

# Cyber-Sexism and Sexual Assault: Impact and a Step Towards Intervention.

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## **Abstract**

An individual's sexism and exposure to sexism has been associated with higher propensity to rape, and higher victim blame attribution in sexual violence cases. There is little literature focussed on whether cyber sexism can have the same effect as offline sexism. The aim of this thesis is to examine the impact of cyber sexism on individuals on performance and attitudes toward rape. It aims to develop an effective cyber intervention for sexism. Furthermore, this thesis will contribute to this literature by first addressing the gap in how cyber sexism is perceived attitudinally, whether known effects of sexism on performance and perceptions of sexual assault can be triggered with cyber sexism. Finally, the thesis will research whether a novel online based social norm intervention for sexism is feasible and efficient, with a focus on sexism and Rape Myth Acceptance (RMA). Seven studies found that whilst online sexism is not highly tolerated on a personal level, the issue of freedom of speech in online spaces and context plays a large role in determining tolerance of it. Cyber sexism failed to trigger Stereotype Threat in women, nor did it directly impact blame attribution within sexual assault scenarios. Interesting results were found when considering pre-existing sexism within participants, such as sexism playing a significant role in determining if a perpetrator has been falsely accused of rape. This thesis culminates in an investigation into how participants define rape, related to RMA, with development and trial of a social norm based online intervention that targets participant sexism and RMA. Whilst recruitment retention was problematic, initial results appear promising for this cost-effective method of reducing both sexism and RMA. Future lines of research include using mixed methodologies to develop a more in-depth perspective on the impact of cyber sexism, with a focus on long-term exposure effects and further development of the norm-based intervention.

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## Chapter 1: Introduction

In this thesis, I seek to determine how sexism, specifically sexism disseminated by social media, impacts both viewers and targets of sexism. This will focus on the role of sexist attitudes and online sexism and how these can affect attitudes and behaviours related to sexual assault. I aim to determine if an intervention can be created to adjust sexist attitudes in student populations, with aim for this to then impact attitudes and behaviours related to sexual assault.

The Office for National Statistics (ONS, 2021a) found women and full-time students have the highest likelihood of being victims of sexual assault (including attempts) compared to males and other occupations in England and Wales. As such female university students are the population at most risk of experiencing sexual assault. While there may be many reasons why undergraduates are at the highest risk (e.g., increased availability of drugs, alcohol, and freedom), misogyny and sexism may also play a part as most victims are female. Sexism is a crucial factor given the correlation with rape proclivity (Abrams et al., 2003; Masser et al., 2006).

Rape proclivity measures how likely an individual may be to commit rape if they are told they would not be reported/caught (Malamuth, 1981). This measurement typically involves showing participants a scenario, followed by a series of questions. Whilst this measure is a self-report, and therefore may be prone to falsification, similarities have been found between those with high rape proclivity and convicted sex offenders in belief in rape myths and arousal from rape scenarios (Malamuth, 1981).

Sexism, as proposed by Glick and Fiske (1996), is an ambivalent concept comprising of two factors: hostile and benevolent sexism. Hostile sexism is



characterised by overt aggression and negative attitudes towards women (i.e., “all women are useless”); whereas benevolent sexism is separated into three factors: protective paternalism (i.e., “women need to be protected”), Complimentary Gender Differentiation (i.e., “women are more caring”), and Heterosexual Intimacy (i.e., “men are incomplete without women”). For the purposes of this thesis, the Glick and Fiske (1996) ambivalent definition of sexism (and subcategories) are used throughout unless specified otherwise (general sexism will be categorised as misogyny when targeting women; and misandry when targeting men). Glick and Fiske (1999) specify that women’s ambivalence towards men is borne from both a desire for hostility towards men (due to the inherent structural power men possess), and a desire to positively respond to men due to the power difference creating a dependency. Whilst an argument exists that misandry is not the equivalent to misogyny (due to the inherent structural powers men hold on a social and institutional level), this thesis will use the term as a short-hand for negative perceptions/actions towards men as a function of their gender.

As this research focusses on effects of gender, it is important to define the boundaries by which I investigated gender. Recently, the definition of what a woman is has become a political trend within the UK. Within this thesis, I use the terms such as male/female interchangeably with terms such as man/woman. Where sexism can impact any of those who identify with the targeted gender, a sex-based definition of gender was not used, rather, an identity-based model of gender was used throughout the thesis. Indeed, many pieces of research use the terms interchangeably (see Abrams & Bippus, 2011; Thorson et al., 2019 for examples of this). Where research uses a singular word (i.e., just “female”) to describe participant demographics, when writing about the findings, this thesis

uses the same terms used in the original research. When discussing my own research and its findings, the terms are used interchangeably to mean any person who defined as a woman/female (or man/male) when completing demographic information. Thus, for this thesis, a woman is defined as any person who identifies as such. As most psychological research is conducted within WEIRD (western, educated, industrialised, rich, democratic) countries (Muthukrishna et al., 2020) the research conducted can be assumed to take place in such contexts unless otherwise specified. Where discussing policy or overall reports from government agencies or organisations, mainly British sources were used unless specified in the writing. Additionally, for this thesis, unless otherwise specified, reference to sexual relationships (e.g., dating scenarios), are presumed to be heterosexual as most research is conducted within heterosexual dynamics. The connection between rape proclivity/sexual assault and sexism has been well researched and is discussed in Section 1.4 of this thesis.

The Office for National Statistics (ONS, 2021a) reported in the 12 months leading up to March 2020 approximately 2.9% of women, and 0.7% of men between the ages of 16 and 74 experienced sexual assault (including attempted) in England and Wales. Most rapes (81%) are committed by someone known to victim in some capacity - an 'acquaintance' rape (ONS, 2021b). Given the prevalence of acquaintance rape, and the low reporting and conviction rate associated with it (Ministry of Justice, 2021), determining underlying mechanisms that potentially contribute to the issue is important to developing a body of work that can be used to inform effective campaigns to reduce its occurrence.

The link between sexism, sexist humour, and rape proclivity has been found previously (Thomae & Viki, 2013; see section 1.4 for a more detailed discussion). The suggestion is individuals who are sexist tend to tolerate sexist

humour more, and this acceptance can increase rape proclivity (although a causal link cannot be established). As 62% of student respondents reported hearing sexual assault jokes on campus (National Union of Students, 2014), potentially exposure to such jokes could increase (via Prejudice Norm Theory, Ford & Ferguson, 2004) tolerance of sexism, which could increase rape proclivity in sexist individuals thereby contributing to the sexual assault rates in UK universities.

Given the relationship between sexism and offline behaviour, both when being targeted by or perpetuating sexism (Section 1.1), the connection between online and offline behaviour (Section 1.2) and sexism (Section 1.3), how sexism and sexual assault are connected (Section 1.4), an investigation into the impact of online sexism on several different aspects of life was warranted. Additional focus on whether campaigns and interventions could be effective in mediating this relationship is also discussed (Section 1.5).

## **1.1 The Impact of Sexism on Offline Behaviour**

There are two groups of people who could be affected by online sexism: the first is those who are directly targeted by sexism, the second is those who witness/read/propagate sexist material without being targeted. Whilst the second group is varied in terms of individual activity (passive browsing, active propagation), all involve not being directly targeted by sexism and are therefore discussed collectively.

