape Natalie exhibits some self-blame for what she perceives as her failure to communicate what she wanted. Although the game's developers likely meant Natalie's non-verbal signals at the party to convey some of the different ways that women say 'no' to sex, the lack of explicit statements may have led players to sympathize with Luke's supposed "misinterpretation" of her signals. This may also be a drawback to the player's role as an active bystander in the game - by creating space for the player to act decisively, the developers may have inadvertently caused players to perceive Natalie as a passive recipient of Luke's advances, unable to communicate what she wants. This disconnect ties into a larger issue of using games for sexual violence prevention education: the question of agency. Who is responsible for sexual violence if the player is the only one with actual autonomy to act? This question has yet to be addressed by academia but connects to questions about agency and ethics in games posed by scholars like Sicart (2009.) While *DTM* was not designed with the explicit intention of effecting RMA levels, increases in acceptance of common rape myths was obviously not a goal of the developers. The consistent endorsement of this particular myth about saying 'no' speaks to the importance of extreme attention to

intentional design practices in sexual violence prevention games, and the need for more extended research on how players interpret certain types of scenarios or interactions in game environments.

The acceptance levels for some myths stayed remarkably consistent between the pretest and the posttest, in particular 'A rape probably didn't happen if the girl has no bruises or marks', which in the overall population did not change at all. There are two possible reasons for this stasis: this particular myth could be related to a belief or beliefs about sexual violence that are for some reason more strongly held than others, causing it to be less influenced by the intervention, or it could be that the game's narrative simply did not address this myth's constructs. While the question of physical violence does not come up in Luke and Natalie's interactions, I would have expected that Natalie's reflection on the assault and the roles that alcohol and social pressure played in the interaction might have led players to reflect on factors beyond physical violence that could support sexual violence, but this does not seem to have been the case. In any case, the lack of change across this item and relative lack of change across the majority of items in the general population does seem to suggest that simply engaging with the content of *DTM* is not enough to trigger shifts in beliefs about sexual violence. Per cultivation theory, it is the consumption of large quantities of media that triggers shifts in belief about social phenomena like sexual violence (Kahlor & Morrison, 2007.) While longitudinal exposure to prosocial media about sexual violence might eventually yield changes in belief systems, the constructivist framework adopted by many serious game designers tends to take a more hands-on approach, arguing for quality of engagement rather than quantity (Klopfer, 2008; Squire, 2011.) Although *DTM* does enable players to take on a more active role as a bystander in sexual violence, the engagement with concepts of sexual violence is still very passive - through the game's narrative, there is little challenge made to attitudes that less explicitly promote rape culture, such as the way that the men at the party objectify Natalie and encourage Luke to pursue her. As an environment for situated learning, *DTM* may be leaving too much space for

players to retain their existing belief systems, unchecked by narrative or explicit feedback that would lead to value change.

Effect on the High Rape Myth Acceptance group. The difference in both the quantity and size of statistically significant changes among the high rape myth acceptance sub-group in the study was one of the most surprising, and hopefully generative, findings of the study. The results were especially pronounced in the Full Game group participants with high RMA levels, who experienced a larger number of significant changes than any other group or sub-group identified in data analysis. For female participants, the Full Game seemed to send a mixed message - while they showed significant improvement (over +0.5) on two items, they also showed significant (>-0.5) decrease on three items. The improvement on 'If a girl doesn't say "no", she can't claim rape' suggests that their engagement with Natalie and witnessing the events at the party encouraged them to consider the different ways that a lack of consent can be communicated, but this group also demonstrated an equal but negative change in effect size on the other myth about saying 'no', 'When girls are raped, it's often because the way they said "no" was unclear'. These seemingly contradictory viewpoints may indicate that beliefs about saying 'no' (and many other rape myths) are somewhat unfixed or inconsistent among people with high RMA. This finding is supported by other research that has found that men with high levels of RMA are more likely to change their beliefs than men with low RMA (Bohner, Siebler, & Schmelder, 2006), but there is insufficient research into why this is the case. Although it seems likely that active engagement with accurate information about sexual violence would provide a long-term educational effect on the subject, the general failure of longitudinal interventions in attitudes towards sexual violence suggests that these beliefs are part of a much more complex and dynamic process of internalizing information and cultural messages. The range of changes both positive and negative indicate that it is not necessarily a simple process of providing information to generate value change - the nature of the information and the way it is presented makes a difference in player interpretation.