### **1.1.1 When You are the Target of Sexism**

Sexism can cause a range of consequences for those who are targeted by and experience it. Experiencing sexism can impact performance and success. For example, sexism has been found to affect job performance (Bergeron et al.,

2006), promotion likelihood (Ibarra et al., 2010; Kean, 2017; Savigny, 2014), interview performance (Mendoza-Denton et al., 2009), and ambitions (Davies et al., 2002). It is such an issue that Fortune has an article to help their readers tackle sexism when applying for a promotion (Stiller Rikleen, 2016). It can do much further than just affecting women's career ambitions and success, with sexism playing a role in how women act when trying to date. There's a lot of anecdotal media on women "dumbing themselves down" when in dating scenarios to not intimidate or seem unattractive to men (Fedden, 2016). Despite Glamour magazine telling us in 2012 this practice will no longer lead to romantic success (Kaufman, 2012), more recent stories have been found, which continue to perpetuate this sexist stereotype that men are exclusively attracted to women less intelligent than they are (Flood, 2016).

Another sexist stereotype of women is they are typically worse performers in Science, Technology, Engineering, and Maths (STEM), compared to men (Carli et al., 2016; Gender4STEM, n.d.). When exposed to this stereotype, women can be at risk of stereotype threat. Steele and Aronson (1995) describe stereotype threat as the risk of conforming to a stereotype when it is applicable and salient. Stereotype threat has been found to impact group identities (and stereotypes) such as ethnicity and gender.

Stereotype threat has been well documented and was first described by Steele and Aronson (1995) when finding African-Americans perform worse in academic tasks when presented with information stating the test was diagnostic of intellectual ability. Stereotype research into gender stereotypes tend to focus on the stereotype that women are inferior to men in STEM topics, and exposure to this stereotype can lead to underperformance in women compared to men and those viewing non-stereotypic content (Good et al., 2008; Pavlova et al., 2014;

Spencer et al., 1999). Of course, the population is diverse, and individuals may belong to more than one stereotyped group. When this occurs, if you make a specific identity salient, the stereotype of that identity is threatened and therefore confirmed. Shih et al. (1999) found Asian women's performance varied depending on the facet of their identity (gender or ethnicity) made salient prior to testing. This identity salience effect was also replicated more recently (Gibson et al., 2014) with the same group and stereotypes. Stereotype threat has been found across large groups, such as between gender, or between ethnicity, the role of these identities (and therefore stereotypes) intersecting has had little attention paid to it. Some intersectional research has been conducted concerning political ambitions in U.S samples (Holman & Schneider, 2016). When viewing different reasons for the lack of women representation in U.S. politics, with either supply issues (women not wanting to go into politics) or demand issues (women not being wanted in politics), men in general hold higher political ambitions, but the differences of interest lie in the ethnic identity of the participants. White- and Asian-identified women reported less political ambition than those who identified as Black when presented with the supply condition, and this difference was reversed when presented with the demand condition. Holman and Schneider (2016) demonstrated that stereotype threat can impact different identities beyond the one being explicitly triggered.

The effects of viewing sexist content via offline forms of communication (i.e., commercials, magazines etc.) has been well documented. Davies et al. (2002) have shown viewing sexist content in day-to-day, semi-passive scenarios (such as via commercials) can lead to the triggering of stereotype threat. Davies et al. (2002) found women who viewed stereotypical commercials then performed worse on a mathematics test compared to men, or women who viewed counter-

stereotypical commercials. Interestingly, the Davies et al. (2002) study did not expose women to advertisements wherein the women were particularly inept at mathematics; instead, the advertisement showed standard gender role stereotypes (the “housewife”). This indicates any stereotyping can prime stereotype threat even in irrelevant areas. As Davies et al. (2002) highlighted, if Social Learning Theory explained the emergence of stereotype threat, then we could expect to see more stereotypic behaviours in all measurements, not purely the mathematics portion. The impact of stereotype threat can become a self-fulfilling prophecy, wherein in the example of the gender-mathematics stereotype, women underperform due to stereotype threat, which then confirms the stereotype. This data is then distributed to the population, and “used to perpetuate stereotypes and discrimination” (Wallace, 2016, pp. 265), which can then lead to further stereotype threat being triggered amongst women.

Whilst most research focusses on misogyny when investigating sexism triggered stereotype threat, some research has also investigated the impact of misandry. Funk and Werhun (2011) investigated the impact of Masculinity Threat (where men are told they do not conform to masculine stereotypes). Male participants were told that their levels of physical performance matched performances of women and were taunted by a female experimenter highlighting this. Later in the study, participants were asked to re-perform the physical test. Men in the control condition had received no feedback. It was found that men who received feedback threatening to their identities as men responded with more masculine roles on a statement test, performed worse on a cognition test (anagrams), and took longer on a Stroop task than the control participants. Importantly, men who experienced the feedback then performed significantly better on the second physical ability task compared to the control condition, and

their original physical performance. This suggests that, in men, when their identity is threatened, whilst there are cognitive impacts, some men will attempt to overcompensate for the behaviour perceived as not masculine (Funk & Werhun, 2011). Whilst this is not necessarily stereotype threat (in that there is not a task that men typically perform worse on being highlighted), it does highlight the importance of gender identity, and what can occur when this identity is threatened. The negative cognitive impact from this identity threat does fall in line with findings from the gender-mathematics stereotype threat findings in women. In masculinity threat, there is compensatory behaviour found, wherein men will behave in a more stereotypically masculine way, distinguishing it from findings in stereotype threat research, where performance is negatively affected. Interestingly, masculinity threat can be argued as borne from misogyny. The impact seen in terms of compensatory behaviours when compared/labelled as feminine indicates a rejection of femininity rather than a preference of masculinity. This could be viewed, given the misogyny encountered by those who conform to traditional gender roles (i.e., feminine) as less of a compulsion to conform to stereotypes, and more of a rejection/dislike of femininity, and therefore sexism.

In addition to potentially affecting performance and success, another consequence for those experiencing sexism can be life-long. This consequence can range from individual effects on self-esteem (for both men and women; Rollero, 2013) to affecting wider society such as contributing to institutional and political issues (e.g., the gender wage/earnings gap). Many feel the earnings gap has been eliminated and is now a myth (Andrews, 2017). When accounting for occupation, the wage gap does diminish, however this does not negate the issue that over a lifetime, women on average earn less than men. Some argue (Hoff Summers, 2016) this gap is not an issue, as women make the choice to work in

lower paid professions (e.g., going into nursing instead of becoming a GP). Although technically accurate, the reasons why women are choosing these careers can be explained by factors outside of their control. Women are consistently exposed to gender stereotypes throughout their childhood (Coyne et al., 2016) and such exposure can affect career choices (Davies et al., 2002), leading to the question of whether women are making a fully informed choice of their career with accurate information about why they may feel the pull of lower paid careers. Beyond career choice there are additional factors potentially causing a gender pay gap.

Maternity leave, whilst protected under UK law, can impact careers of women. The Government Equalities Office (2019) found that women who have children have lower rates of career progression 5 years after childbirth compared to fathers. This shows a disproportionate impact on women's careers post-childbirth, which could be contributing to the gender pay gap beyond stereotype threat. The issue of stereotype threat and the impact it can have on women can also explain promotion gender gaps, wherein men are typically promoted to more managerial positions over women. Indeed, it has been found in a British report 31% of respondents believe it is "right" a company has senior job roles filled by men; and junior roles by women, although a higher amount (43%) deemed it "wrong" (Curtice et al., 2019). This was reflected when splitting the respondents by gender, with men reporting the scenario as "right" more so than women (35%, 28% respectively); and the inverse found for the "wrong" respondents (38%, 48% respectively). Interestingly, when this sample is broken down by respondent education level, those with a degree reported the scenario being "right" (41%) compared to "wrong" (33%), with the opinions reversing the fewer qualifications a respondent has. Curtice et al. (2019) suggest this shift in opinion is due to those



who report it as “right” (i.e., a degree holding manager man) are more likely to be the beneficiaries of an earnings gap compared to others (i.e., a woman with GCSE’s and a technical job). In cases of women being placed into positions of power, there is then the issue of the Glass Cliff.