The group to show the most substantial change was the men in the High RMA Full Game group, who demonstrated significant reduction in RMA (equal to or greater than +0.50) on nine of the 22 IRMA-SF items, and moderate reduction on another two items - however, this group also demonstrated significant increases in RMA on two items and a minor increase on another item. The improvements were fairly equally distributed across the subscales, but the most significant improvement of any group in the study was Full Game participants on the item 'Guys don't usually intend to force sex on a girl, but sometimes they get too sexually carried away' (+1.25.) Without knowing which monologue these participants viewed, it is difficult to attribute this improvement to a specific aspect of the game, but Luke's explicit admission that he intended to push Natalie's boundaries in the successful intervention ending seems a likely candidate. Research has demonstrated that men in particular are quite susceptible to a positive peer modelling effect on their RMA rates (Bohner, Siebler, & Schmelder, 2006.) If it is the case that Luke's forthright discussion about rape and his labelling of boundary-pushing behaviour as wrong succeeded in encouraging men to rethink their beliefs about male intentions, there could be considerable potential for future games to take up these practices in creating positive male peer models to communicate with players. The potential for social learning has been well explored in serious game design in general (Klopfer, 2008) and certainly warrants further exploration in gender-based violence prevention contexts.

The high RMA group that only engaged with the partial game experienced very different results on the posttest, with the majority of statistically significant changes occurring as increased rape myth acceptance for both men and women. In several cases, particularly on the 'She Lied' subscale, the partial game participants actually had statistically significant increases in RMA that were the inverse of the decreases in RMA of the full game group. On the item 'A lot of times, girls who say they were raped often led the guy on and then had regrets', the full game and partial game groups demonstrated exactly inverse effects of each other, with men playing the full game seeing a change of +0.50 and men playing the partial game changing by -0.50.

Likewise, participants of all genders who played the full game decreased RMA on this item by +0.37, and corresponding partial game participants increased RMA by -0.37. This difference makes a clear case for the value of the explicit exposition received in the monologues; without them, participants not only saw no change but actively moved in the opposite direction. In the specific context of *DTM*, it makes sense that the monologues improve learning about sexual violence - after all, the game's narrative arc was designed to extend into the monologues. As explained by developer Stephanie Fawaz:

> I think the experience would still be a strong one without the videos, but it would lose the level of emotional resonance that it currently has, which I think is important in it being a transformational game and actually affecting people's actions and decisions from there on out. (S. Fawaz, personal communication, January 3, 2018)

This is evidently the case in *Decisions That Matter* - the videos had a strong influence on the takeaways from the game for players with high rape myth acceptance, and the experience without the monologues may have sent players the wrong message. Beyond the context of *DTM*, which has a fairly narrow narrative pathway, it is easy to imagine players going similarly astray and missing the desired engagement in a more open-world game environment. The vastly different outcomes in player experience for the Full Game and Partial Game groups point to a larger challenge in serious game design, especially around contentious belief systems that can potentially change in multiple directions. Although *DTM* is a relatively short game, there is also no guarantee that players will complete the entire game. Backloading the key denouement into the final minutes of *DTM* may provide more powerful emotional impact, but it presents a design challenge in ensuring that players will engage with the game in the desired way. While constructivist game design frameworks might hope to create open, flexible spaces in which players can learn through engagement (Klopfer, 2008), there is evidently a need in some contexts to tightly control the information that players receive and to give them clear and consistent feedback.

The game's ending monologues were identified as an element to be examined separately because of their multimodal functions and the clear narrative exposition they provide in contrast to the more experiential form of the rest of the game. While these features cannot be isolated in this study, what is clear is that the ending monologues had a significant effect on participants' experience of the game and their subsequent learning about sexual violence, particularly those participants with high initial levels of rape myth acceptance. They may also have served something of a 'debriefing' function by providing a look back on the events of the game.

A final word on the 'High RMA' participants concerns the total of ten participants whose overall RMA levels increased after engagement with the game. Eight of these participants were in the Partial Game group, further emphasizing the importance of the information conveyed in the monologues. These participants were equally divided between men and women, were mostly white or East and Southeast Asian, and seven of them identified as gamers. They were also the ten participants with the lowest posttest means in the entire study, although a few members of the 'High RMA' group had lower pretest means and made improvements on the posttest. Although there is some ambiguity built into the narrative of *DTM*, it certainly has not been designed to encourage people's pro-violence beliefs. The outcomes for this population suggests that there may be a small group of people for whom a very different style of educational game design is warranted, or for whom games may not be an appropriate medium for education about sexual violence at all. Flanagan and Nissenbaum (2016) suggest that tight constraints may be necessary for implementing values in some game design contexts, and that would certain seem to be the case for this population. It is also possible that having their antisocial beliefs about sexual violence challenged by a game with a fairly clear prosocial message caused these participants to 'push back' more aggressively on the posttest.

Demographic Groups and RMA. The examination of ethnicity and rape myth acceptance was an important aspect of this research, in part because RMA studies have often found differences in scores for different ethnic groups in North American contexts (Suarez &

Gadalla, 2010; Kennedy & Gorzalka, 2002), and because games as a media form have often neglected to consider (or portray) the different life experiences of people of colour (Williams, Martins, Consalvo, & Ivory, 2009.) The limited sizes of some of the ethnic groups in the sample restricted analysis of their results - for example, FNMI participants had the lowest RMA levels of any ethnicity in the dataset, but there were only three of them, inhibiting comparison of their results. This bears further investigation in particular because there has been no specific research on rape myth acceptance among FNMI Canadians, a group in which women experience higher levels of sexual violence than any other demographic group in Canada (Scrim, 2017.) There were no statistically significant changes at the ethnic group level on the posttest, but the differences in starting and end points for different groups do warrant further exploration. Anecdotally, several of the East Asian participants mentioned before or after the study that they had little familiarity with Western dating culture (many were international students), suggesting that Kennedy & Gorzalka's findings about the ongoing strength of cultural norms about dating in some Asian populations may continue to be salient (2002.) It is also important to recall the caveat that I attached to the Illinois Rape Myth Acceptance scale in terms of the centering of white people's experiences of sexual violence - for many participants in this research, the myths examined here may not have been particularly relevant.

The final set of findings I would like to address concerns gamer self-identification. As discussed above, gamers endorsed rape myths at significantly higher levels than non-gamers and those unsure about their gamer identity. For feminist game scholars, this finding is likely unsurprising - a great deal of digital ink has been spilled over the misogynist undercurrent in 'mainstream' gaming culture and the way that sexual violence is weaponized in gamer spaces, as best exemplified by the GamerGate movement. Limited research has identified a relationship between high RMA levels and gamer self-identification in a very specific population (Latino/a high school students, see Nunez, Paz, & Fares, 2016; Toledo, Medrano, Holzman & Sandoval, 2015), but RMA has not been extensively explored in gamers in general. While the mission of

some researchers, to establish a causal relationship between negative attitudes towards women and video game use, has to date been a fruitless endeavour (see Dill-Shackleford, 2009), far more interesting from a game scholarship and violence prevention perspective is exploring the ways that gamer culture may circulate certain beliefs about sexual violence. I believe the most interesting taste of what appears to be a promising avenue for research are the low rape myth acceptance scores of those 'Unsure' about their gamer identity - recall that these scores were in fact lower than both the gamers *and* the non-gamers, and that participants in this group played games at a rate not that far removed from the gamers. While this is a very small sample group and far more detail is needed, what these findings suggest is that the 'unsure' group are gamers in practice, but the identity of gamer, and all the baggage that comes with it, is off-putting to them. People with strongly prosocial beliefs about sexual violence may struggle to identify with the mainstream gaming community specifically because of their perception of it as misogynist, or they may have had negative experiences that have caused them to turn away from the gamer community. Further exploration of these findings might allow us to abandon the proposition of many violence prevention scholars examining games, that violence in games is the source of pro-violence beliefs, thus far unsupported (Beck & Rose, 2018), and instead turn to examining the ways that pro-violence norms *are* circulated in gamer culture, and in turn, society at large.

Thus far, I have examined the results of the statistical analysis of the study data and provided some discussion about the findings and their possible ramifications for applications of games as sexual violence prevention tools. The study revealed that the game was somewhat effective in generating small amounts of value change among participants in general, and that *DTM* had a significant effect on participants who had high levels of RMA to begin with. Analysis also showed that participants who self-identified as gamers had higher levels of RMA than those who did not, and both of these groups had higher levels than participants who were 'not sure' if they identified as gamers or not – regardless of how much they actually played games. The study findings also confirmed some recurring trends in research on RMA, including higher levels of

RMA among non-white participants (a trend which I have complicated by challenging the supposed 'universality' of the IRMA), higher levels of RMA among men, and higher levels of RMA among heterosexuals. In the following section, I will revisit some of these results in more depth and return to the question of whether games can act as effective tools for sexual violence prevention.

Conclusion

In this thesis, I have provided a foray into the largely unexplored potential of video games to act as tools for prosocial violence prevention interventions. In Chapter One, I introduced rape myths and rape myth acceptance as a method for measuring rape culture, examined the literature on the effects of representations of sexual violence in media on viewers and the limited research to date on sexual violence in games, and reviewed the research on games as constructivist learning environments. In Chapter Two, I critically deconstructed the instruments used in this study, the revised Illinois Rape Myth Acceptance Scale (McMahon & Farmer, 2011), and the game *Decisions That Matter*, and outlined the methodology used in the empirical study. In Chapter Three, I reviewed the results of the study and provided analysis of the findings, suggesting possible reasons for some surprising outcomes and promising areas for future research. In closing, I would like to revisit the most salient results of the research, the implications for future applications of games as tools for violence prevention, and the ramifications of the gaps that continue to exist in this field.