The Glass Cliff is the phenomenon whereby companies (or indeed countries) place women in positions of power during precarious/troubled times (Kulich et al., 2015). The Glass Cliff is used to signal change after a crisis, and a change in leadership style. Kulich et al., (2015) argue that women in positions of power can be advantageous to a company when previous leadership (male) has proven unsuccessful and may therefore calm investors/shareholders and even draw further investment. Whilst this may initially seem beneficial to women, it should be noted that Kulich et al. (2015) found that participants did not want to place women into positions of power if real change on a structural level was required. This indicates that the Glass Cliff is a function of signalling a change within a company, rather than enacting change within a company, and that gender of the applicant is the cause of the promotion over leadership skills and merit.

Whilst the above highlights the negative impacts of sexism, identity, and how salient aspects of one’s identity are, seem to mediate the impact of sexism. Given gender is a foundational part of our identities and how we define ourselves (Baron et al., 2014), those more aligned with gender as a function of our identities and self-concept may be more susceptible to the impacts of sexism. Indeed, those more sensitive to gender-based rejection (concerns about being rejected due to gender) have lower academic self-confidence (London et al., 2008). This sensitivity to gender-based rejection may be a function of importance of gender in one’s identity. Additionally, women more aware of stigmas associated with

gender performed worse on mathematic tasks compared to those less aware (Brown & Pinel, 2003). This can be explained by Baron et al. (2014) suggestion of an association between identity aspects and task performance. They argue the connection between gender and task performance can be explained in one of two ways. For the case of the mathematics-gender stereotype, women early in age may hear women perform worse in mathematical tasks, and as gender is important to their self-construct, they believe they must be bad at mathematics by association (Baron et al., 2014). This could expand beyond the gender-mathematics stereotype and cause an internalisation of gender-based stereotypes, which in turn leads to display of said stereotypes, reinforcing the stereotype for future generations. Alternatively, those who do not hold their gender identity as a fundamental aspect of their identity may be less impacted when targeted. Measuring gender identification in men and women (using a collective self-esteem scale), Schmader (2002) found that women who identify more with their gender performed worse than men in the mathematics task compared to those who did not place as much importance on gender as a function of identity.

The type of sexism experienced also impacts performance on cognitive tasks with women. Dardenne et al. (2007) found that benevolent sexism, whilst not perceived as sexist by participants compared to hostile sexism, had greater negative impact on cognitive performance compared to women who experienced hostile sexism prior to task completion. Dardenne et al. (2007) also investigated a mediating effect of gender identification on this impact. Whilst level of gender identification did not significantly mediate the relationship between sexism type and performance, the data showed that participants who highly identified with their gender did not experience as much performance interference when exposed

to hostile sexism compared to those exposed to benevolent sexism. This combined with their findings of benevolent sexism not being identified as sexist could imply an awareness of sexism is required to dismiss it and reduce its impact.

As discussed before, Glick and Fiske (1996) identified two factors in ambivalent sexism: hostile and benevolent. While hostile sexism can be relatively easy to identify, benevolent sexism is more difficult and likely to be misconstrued as complimentary (e.g., “women are better care-givers”). Whilst investigating how these types of sexism are perceived, Hopkins-Doyle et al., (2019) analysed submissions to the “Everyday Sexism” website (a website wherein users can upload their lived experiences of sexism) to identify type of sexism submitted. A majority (71%) of the submissions were from those who experienced hostile sexism, but only 3.2% were identified as benevolent sexism (it should be noted some entries were categorised as ambivalent, featuring benevolent and hostile sexism). This suggests benevolent sexism is more difficult to identify as sexism, or, although unlikely, is experienced less often.

### **1.1.2 When You are Not the Target of Sexism**

One does not have to be a victim of sexism to be impacted by it. Sexism may be overheard or espoused via other forms of communication such as through humour. As discussed by Mallett et al. (2016), those who harbour sexist viewpoints may not be willing to espouse such views overtly, due to societal changes in how women are perceived in modern times. Such individuals may choose to express such prejudices in socially acceptable and subtle scenarios, such as via sexist humour.

Sexist humour is a type of disparagement humour, where a specific woman, or women are negatively targeted by the joke (Ford & Ferguson, 2004). According to Prejudice Norm Theory (2004, Ford & Ferguson, 2004), exposure to disparagement humour can normalise the prejudice if the person is prejudiced to begin with, thus “perpetuating prejudice”. Prejudice Norm Theory states although exposure does not increase prejudice attitudes, it can impact tolerance of prejudiced events, and in turn increase the likelihood of a prejudiced person committing prejudiced acts (Ford & Ferguson, 2004).

The effect of sexist humour is moderated by participant's own sexism. Ford (2000) found participants high in hostile sexism, after exposure to sexist humour, were more tolerant of sexist events. When exposed to sexism in a non-humorous manner, participants' tolerances were no different between high- and low-hostile sexism groups. Ford (2000) suggested sexism delivered via humour is “interpreted in a less critical manner” (Ford, 2000, pp. 1098.) than non-humorous conditions, due to the statement being perceived as “only a joke”, normalising prejudices present in those with high hostile sexism. Whilst sexism can be a factor in reception to sexist jokes, individual social identity and intergroup relations can also explain this. Interestingly, whilst men have been found to not differ significantly in their reception to jokes about men or women; women have been found to enjoy jokes targeting men more so than jokes targeting women (Abrams & Bippus, 2011), with women who are highly identified with their gender finding male targeted jokes as more humorous (Abrams et al., 2015). This indicates the person's social identity can impact how they view sexist jokes.

Sexism in the form of humour is not the only way to perpetuate prejudice. Hiding prejudice behind humour can behave as a “dog-whistle” (a technique wherein a person can deliver messages to a specific group whilst the general

audience is unaware) to those who hold the same prejudice, and therefore normalise the prejudice (Ford & Ferguson, 2004). One example of dog-whistling is the link between white supremacy and traditional gender roles. The dog-whistle works by people promoting traditional gender roles and acting negatively towards feminism. The use of statements such as “traditional” can encourage people to think of a time pre-working woman, which also conveniently is a time of great racial inequality and segregation. The Proud Boys are an example of such groups, who believe that women are naturally happier in the home and rearing children. The Proud Boys are also classified as a group with ties to white nationalism, and most consider them to be an extremist group (Southern Poverty Law Center, n.d.). Those who associate such time periods and gender roles with racial inequality are then aware of what the speaker is subtly conveying, whilst those without such associations are none the wiser (Christou, 2020).

The use of humour as a cover for sexist statements is particularly nefarious due to the reactions expected by targets of sexism. Indeed, if a target of sexism confronts those perpetuating prejudice via humour, they run the risk of being negatively perceived (Woodzicka et al., 2015). This can lead to targets being unwilling to call out sexist statements due to a potential negative reaction from others. Sexist humour is so effective in hiding negative intentions, that women exposed to sexist humour will label the actor as less sexist than those who do not hide behind humour to perpetuate prejudice and will be less likely to actively confront the actor in the scenario (Mallett et al., 2016). Beyond just recognising when an actor is being sexist, humour can also allow women who already hold some hostile sexism attitudes to then minimise future sexist and harassment events towards them (Mallett et al., 2016; Mallett et al., 2019).