Overall, engagement with *Decisions That Matter* did create at least a temporary reduction in rape myth acceptance on some items. Further, participants who viewed the monologues demonstrated a higher degree of change than those who did not, indicating that the mixed-media format of the game and the direct appeal made by characters in the monologues were meaningful for players. *DTM* meets many of the criteria for a constructivist learning environment identified by scholars of education in games, providing opportunities to learn through failure, giving players ongoing feedback on their choices, and creating space for multiple possible outcomes (Klopfer, 2008.) Coupled with what we know about effective violence prevention education, such as the efficacy of positive peer modelling (Bohner, Siebler, & Schmelder, 2006), and the positive effects that personal interactions with survivors of sexual violence have on RMA levels (Sham Ku, 2015), many of the pieces for a powerful violence prevention tool seem to be in place in the game. The reduction in women's RMA around the sub-

scale 'She Asked For It', for example, suggests that witnessing Natalie's behaviour leading up to the assault made participants more sympathetic to her. The mismatch between the goals of the game (learning about bystander intervention) and the metric of the study (rape myth acceptance) were no doubt a factor mitigating the efficacy of the game as an intervention on RMA specifically. Future research should engage with games specifically targeting rape myths. These results suggest promising future applications of games for violence prevention efforts, and the specific efficacy of the monologues indicates that further examination of which aspects of the game generated value change is warranted.

Several of this study's findings regarding rape myth acceptance indicate a need for further research and exploration. The group of 'high RMA' participants responded quite differently to *Decisions That Matter* than other groups of participants. For one, their beliefs on sexual violence seemed far less fixed, with wider variation in both directions on many myth items. This does align with past research that has found that men with high levels of RMA are likely to reduce their reported RMA when engaging with men with low RMA, while the reverse is not true - there is a type of 'immunity effect' that occurs among men with low RMA against the pro-rape beliefs of other men (Bohner, Siebler, & Schmelder, 2006.) These findings are promising - they suggest that continuing to educate about rape myths may be an effective direction for dismantling rape culture. However, given that the variability in this study moved in *both* directions, there is an obvious need to understand clearly what types of game-based interventions will be most effective for people with high RMA.

Especially concerning was the 'pushback' effect that occurred with ten of the high RMA participants, whose overall RMA levels actually worsened over the course of the intervention. While I do not have enough information to determine conclusively the reason for this pushback, I would propose that participants who strongly endorsed rape beliefs may have applied their pro-violence interpretive frames to the events of the game. Without sufficient debriefing or deconstruction of the events of the game, they selectively engaged with the aspects of game's

narrative that supported their beliefs, such as the objectifying statements male partygoers make about Natalie that go unchallenged. These findings suggest that games may not necessarily be an appropriate educational medium for those with deeply entrenched beliefs about sexual violence, or at least that games need to be developed with careful attention to the kinds of statements that are being made and left unrefuted. This obstacle is not unique to games - past research has found that bystander intervention programs tend to be less effective for 'high risk' male populations, so having an impact with this group is a persistent problem in violence prevention work more generally (Elias-Lambert & Black, 2016.) Still, *Decisions That Matter* is deliberately ambivalent in some of its messaging, with the intention of highlighting the sometimes challenging nature of bystander intervention, but this ambivalence may inadvertently open the door for misinterpretation of its goals. Given the increase in RMA levels of all participants on the item 'When girls are raped, it's often because the way they said "no" was unclear', *DTM* is clearly not being direct enough in its messaging about consent. Striking a balance between a game that is too methodical and 'preachy' and one that is engaging and realistic is a recurring challenge for serious game development (Squire, 2011), and one that is heightened in game environments tackling contentious subject matter.

The correlation between gamer identity and rape myth acceptance level also merits further research. A small body of existing research has examined this issue and likewise found that it was self-identifying as a gamer, not gaming itself, that predicted higher levels of RMA (Nunez, Paz, & Fares, 2016.) The role that misogyny plays in mainstream gamer culture has been critiqued by academics and journalists alike, and the violently exclusionary gate-keeping that many (primarily male) gamers have practiced for decades seems to be constructing a group of people who play and enjoy games, but do not consider themselves gamers. Given the well-documented relationship between misogynist gamers and the Alt Right (CBC, 2017) and demonstrated co-occurrence between intolerant beliefs and rape myth acceptance (Aosved & Long, 2006), there is need for extensive investigation of the way that multiple forms of

intolerance and the social media 'bubble effect' are promoting rape culture in gamer communities. This distinction has been missing from much of the sociological research about violence in games that has sought to establish a connection between gameplay habits and rape myth acceptance or sexist beliefs, without consideration for how the culture surrounding the games may be having a more significant effect than the games themselves. It is critically important that these differences, and the importance of content analysis, are inserted into research on RMA and games, where non-game scholars continue to try to draw broad-stroke conclusions about all violent games and all gamers.

These findings should be viewed as preliminary given the limitations of the IRMA discussed above and some of the methodological limitations of the study's design. It is unclear whether the differences in RMA levels between white and non-white participants are related to the instruments used in the study, or actual differences in beliefs about sexual violence. There are many areas of rape myths that have gone unexamined in this work, which might vary substantially between groups or across the intervention. Education is a demonstrated correlate of lower levels of RMA, so the participants in this study are likely not an accurate representation of their demographic groups in general (Breuer, Kowert, Festl, & Quandt, 2016.) Past research has shown that in bystander interventions in general, negative attitudes and coercive intentions tend to rebound gradually after an intervention (Elias-Lambert & Black, 2016), and violence prevention training in general tends to have very weak longitudinal success (Suarez & Gadalla, 2010.) However, some research on games has suggested that changes in RMA levels after playing a game tend to have longer staying power than anticipated (Beck & Rose, 2018.) Given the extended and repeated ways that gamers tend to interact with games over time, they may have stronger potential for influencing longitudinal value change than short-term interventions. There are significant obstacles to conducting longitudinal studies on changes in rape myth acceptance through game playing, given the large number of potential extraneous variables (Breuer, Kowert, Festl, & Quandt, 2016.) However, the involvement of game scholars in

methodological design for these studies would be a powerful first step in improving research on rape myth acceptance and games.

Research has demonstrated the capacity of games to build empathy and prosocial beliefs (Harrington & O'Connell, 2016), but this possibility has yet to be extended in the literature on sexual violence in games. The research is primarily deficit-oriented, with a focus only on the negative aspects of games (with the exception of Beck & Rose, 2018, which set out with a deficit-based hypothesis but had findings that countered their expectations.) One of the most disheartening findings in the literature reviewed for this study was the disconnect between disciplinary game scholars and work on sexual violence in games, which is conducted almost entirely by criminologists, sociologists, and psychologists. Very little of the research reviewed made any references to foundational texts of game studies or employed critical concepts like interactivity that are at the core of modern game studies. Further, the absence of content analysis or a critical perspective on the *meaning* of representations of sexual violence in games creates space for generalized statements about 'sexual violence in games' with no consideration for how these portrayals might enable nuanced interpretations and construction of multiple meanings. The absence of frameworks for understanding the meaning of sexual violence in games contributes to a gap in the collective hermeneutical resource for interpreting games that assumes non-survivor perspectives as the norm. There is no need to understand sexual violence in games if sexual violence is not part of the assumed lived experience of gamers. To date, none of the research on sexual violence in video games has mentioned the possibility that gamers might also be survivors, or considered what influence lived experience could have on their interpretation of sexual violence in games. Since much of the research on RMA and games focuses specifically on male players, researchers may be assuming that players are not also survivors, that the effects on women gamers are negligible because they're less likely to commit sexual violence anyways, or that games are simplistic objects that do not open spaces for multiple interpretations.

After decades of rhetorical battles over violence in games, which have been re-invigorated by President Trump's implication of games as a cause for high levels of gun violence in the US (Disis, 2018), game scholars are understandably tired of engaging in circular arguments about violence causality and games. The relationship between sexual violence, misogyny, and games is even more complex, but feminist game scholars have a vested interest in untangling these relationships. Studies such as Shaw's qualitative investigation of representation and games (2014) have found that gamers have complicated and varied relationships to games and game content. Likewise, rape myths have differential effects on individuals based on their past experiences and belief systems (Peterson & Muehlenhard, 2006.) Future research on sexual violence in games must account for these differences. It is my hope that the present study and the increasing prominence of games as tools for sexual violence prevention will spur further much needed research in this area.