Beyond humour enabling sexism in those who may already hold such views (Ford & Ferguson, 2004), other factors may contribute to an increase in sexism in communities. Conformity to the norms can also impact an individual. Burger (2001) describes two processes that could cause conformity: informational influence and normative influence. Burger (2001) states informational influence is conformity to situations driven by a need for accuracy. Sherif (1936, as cited in Burger, 2001) found over time, a groups estimation tended towards each other, and eventually became the norm response, remaining even when a group member was asked for their estimation individually. A classic example of normative influence driving conformity being Asch's (1951) conformity study, who found, after being asked to identify what line of three matched a line previously shown, participants would agree with the confederates' incorrect answer around 37% of the time. Whilst this may seem like informational influence, when allowed to give answers privately, participants did not conform as often as in the original experiment (Asch, 1956), indicating a normative influence over informational. When applying this to sexist attitudes and behaviours, it could be individuals in environments where sexist behaviour is prominent may then start replicating such behaviour due to normative influence. Informational influence can also affect people with individuals potentially starting to believe sexist attitudes and opinions as correct if they are said by their group. It has been found informational and normative influences apply depending on the issue being discussed (Kaplan & Miller, 1987), with informational influence taking hold during discussions on finding a correct answer, and normative influence being used when groups are judging more subjective issues such as morality. Where prejudices such as sexism can envelope both perceived facts (e.g., "women are physically weaker than men"), and perceived subjective behaviours

(e.g., “women should be ladylike”), both informational and normative influence could be used to change an individual’s attitudes and behaviours regarding sexism, depending on the context the attitude/behaviours are presented in.

It is not only the context sexism is delivered that can create a scenario wherein confrontation becomes awkward and risky, but also the type of sexism. After finding that benevolent sexism is less readily identified by targets, Hopkins-Doyle et al. (2019) expanded this finding by incorporating the role of warmth in further studies, finding although participants experienced more benevolent than hostile sexism in the past, participants were less likely to confront such comments due to their perceived warmth. How warmth can mediate the likelihood of targets protesting reaffirms why people are less likely to perceive benevolent sexism as sexism, and why the risks of confronting can be quite high. Benevolent sexism can also be related to the aforementioned “dog-whistling”; wherein the sexism is perceived as more subtle and acceptable. Hopkins-Doyle et al. (2019) suggest women are less likely to protest it to protect themselves - they are aware of their perceived lower status and accept benevolent sexism as a way to maintain this without risking hostility from others, whilst also gaining some benefits from the nature of benevolent sexism (i.e., being cared for, protected). This may be a protective mechanism, however given the correlation between benevolent and hostile sexist attitudes; the lack of confrontation (and implied tacit agreement) of benevolent sexism may lead to an increase in this attitude, and an indirect increase in hostile sexism. This lack of confrontation and condemnation of sexist views from both bystanders and victims in offline scenarios can embolden sexist views/actions in others. However, dealing with sexism in online contexts utilises different methods compared to offline.

Historically, those in communities who held views or behaviours deemed inappropriate by their community are typically ousted or isolated (Baumeister et al., 2007). Social ostracism typically functioned by reducing/eliminating communication with the target, to either enforce (at least outward) conformity of their views to the social norms; or encourage the target to leave the community. The outcome is either conformity or rebellion (Williams et al., 2000). Whilst effective in scenarios where the target lacks a network beyond their community, and lacks communication with others, the information age has impacted the effect of ostracism. A personal network of friends can still perform a level of ostracism (or cyber-ostracism) by “blocking” the target, thus eliminating both direct contact (e.g., WhatsApp messages) and indirect contact (e.g., viewing social media posts), which should have a similar effect on the target to traditional ostracism if not for the presence of online communities. There is not a method to fully ostracise a person from contact with others so long as they have an internet connection. This enables those who may hold views seen as inappropriate by society to connect online, and those with extreme or prejudiced views can easily locate other like-minded people online, which can lead to polarisation/radicalisation of such communities (Geschke et al., 2019); and viewing such content online can also impact viewers. Interventions by hosting providers also have limited results (see “Involuntary Celibates” example, Section 1.4).

## **1.2 Relationship Between Online and Offline Behaviour/Identities**

Whilst I focus on the impact of sexism, and its subsequent impact on sexual assault, a significant portion of time is now being spent online, and it is important to consider the impact of online sexism and how it could influence offline behaviour. This issue is even more poignant due to the increase in online activity



due to the COVID-19 pandemic. Since the United Kingdom government instituted a lockdown in March 2020 (involving school and hospitality closures, and restrictions on socialising), internet use has doubled from 2019 levels (BBC News, 2020b). This increased use highlights the importance of analysing the effect of online content on attitudes and behaviours. To investigate this appropriately, the relationship between our online and offline selves and behaviours should be discussed.

When discussing behaviours of people in social environments, such as online communities, a classic explanation of such behaviours is Social Learning Theory (Bandura, 1977). According to Social Learning Theory, people will emulate behaviours from their social circle they see being reinforced by the same circle. According to Social Learning Theory, individuals will model behaviour they perceive to be reinforced (either positively or negatively) if reinforcement/approval is what they wish. Examples include internet content that spreads quickly through content creators, such as the “mannequin challenge” (a viral video format where groups of people stand very still, like a freeze frame, as the camera moves around them). Whilst some may be harmless, other trends have produced some injuries (such as the “Skull Breaker Challenge” - involving kicking the legs out from a person causing them to fall) after gaining some popularity on video sharing social network TikTok (BBC News, 2020a). Others may also have problems with hoaxes, for example claiming April 24<sup>th</sup> is “National Rape Day” wherein people are legally allowed to rape (Soen, 2021). A recent study has found people mimic risky behaviour they have seen online (Branley & Covey, 2017). Social Learning Theory (Bandura, 1977) was attributed to this connection, with participants who viewed risky behaviours online being more

likely to emulate such behaviour if positive reinforcements (such as likes, shares etc.), and therefore motivation are present.

On occasion, negative reinforcement is the goal of the user. This is known as “trolling”. Trolling is known as an online virulent form of interruption (Berghel, 2018), and whilst it can have many applications such as recently being used to spread misinformation (Berghel, 2018), trolling was initially just users aiming to frustrate and annoy other users, classified as ‘Provocation Trolling’ or ‘Sport Trolling’ (Berghel, 2018). For these types of trolls, negative reinforcement such as downvoting would be viewed as rewarding and would become positive reinforcement. However, Social Learning Theory can be interpreted as reductionist, as all users on platforms are not mimicking all popular content, and motivations may go beyond simplicities such as “likes”.

How we present ourselves offline can vary from our online selves (Fullwood, 2015), and whilst there is no consensus as to what creates this discrepancy, there are a range of theories that apply. One influence of behaviour offline is Impression Management, first outlined by Goffman (1959), which suggests our behaviour, and indeed the self, can change depending on context. Impression management leads the individual to behave in the most appropriate way to garner positive impression formation (i.e., how people view us). This wanting to form a positive impression (and then subsequently manage said impression) can be applied to online contexts and behaviour variation on different platforms and forums. An obvious example would be how users on LinkedIn (a professional recruitment platform) present themselves differently to how they behave on more socially focussed platforms such as Facebook. One may be less likely to share thoughts and opinions on what occurred in the latest Star Wars film on LinkedIn than Facebook. Leary and Allen (2011) describe impression

management as a continuous feedback loop, wherein audience responses inform the performer and alter their views of themselves, therein adjusting future impression management techniques. This feedback loop can be applied to online contexts. Many online platforms utilise various “approval” methods (such as upvotes, likes, and retweeting) to inform a user how well received their content was<sup>1</sup>. This relates back to the Social Learning based theories of behaviour, as the management techniques being “rewarded” in the feedback would then be used more often by the content creators. If other creators see a method engaging an audience, they may start using the same method, this could lead to a “norm” developing. The normative and informational influences can then affect new creators who wish success.

To apply offline behaviour theories online, it is important to consider what separates these two spaces. A few explanations cover aspects of online spaces potentially causing a dissociation between one’s online and offline personas. Most of these suggest the anonymity afforded by the internet can encourage certain behaviours online. Whilst anonymity is certainly a factor in certain communities and forums, for most of the large social networks, users appear to be moving towards having one persistent online identity they use across platforms (Montiel, 2012). One such explanation from McKenna et al. (2002) outlines aspects unique to online communications and interactions that can explain variance between online and offline personas. First, the tendency for anonymised communications, which can lead to individuals having greater choice in terms of their online persona; and can develop a new persona entirely separate from their offline persona. Second is the reduction in importance of appearance.

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<sup>1</sup> It should be noted these approval methods are more than likely used to inform what content users see algorithmically, and are not necessarily used for the benefit of content creators.

In offline communications there is a tendency to prefer those who are attractive (the 'Halo Effect') and assign positive attributes to attractive people (Dion et al., 1972). Online personas do not necessarily require an accurate representation of your appearance (obvious exclusions would be online dating platforms; Brand et al., 2012), and if an image is available to use, then you can either opt out of personal imagery all together (and use default profile images, see below), or edit your own appearance (via photoshop, image filters). This reduction in the importance of appearance (or the ability to improve one's appearance) can lead to those who may not necessarily have the confidence for certain interactions to actively engage in computer-mediated communications and disclose more information online than they would in relationships beginning in offline scenarios (McKenna et al., 2002). It was found when developing a relationship online, individuals self-disclose more information quicker than in a face-to-face meeting and develop intimacy quicker than those in the offline condition (McKenna et al., 2002). This quicker development of relationships online can also be explained by Walther's Social Information Processing Theory (SIPT; Walther, 1992; Walther, 2014) that states, over time, online communications without non-verbal cues will develop to an equal quality as when offline due the relationship-management techniques used when online. A third unique aspect of online communication is the ability to control the timings of interactions. In face-to-face communications long periods of silence can be awkward, whereas online, large gaps in responses are more acceptable. This means users can take their time in forming responses, consider how to respond, and experience less pressure. This also enables greater control over impression management. The final aspect proposed by McKenna et al. (2002) is the ease we can find those with similar hobbies, views, and attitudes. Whilst this can be of benefit for those with niche interests or enable

those with little experience to seek help and advice from others, as discussed elsewhere (Section 1.3), this can also enable those with views that would typically cause ostracisation to seek out and share those views with people similar to themselves. Fullwood (2015) also proposed a fifth addition, which is the ability to have more control over the content posted. For example, users can 'untag' themselves from potentially unflattering pictures, delete old content that may not be representative of their current views, and adapt and change the online personas. Controlling the impressions we make online is easier than in offline communications due to the differences outlined by McKenna et al. (2002) and Fullwood (2015).

Development of the differences between online and offline behaviours was furthered by Suler's (2004) Online Disinhibition Effect. Suler (2004) initially proposed six factors (see Table 1 for a summary of the factors) that distinguish online communication from offline and how it can cause two distinct disinhibitions. Benign disinhibition is where a user becomes more open online, and may for example, disclose more information about themselves in a support forum. Whereas in toxic disinhibition, the user can become more hostile to others and take part in negative behaviours such as trolling, cyberbullying, and flaming (being purposefully insulting/offensive online).

**Table 1**

*Summary of the factors in Suler's (2004) Online Disinhibition Effect*

<b>Factor</b>	<b>Description</b>	<b>Example/Comment</b>
<b>Dissociative Anonymity</b>	Hide or change aspects of ourselves (e.g. names and experiences) thus concealing our identity.	Suler (2016) recognises that in most cases users can be identified using IP addresses etc., but this method is not available for most users.
<b>Dissociative Imagination</b>	Users view their online personas as separate from their offline personas, with online interactions having separate rules from offline	Suler (2016) also described this as the online personas being completely separate in terms of consequences, and what occurs in cyberspace is not of matter to the offline world.
<b>Invisibility</b>	Being physically invisible to others.	Being oblivious to non-verbal cues that would be present in offline scenarios.
<b>Minimisation of Authority</b>	Online personas lacking the status offline personas have. Users do not know if other users are their superiors, law enforcement etc.	Later changed to "Attenuated Status and Authority".
<b>Asynchronicity</b>	The ability to communication/interact in non-real time	Asynchronicity allows for greater control over the online persona as more time can be taken to craft responses.
<b>Solipsistic Introjection</b>	The sub-vocalisation of text, when we read, we tend to imagine our own voice stating the text.	Users become disinhibited as it can feel as if the user is having a conversation with themselves, therefore may respond in a way suited to our inner monologues as opposed to a separate user.

*Note:* Whilst it may seem like the anonymity and imagination dissociations are similar, dissociative anonymity covers the hiding of identity, wherein dissociative imagination is the creation of a distinct online persona.

Suler furthered the theory of Online Disinhibition Effect by adding two more aspects: perceived privacy and social facilitation (Suler, 2016, p. 98-107). Perceived privacy is when users believe some communications are more private than some others. Whilst users are aware their activity and messages are permanent, other users are merely “watching” interactions. For example, some actively post on Facebook, others just read/watch. Social facilitation relates to how certain behaviours can be amplified by other users, implying approval. It also specifies why others may not intervene with hostilities as they may not want to become targets themselves. The primary issue with Suler’s work (2004; 2016) is some aspects lack support and can be difficult to research (such as solipsistic introjection). In relation to McKenna et al.’s (2014) unique online factors, the combination of invisibility, and imagination and anonymity dissociations seem to predict similar effects as the anonymous interaction aspect of McKenna et al.’s (2014) theory. Suler’s (2004) Attenuated Status and Authority ties into McKenna et al.’s., (2002) work, in the reduction in the importance of appearance can lead to diminished hierarchies online. Asynchronicity relates to the McKenna et al. (2002) aspect of having the ability to control when you respond online. This suggests that certain factors associated with being online are considered a universal cause of differences in online and offline behaviour. These are namely anonymity, asynchronicity, and diminished authority/hierarchies.

Further work on why individuals behave the way they do online also includes the General Strain Theory (Agnew, 1992), in which users who may experience strain in either online or offline environments may lead to deviant behaviours. General Strain Theory proposes strain (either a failure to achieve, losing valued stimuli, or expecting a negative consequence) can lead to crime and delinquency, and online can predict cyberbullying (Lianos & McGrath, 2018)

and explain internet addiction (Jun & Choi, 2015). Whilst General Strain Theory (Agnew, 1992) is of interest, it can be caused by a range of triggers on and offline, it only accounts for negative, and does not explain positive behaviours.

The Cues-Filtered Out Theory (described by Marczak & Coyne, 2015) highlights the lack of social cues typical in face-to-face conversations. Suler (2004) similarly describes the 'invisibility factor' or the reduction of facial cues and body language online where "many forms of online communication are primarily text-based" (Fullwood, 2015, p. 15). This can lead to a change in behaviour, as such cues could inhibit behaviour and cause an increase in negative behaviours in some individuals (Kiesler et al., 1984).