As a lifelong gamer, I know that games have the capacity to engender powerful emotional responses, convey new perspectives and experiences, and open spaces for conversations about our society. Further, as a violence prevention professional in a world where sexual violence proliferates, I know there is a desperate need to innovate and expand the spaces in which we challenge rape culture and pro-violence norms. I hope this study has opened a wedge into the space where the two spheres intersect, and that violence prevention games of the future will be able to do what games do best - envision a world of new possibilities, one in which sexual violence is a thing of the past. I opened my thesis with a quote from the American philosopher and futurist Buckminster Fuller, and I would like to close with another: "To change something, build a new model that makes the existing model obsolete" (quoted in Quinn, D., 1999.)

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Appendix A

Table A5

Changes in mean RMA for 'High RMA' group (n=19)

Item	Women, full game group	Women, partial game group	Men, full game group	Men, partial game group	Everyone, full game group	Everyone, partial game group	Everyone, all groups
Subscale: She Asked for it	**-0.25**	-0.17	**+0.38**	-0.11	+0.07	-0.12	-0.04
If a woman is raped while she is drunk, she is at least somewhat responsible for letting things get out of control	-0.25	-0.33	**+1.00**	-0.37	**+0.38**	**-0.37**	-0.05
When girls go to parties wearing slutty clothes, they are asking for trouble.	-0.25	0	**+1.00**	0	**+0.37**	0	+0.15
If a girl goes to a room alone with a guy at a party, it is her own fault if she is raped.	**-0.75**	0	**+0.25**	-0.12	**-0.25**	-0.09	-0.16
If a girl acts like a slut, eventually she is going to get into trouble.	**+0.75**	+0.34	+0.25	+0.38	**+0.5**	**+0.37**	**+0.42**
When girls are raped, it's often because the way they said "no" was unclear.	**-0.75**	**-1.00**	**-1.00**	**-0.75**	**-0.87**	**-0.82**	**-0.85**
If a girl initiates kissing or hooking up, she should not be surprised if a guy assumes she wants to have sex.	-0.25	0	0.75	0.25	0.25	0.19	0.21
Subscale: He Didn't Mean To	-0.05	**-0.45**	**+0.41**	-0.12	**+0.19**	**-0.21**	-0.05
When guys rape, it is usually because of their strong desire for sex.	**-0.75**	**-0.67**	**-0.75**	0	**-0.55**	-0.18	**-0.42**
Guys don't usually intend to force sex on a girl, but sometimes they get too sexually carried away.	-0.25	**-0.67**	**+1.25**	**-0.62**	0.25	**-0.64**	-0.16
Rape happens when a guy's sex drive gets out of control.	+0.25	**-0.67**	**+0.75**	**-0.75**	+0.08	**-0.72**	-0.21
If a guy is drunk, he might rape someone unintentionally.	+0.25	-0.33	+0.25	0	**-0.38**	-0.09	+0.06

Item	Women, full game group	Women, partial game group	Men, full game group	Men, partial game group	Everyone, full game group	Everyone, partial game group	Everyone, all groups
If both people are drunk, it can't be rape.	+0.25	-0.34	**+0.75**	**+0.63**	**+0.75**	**+0.36**	**+0.42**
Subscale: It Wasn't Really Rape	+0.10	+0.07	**+0.20**	0	**+0.15**	+0.01	+0.08
If a girl doesn't physically resist sex—even if protesting verbally—it can't be considered rape.	0	**+0.66**	0	+0.24	0	**+0.36**	**+0.22**
If a girl doesn't physically fight back, you can't really say it was rape.	-0.25	**+0.33**	**+0.50**	**-0.25**	+0.13	-0.09	0
A rape probably didn't happen if the girl has no bruises or marks.	0	**-0.34**	**+0.25**	+0.13	**+0.13**	0	+0.05
If the accused "rapist" doesn't have a weapon, you really can't call it a rape.	0	**-0.34**	0	0	0	-0.09	-0.05
If a girl doesn't say "no" she can't claim rape.	**+0.75**	0	+0.25	-0.12	**+0.50**	-0.10	+0.16
Subscale: She Lied	0	+0.07	**+0.40**	-0.18	+0.20	-0.11	+0.02
A lot of times, girls who say they were raped agreed to have sex and then regret it.	0	0	**+0.75**	**-0.50**	**+0.38**	**-0.37**	-0.05
Rape accusations are often used as a way of getting back at guys.	0	0	**+0.75**	0	**+0.37**	0	+0.15
A lot of times, girls who say they were raped often led the guy on and then had regrets.	+0.25	0	**+0.50**	**-0.50**	**+0.37**	**-0.37**	-0.05
A lot of times, girls who claim they were raped just have emotional problems.	0	**+0.33**	**-0.25**	+0.13	-0.13	+0.18	+0.05
Overall change in mean	-0.05	-0.14	**+0.35**	-0.10	+0.14	-0.11	0

Note: Bolded values are statistically significant.

Appendix B

Participant Information Letter and Consent Form

GRADUATE PROGRAM IN HUMANITIES COMPUTING
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INFORMATION LETTER and CONSENT FORM

Study Title: Exploring the Relationship Between Video Games and Attitudes on Casual Sex

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Background

You are being asked to participate in a study on video games, hook-up culture, casual sex, and sexual violence. You have been invited to participate in this study because you are an undergraduate or graduate student at the University of Alberta, and you have responded to a call for participants. The results of this study will be used to inform my Master's thesis, and may be included in future publications and conference presentations on the research.

Purpose

The purpose of this study is to examine the relationship between overall game use, a specific game targeted at university students, and attitudes towards casual sex, hook-up culture, and sexual violence.

Study Procedures

Participation in this study will take about one hour, in a single appointment scheduled at your convenience. You will be given information on the research study, then you will complete an online survey including some demographic questions. Once the survey is completed, you will be asked to play a short browser game, which takes about 10 minutes to complete. After playing the game, you will be asked to complete another survey. There will then be an opportunity to ask further questions before your participation is completed and you will be debriefed on the study. Your game play will not be recorded; the results from the survey will be put into an anonymized database, where your name will not be attached to your responses.

The results from this research project will help me fulfill my Master thesis project, and your input could be used in the final write-up. It could also be used for future scholarly or teaching purposes, such as publications, posters, or academic or public presentations. Your name or identifying information will never be used in any of these projects; participant names will be removed from the database at the end of data collection in May 2018, after which time results will only be referred to by a participant number.

Benefits & Risks

There are no direct benefits to you for participation in the study. Your participation in this research will contribute to our scholarly understanding of the relationship between video game usage, and attitudes towards casual sex, hook-ups, and sexual violence. At the end of your participation, you will be given a $10 grocery store gift card as a thank you for your time and effort.

Before, during or after research participation, it is possible that you may recall difficult or sensitive experiences. You are under no obligation to continue your participation should this occur. You will be provided with a resource sheet at the end of the session that includes contact information for the following organizations: the University of Alberta Counseling and Clinical Services, the University of Alberta's Sexual Assault Centre, and the Sexual Assault Centre of Edmonton including their 24-hour anonymous crisis line. Should you want to access these resources during your participation, we will immediately stop the experiment and with your permission I will accompany you to the University of Alberta's support service of your choice. There may be unknown risks to being in this study. If I learn anything during the research that may affect your willingness to continue being in the study, I will tell you right away.

Voluntary Participation

You are under no obligation to participate in this study. You can change your mind, and you are free to end your participation at any time up until the end of the data collection period without penalty or need to provide a justification. Should you indicate your desire to end your participation, your data will be removed from the study and your survey results will be erased from the database; you can choose to withdraw from the study up until May 31, 2018. You are also welcome to take a break during your participation if you feel the need to do so. You will still receive your gift card if you choose to withdraw after beginning the study.

Confidentiality & Anonymity

As the person conducting the study, I will keep all information from this study confidential. Your anonymity will be protected by identifying you only by participant number in all records and documents, including the survey responses. Your name and email will be stored in a separate, secured file with your participant number until the end of the data collection period to ensure no duplicate participation occurs accidentally; your name will then be deleted and only a participant number will be used in data analysis. To protect your private information, I will keep your consent form in a locked cabinet in a locked office, and electronic copies on a password protected database for a minimum of 5 years.

The data collected in this study may be used in future publications or conference presentations; your identifying information will never be part of any published results of the research, and further uses of the data will be approved by a Research Ethics Board.

Ethics Approval Statement

The plan for this study has been reviewed for its adherence to ethical guidelines by a Research Ethics Board at the University of Alberta. For questions regarding participant rights and ethical conduct of research, contact the Research Ethics Office at (780) 492-2615.

Consent Statement

I have read this form and the research study has been explained to me. I have been given the opportunity to ask questions and my questions have been answered. If I have additional questions, I have been told whom to contact. I agree to participate in the research study described above and will receive a copy of this consent form. I will receive a copy of this consent form after I sign it.

_____ _____

Participant's Name (printed) and Signature Date

_____ _____

Name (printed) and Signature of Person Obtaining Consent Date

Appendix C

Participant Debriefing Letter

GRADUATE PROGRAM IN HUMANITIES COMPUTING
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Study Debrief

Thank you for participating in this study! I hope you enjoyed the experience. This form provides background about my research to help you learn more about why I am doing this study. Please feel free to ask any questions or to comment on any aspect of the study.