These theories on why people can change behaviours all have common themes with online users having more control over interactions and anonymity, and physical reactions of others are typically hidden. Whilst these are good explanations for the factors present online, which may encourage such behaviours (or indeed, shield users from consequences), the theories tend to ignore more social group factors.

One such explanation is the Social Identity Model of Deindividuation (SIDE, Lea & Spears, 1991). SIDE proposes when online, individual identity is less obvious (and important), than group identity (i.e., social identity), which becomes more salient. The SIDE model is based on well-established social psychological principles, such as deindividuation (where removal of participant's personal identity, and encouragement of group identity, caused extreme behaviours, e.g., Haney et al., 1973). Deindividuation has also been discussed in offline scenarios, people in crowds can behave differently to individuals, due to the anonymity and following of group norms (Haney et al., 1973). SIDE can



account for a lot of the behaviours found online, such as “brigading” (where one group of users can “invade” and post things, normally troll content, in another group’s space). Similarly, Suler’s (2004; 2016) Online Disinhibition Effect and McKenna et al.’s (2002) theories discuss a level of de-personalisation and the idea individuals feel their online selves are discrete from their offline selves (or as Suler (2004) asks, does the internet transform or enhance?), and refer to the control over one’s online self. SIDE can also explain these phenomena within the context of social groups. If online the influence of group norms can be increased (as personal identity is diminished), one’s online behaviour could be mimicking group norms.

### **1.3 The Impact of Online Sexism**

Individuals can not only be exposed to sexism orally, but through online communication. With the internet being increasingly used for communication and social networking (ONS, 2020), combined with women using social media more often than men (McAndrew & McAndrew, 2012), it can be inferred there is a high chance for sexism to be viewed in online scenarios.

Although much is known about how offline exposure to prejudice can affect people, in terms of viewing prejudice via computer mediated communications, there has been limited research. The use of social media by those aged between 16 and 24 is at 97% according to the ONS (2020). Despite this prevalence, research does not focus on sexism and whether social media use can affect it.

Fox et al. (2015) explored online effects of exposure to sexist media via social media and has shown it negatively impacts competency ratings from participants when assessing females in offline settings. Fox et al. (2015) gathered tweets using the sexist hashtag “#getbackinthekitchen”, and participants’ either

retweeted or wrote their own tweet with the hashtag. Fox et al. (2015) also manipulated the anonymity of the account participants were tweeting from by asking those in the identifiable condition to add their information in the Twitter accounts information section. Participants' who used the anonymous account had higher hostile sexism scores compared to identifiable accounts. Participants who created their own sexist tweets using the hashtag rated female job candidates as less competent compared to those who simply retweeted, indicating level of interactivity can also impact the effects of online sexist content. Such results extend the effects of computer mediated communication beyond just impacting the target of the media directly and suggesting online prejudiced behaviour can influence offline behaviour and attitudes, at least in the short term.

The application of online behaviour theory in prejudices can be primarily explained with SIDE (Lea & Spears, 1991). If the groups users belong to and interact with online tend to perpetuate prejudices and stereotypes, then the individual user is theoretically more likely to do the same. This can also be tied to Prejudice Norm Theory (Ford & Ferguson, 2004), wherein exposure to such content can normalise it in individuals who already hold those views, increasing the likelihood of them expressing such content, which can then alter the norms in online communities, thus creating a cycle of prejudice, normalising, and replication of such norms from new members of the community.

Social Learning Theory may not be applicable to reproducing online content when discussing prejudices. Indeed, there are few sites promoting total freedom of speech. Most websites include content policies, and prejudiced content is prohibited. This combined with user feedback (typically negative towards prejudiced comments) should be discouraging users from replicating such attitudes and behaviours in online and offline scenarios. Whilst Social

Learning Theory is applicable when investigating some behaviours and attitudes, sexism is an attitude/prejudice may be influenced in a separate way in online contexts. As previously discussed, informational and normative influence could factor into online contexts. Those who are new to an online community/environment may rely on others to determine what is acceptable and model their behaviour on the more popular content/personalities in those environments.

Although Social Learning Theory cannot fully explain the replication of online attitudes into offline attitudes and behaviours, an important exception to this point should be made with echo chambers. Similar to offline relationships, wherein people are more likely to be friends with those who hold similar views (Similarity Effect, see Cataldo & Cohen, 2018, for a recent example of the Similarity Effect), internet users may prefer to access communities who hold similar views and treat dissent as problematic. This seeking out of similar viewpoints can circumvent offline methods of dealing with socially unacceptable views (such as ostracisation), and lead to echo-chamber effects and radicalisation/polarisation of communities (Geschke et al., 2019).

Whilst it may seem pragmatic to encourage hosting websites of such content to remove these communities/accounts, inevitably users will find a new format to connect. A prime example is the community of “incels” (involuntary celibates), who were “cyberostracised” from Reddit. The community began as a subreddit self-described as a support community for those who struggled to find a romantic partner, although it seemed to be exclusively targeted at heterosexual male incels.

*“/r/incels is a support group for people who lack romantic relationships and sex, but mostly geared towards those lacking a girlfriend or seeking marriage.”* (Reddit, 2017a)

Reddit is a content aggregator website, in which those who have accounts can have a customised “front page” (like timelines in social networking sites) by subscribing to subreddits. Subreddits are topic specific communities, typically posting content according to the topic (i.e., the subreddit “r/aww” would involve users posting content of cute things). Content is moderated via the moderators, who moderate based on rules for Reddit and the subreddit. Moderators are subreddit specific, although some moderate multiple subreddits. Consequences for violating the rules can vary; the violating post/comment is simply removed, or the user can be permanently banned from viewing and participating in the subreddit. Above the moderators are the administrators (commonly known as “admins”), these enforce Reddit’s content policy (Redditinc, 2020a), but with the additional powers to ban and quarantine subreddits.

In 2014 (June) r/incels had 11 subscribers (Reddit, 2014), and amassed 42,028 subscribers (Reddit, 2017b) before being banned (around 07/11/2017). It should be noted subscribers are those who have chosen to include the subreddit in their feeds, and this is not necessarily an indication of the amount of incels present on Reddit. Around the time the original incels subreddit was quarantined, a new subreddit named “Braincels” was formed, described as a subreddit for discussing incel culture, as of the 13<sup>th</sup> of November 2017 (Reddit, 2017c) it had 476 subscribers, but this slowly grew to approximately 41,000 subscribers (Reddit, 2018) before it was also quarantined and subsequently banned by Reddit administrators.

Several additional online communities for incels exist outside of Reddit's influence. Whilst these communities are also moderated by users, it can no longer be banned by a higher authority (excluding search engines and governments), and some vary on what content is allowed. The evolution of the incel online community is a prime example of how social ostracisation is no longer a valid form of intervention for extreme views. Whilst the incel community is an extreme arm of online misogyny (Baele et al., 2019), it has been a valuable resource for analysis of how prejudices can spread and propagate. At its peak the incel subreddit had 42,028 subscribers (according to the most recent pre-quarantine snapshot using the Way Back Machine, Reddit, 2017c), an extreme minority (0.00977%) of Reddit's current reported monthly users (Redditinc, 2020b), indicating in offline contexts these individuals may not be in contact and classic social ostracisation methods could be applied. The evolution of the incel community displays the issue with utilising "traditional" offline techniques when approaching prejudiced cyberspace.

Mallett et al. (2019) imitated an online chatroom whilst investigating the impact of confronting/ignoring sexism on the recipients' own attitudes. Study 1 had woman participants being told they were participating in a research project aimed at computer mediated communications (and not sexism). Participants then had a "chat" with "Mike" (who was the researcher). During this chat Mike would state a sexist/non-sexist statement, either framed as a joke/serious statement. The participants responses were then measured in terms of their responses (ignoring the statement or confronting the statement), the participants tolerance of sexual harassment was then measured. Those who confronted Mike tended to have lower tolerance of sexual harassment, with the reverse being found with those who ignored the sexist statements. Although this data is correlational, and

it could be those with a lower tolerance of sexual harassment are more likely to confront sexism, as opposed to a confrontation causing lower tolerance (Mallett et al., 2019). Study 2 added more controls by instructing women to respond to sexism in a specific way (confront/ignore), however moved away from the imitation of a chat room to scenario-based evaluations. In these scenarios the participants are told a scenario involving either a sexist joke or sexist statement in a work environment, then told to imagine their response (ignore/confront/no chance to act - person left the room before action was possible). Mallett et al. (2019) measured dissonance, tolerance of sexual harassment, and support for #MeToo survivors. Like Study 1, those who imagined ignoring the statement held more tolerant views of sexual harassment and vice versa with confrontation. Those who experienced more dissonance between their own attitudes and the imagined behaviour, particularly in those ignoring the sexism, tended to tolerate sexual harassment more. This indicates when the targets of prejudice do not confront the perpetrator, the cognitive dissonance that arises can increase tolerance of prejudiced events, as outlined by the induced-compliance paradigm within cognitive dissonance research (Harmon-Jones & Mills, 2019). Given the concern from women of negative repercussions when confronting sexism (Good et al., 2019; as cited in Mallett et al., 2019), this could cause a cycle of sexism wherein women are concerned about confronting sexism, which can be viewed as tacit approval, therefore emboldening those who hold such prejudices to perpetuate them. Even when confronting sexism, women could be seen as not being serious with their objections. In speech women tend to use more qualifying statements, such as adding “in my opinion” prefaces to statements, using words just as “maybe” more than men do (Leaper & Robnett, 2011). This could cause

people to dismiss confrontations from women, but not men who seem to be surer of their statements.

Whilst the current topic focusses on the negative impacts of online communities, with a specific focus on sexism and sexist forums, it would be negligent to not mention positive impacts. Some online content creators and communities can work to eschew gender stereotypes. Indeed, Morris and Anderson (2015) found of the three most popular British-created video-blogging (vlogging) channels, all of them displayed inclusive masculinity, negating the typical masculine stereotype, with the creators being more open with their feelings, stating their dislike/inability in sports, and do not tend to exhibit misogynistic views. This curtailing of masculinity as previously stereotyped, and the positive reception of such content, implies for some communities, toxicity and espousing hate is not a standard by-product of being online.

#### **1.4 The Relationship Between Sexism and Sexual Assault**

As discussed, exposure to sexism as either a bystander or target, on- or offline, can have wide reaching effects from influencing one's own behaviour/tolerance of sexism, to career prospects. The ultimate purpose of this thesis is to investigate the role of sexism and its association with rape and sexual assault. The UK Crown Prosecution Service defines rape and sexual assault as discrete crimes. Rape occurs when an individual uses their penis to penetrate the vagina, mouth, or anus of another without consent. Sexual assault is defined as when individuals are coerced or physically forced to engage in sexual activity, or when sexual touching occurs without consent (Sexual Offences Act, 2003). In this thesis, when discussing both rape and sexual assault, the term sexual violence will be used. Sexism can impact multiple aspects of sexual violence. From a narrative perspective, sexism can impact the initial stages of an act of sexual violence (e.g.,

rape proclivity), to the conclusion of a criminal justice case (jury decision). The stages between these events can also be impacted by sexism and its consequences, such as if victims approach charities for support, decide to continue with their cases, and how they experience being a witness in a court case. A review by Fraser (2015) highlights how pervasive sexism is within sexual violence, from the dependence of chivalry on the existence of sexual violence to provide the modern woman something to be protected from by other men. When considering the legal system, Fraser (2015) also argues that sexism causes the presumption of consent from women, causing burden of evidence of the lack of consent, leading to the difficulty in prosecuting such cases. Whilst Fraser (2015) writes from the perspective of the United States of America (specifically California) and its legal system, there is relative similarities between both the USA and the United Kingdom that most of Fraser's (2015) comments can be applied to the United Kingdom (excluding some points specific to the US legal system).

Progression through the criminal justice system starts with an offender committing assault. The likelihood of committing sexual assault has been labelled as rape proclivity. Malamuth (1981) stated that rape proclivity is the relative likelihood of an individual to rape in given circumstances. Malamuth (1981) found that those high in rape proclivity (or 'likelihood to rape' scores) aligned in their viewpoints surrounding sexual assault with convicted rapists compared to general population with low rape proclivity. It should be noted that Malamuth's (1981) method of evaluating rape proclivity is not without issue. Participants are asked how likely they would be to commit rape if it guaranteed they would not be caught. This assurance may inflate the rate of rape proclivity reported in Malamuth's (1981) review (35%). A counter-argument is that whilst these questions may be viewed as blunt and could be inflated by the nature of the



questions, the commonalities found between those who score high on the likelihood to rape measure and convicted rapists in their attitudes and behaviours does increase content and face validity in this measure. Malamuth's (1981) review of rape proclivity also related likelihood of rape to rape myth acceptance (RMA). Rape myths were defined by Burt (1980) as "prejudicial, stereotyped, or false beliefs about rape, rape victims, and rapists" (Burt, 1980, p. 217). Whilst Burt (1980) created a measurement of rape myths, it was not without its issues. Payne et al. (1999), when developing their Illinois Rape Myth Acceptance (IRMA) scale, found that Burt (1980) focussed on the behaviour of the victim disproportionately compared to behaviour of perpetrators. Further research into this area as it developed identified four types of rape myth (Bohner et al., 2009): 1) Blaming the victim (e.g., how women are dressed); 2) Disbelief in claims of rape (e.g., most cases are false accusations); 3) Exonerate the perpetrator (e.g., perpetrator could not control themselves); and 4) Only certain types of women are raped (e.g. women who are sexually promiscuous are likely to be raped).

The impact of rape myths in sexual violence is different for men and women (Bohner et al., 2009). Women who are higher in RMA tend to have less concern surrounding sexual assault happening to them (Bohner et al., 2009). It is suggested that the 'Just World Belief' (Lerner, 1980) explains this effect. The Just World Belief is a fallacy wherein only people who do something "wrong" have negative consequences of such actions and is thought to be a defensive process (Brugg & Harrower, 2008). Applying the Just World Belief to sexual violence, holders of this view would think that the victim's actions (e.g., clothing choice, being out alone) led to their assault, and such behaviours are avoidable by the hypothesis holder. Bohner et al. (2009) state that this hypothesis protects the individual from living with heightened anxiety surrounding sexual assault and their

likelihood of being targeted. Indeed, women who reject rape myths have been found to have lower self-esteem after exposure to rape scenarios compared to those who believe in rape myths (Bohner & Lampridis, 2004; Schwarz & Brand, 1983). Assuming the Just World Belief is correct, if a supporter of this hypothesis is assaulted, they may try to justify the assault on the behalf of the perpetrator (e.g., I shouldn't have drunk so much) and blame themselves for the assault, as, according to the hypothesis, it would not have occurred if the victim had done something to cause the assault. This could lead to cases of sexual assault not being reported. Indeed, Peterson and Muehlenhard (2004) found that women high in rape myth acceptance (for myths relating to victims fighting back and teasing) did not appropriately label their sexual experiences as rape. However, the Just World Belief does not account for men assigning more blame to rape victims than women do (Gerber et al., 2004). The role of similarity between the blame assigner and the blame receiver is thought to account for this. This similarity is thought to explain why men are less likely to assign blame to men due to their similarities, and women less likely to assign blame women for their assault. Gerber et al. (2004) also contributes this discrepancy based on gender as caused by gender roles, that is, males are more likely to identify with the individual in the powerful position over the victim (powerless) as it is more stereotypically masculine.