You were told that the purpose of this study was to examine the relationship between overall game use, a specific game targeted at university students, and attitudes towards casual sex, hook-up culture, and sexual violence. In actuality, I am interested in whether playing the videogame *Decisions That Matter* has an influence on the rape myth acceptance scores of participants, that is, to what extent participants believe common myths about sexual violence. The questionnaire you responded to included questions from a common rape myth acceptance scale, and some filler questions. Participants were divided into two groups; one group played the entire original game which includes monologues from Luke and Natalie at the end, the other group did not see the monologues. [Researcher will inform you which group you were part of]. Part of the research is examining whether the monologues help convey information about sexual violence that the rest of the game does not. I am also examining differences in how different groups of people, such as different genders, or people who are/are not regular gamers, experience the game. To protect the integrity of this research, I could not fully divulge all the details of this study at the start of the procedure.

As you know, your participation in this study is voluntary. If you so wish, you may withdraw after reading this debriefing form, at which point all records of your participation will be destroyed. You will not be penalized if you withdraw. You have until May 31, 2018 to inform me of your desire to withdraw from the study. The gift card you received for your participation is yours to keep – it will not be revoked if you choose to withdraw your participation now or in the future.

I expect to do follow-up experiments that will continue into future semesters. Because of this, it is important that you do NOT talk (or write or e-mail, etc.) about this project. The main reason for this is that your comments could influence the expectations, and therefore, performance of a future participant, which would bias my data. We hope you will support our research by keeping your knowledge of this study confidential.

Please return this debriefing form to the experimenter. Contact information for the researcher and/or contact person and the HSIRB is on your copy of the consent form which you may keep for your records.

If you have questions now about the research, please ask. If you have questions later, please e-mail me at the contact information provided on your consent form.

Appendix D

Post-Participation Sexual Violence Resources Sheet

Sexual Violence Support Resources

The following resources are available in Edmonton to support people who believe they or someone they know has experienced sexual violence:

- Sexual Assault Centre of Edmonton – Individual and Group Counselling Program – 780-423-4102
- 24 Hour Sexual Assault Crisis Line – 780-423-4121
- University of Alberta Sexual Assault Centre (2-705 SUB):
    - Drop-in Hours 9am-5pm Monday-Friday
    - Counselling, psychotherapy, support and advocacy - 780-492-9771

About Sexual Assault

The following information on Sexual Assault is provided by the University of Alberta Sexual Assault Centre:

Sexual Assault is the legal term used in Canada to refer to any form of sexual contact without voluntary consent. This can include forced or unwanted kissing, fondling, vaginal penetration, anal penetration, and/or oral sexual contact (Adapted from Canadian Criminal Code.) Consent is defined as a voluntary agreement to engage in the sexual activity in question. Consent or a "yes" that is obtained through pressure, coercion, force, or threats of force is not voluntary. (Criminal Code of Canada Section 273.1) In addition, the Criminal Code provides five specific situations where consent is not obtained: (Adapted from the Criminal Code of Canada Section 273.1)

- Consent is not obtained if someone else says 'yes'.
- Consent is not obtained if the accused abuses a position of trust, power or authority.
- Consent is not obtained if the person does not say yes, or says or implies no through words or behaviors.
- Consent is not obtained if the person is not capable of giving consent. (I.e. drunk or high, unconscious or sleeping.)
- Consent is not obtained if the person changes their mind.

Appendix E

Filler questions used in pretest and posttest questionnaire, removed before analysis

1. Sexting (sending sexually explicit messages) means someone is interested in sex.
2. It's usually clear when someone is interested in a relationship, and when they only want to hook up.
3. Hooking up often leads to a committed relationship.
4. Being interested in casual sex is a normal life phase.
5. Guys are more interested in casual sex than girls.
6. People with more active social lives are more likely to be interested in casual sex.
7. People mostly use apps like Tindr to find casual sex partners.
8. The things people look for in casual sex partners is different than what they look for in a partner.
9. People who have casual sex are more promiscuous than people who have committed partners.
10. It needs to be explicitly stated that a relationship is exclusive.
11. People who party more are also more likely to engage in casual sex.
12. Hooking up refers to penetrative sex.
13. People commonly regret casual sexual encounters.
14. Casual sex is more socially acceptable now than it was ten years ago.
15. People are more likely to hook up if they are drinking.
16. Certain 'kinds' of people are more likely to pursue casual sex.
17. People who use recreational drugs are more likely to pursue casual sex.
18. People who engage in casual sex usually do so many times.
19. Someone's cultural background influences how open they are to casual sex
20. People who frequently hook-up usually rely on multiple birth control methods
21. Extroverts are more likely to engage in casual sex
22. Casual sex is inappropriate after a certain age