Sex roles have also been identified as related to rape. Burt's (1980) work helped establish a relationship between acceptance of rape myths and sex role stereotyping. Sex role stereotyping (assumptions of behaviour based on sex) can be explained by normative influence. Those who are exposed to stereotypes and may be more influenced by these norms to predict behaviours based on sex. Since the 1980's further work on measuring sexism has yielded validated

measurements of sexism such as the Ambivalent Sexism Inventory (Glick & Fiske, 1996). The connection between sexism, rape proclivity, and rape myth acceptance may seem like a logical conclusion, wherein those who do not have respect for women are unlikely to have respect for their autonomy and are less likely to believe victims in cases of rape, especially when there is little to no physical evidence (as is the case with acquaintance rape cases, which tend to align to a “he said - she said” narrative). The role of sexism when evaluating rape scenarios and cases is discussed below.

It can be argued that the primary cause of the hurdles for a victim after sexual violence has occurred is RMA. As previously discussed, Peterson and Muehlenhard (2004) found that women with high RMA experienced “unacknowledged rape”, particularly when their specific experiences align with the rape myths. This can then lead to knock on effects wherein a victim may only realise a crime has occurred sometime after the event, which then leads to questions regarding why they waited so long to report. An additional factor on reporting is the “real-rape” myth. The belief about the “real-rape” involves victims being more physically resistant (and having injuries), and being unacquainted with the perpetrator (Krahé et al., 2007; Ryan, 1988). DuMont et al. (2003) sampled rape victims and whether they reported the crime to the police. Those who had physical injuries were over three times more likely to report to the police compared that those without injuries. DuMont et al. (2003) state that this could be due to more evidence being collected that encourages the victims to report to the police, however it is interesting that the myth of “fighting back”, which aligns with rape scripts (Krahé et al., 2007; Ryan, 1988) also contributes to victims’ willingness to report to the police. These factors can disincentivise victims from reporting their crimes, even with acknowledged rape, with concerns listed such

as not being believed, concerns about being blamed, and distrust of the legal system (Kelly et al., 2005).

If a victim of rape reports their case to the police, and if it is not dropped before being referred to prosecutors (only 1.6% of rape reports results in a charge within the same year of reporting, Ministry of Justice, 2021), the issue of rape myths then become an issue within court rooms. Rape myth acceptance and sexism have been found to impact blame attribution when assessing rape and sexual assault scenarios. For rape myths, higher acceptance has been found to have a positive effect on victim blaming, with higher scores typically associated with higher victim blaming compared to low rape myth accepting participants (Abrams et al., 2003; Krahe, 1988; Masser et al., 2010; Rollero & Tartaglia, 2019; Schuller & Wall, 1998). Note, that most of the studies above have individual blame assignment as their dependant variable, for studies using a full mock jury, similar results were found with a review finding that rape myths contribute to juror decision-making (for a review see Dinos et al., 2015). However, Thomas (2020) highlights the need for research into jurors with service experience. The criticism of use of “mock” jurors by Thomas (2020), whilst valid, tends to ignore the legal difficulties in accessing experiences jurors sampling directly from courts. As recording of jury deliberations (which would be where rape myths may be discussed) is prohibited, undertaking direct research in this area is monumentally complex, and reliance on mock juries is the more pragmatic approach to researching the role of rape myths in jurors.

An interesting relationship is the how sexism plays a role in RMA. Research has identified a correlation between sexist views and acceptance of rape myths (Rollero & Tartaglia, 2019; Suarez & Gadalla, 2010). Whilst causation has not been formally established yet, where gender can be viewed as a

foundation of identity (Baron et al., 2014), it can be suggested that sexism (and subsequent gender role attitudes) could contribute to higher RMA. Sexism can contribute to the four types of RMA that Bohner et al. (2009) outlined. Type one involves blaming the victim typically features concepts that perpetuate gender roles and sexist stereotypes such as women dressing a certain way, and the removal of women's agency (i.e., "she wanted it really"), the wanting aspect is of particular interest, as it has been shown wanting sexual activity and consenting to sexual activity are discrete (Hills et al., 2020). The second type of rape myth involves disbelief in rape claims, which aligns with hostile sexism as described by Glick and Fiske (1996). This implies that women are inherently malicious and use their sexualities to impart punishment on men. Thirdly, the exoneration of the perpetrator, may not necessarily be a function of misogyny, but rather misandry. Assumptions of men not being able to control themselves is a negative stereotype of men and removes agency from men in certain situations. This assumption of being beholden to biological drives of reproduction are both reductionist and hetero-normative, but also continues to blame women (i.e., "if she had not xyz, he would have been able to control himself"). The fourth and final rape myth as described by Bohner et al. (2009) lend itself to the Just World Belief as previously discussed, wherein only certain types of women are victims of rape. An interesting feature of this rape myth is that victims who do not align with traditional gender roles are assigned more blame than victims who do (Abrams et al., 2003). Some sexist attitudes connected with traditional gender roles include the assumption of women as sexual gatekeepers (Glick & Fiske, 1996), who control when sex occurs. If a woman violates this expectation by being, for example, sexually active within non-committed relationships, sexist individuals may use this information to justify sexual assault (Abrams & Viki, 2002). This indicates that

sexism contributes to RMA as those who do not conform to gender role expectations and stereotypes, are viewed as more likely to be sexually assaulted in those with higher RMA. This supports the argument by feminist theorists throughout the decades that rape is used as a tool to “keep women in their place”. If a woman violates the social contract of how women can behave, then a subsequent sexual assault can be viewed as a punishment for said violation.

This rape as punishment ethos (Jane 2014a; Jane 2014b) is not restricted to those high in rape myth acceptance as a justification for the rape but can also cause women to moderate their attitudes and behaviours. Previous research has found that exposure to rape scenarios can reduce self-esteem in non-raped women (Schwarz & Brand, 1983) although this was self-reported and may have unacknowledged rape victims in the sample (62% of participants were identified as unacknowledged rape victims by Peterson & Muehlenhard, 2004). Those with reduced self-esteem are also more likely to reject rape myths (Bohner & Lampridis, 2004). Although in this research, the scenario used was of stranger rape, and involved an ambush, weapon, and what could be described as an uncomfortable level of detail, it is interesting that those who accept rape myths were not as impacted by the scenario than those low in RMA when the scenario depicts a stereotypically ‘real-rape’. This lends support to the theory that RMA operates as a defence mechanism to protect an individual’s self-esteem. This effect on self-esteem has been found when participants were simply expecting to interact with a rape victim (Bohner & Lampridis, 2004).

Self-esteem is not the only aspect negatively affected by exposure/anticipation of rape. Schwarz and Brand (1983) found that women exposed to a rape scenario also reported believing in gender role stereotypes more than those unexposed, supporting the idea of rape being used as

punishment for non-gender conforming behaviour, with some women experiencing more alignment with traditional gender roles post-exposure. However, this study utilised a stranger rape scenario that was quite detailed, and potentially traumatic, so it may not be reflective of how women adjust their gender role attitudes post exposure, with Bohner et al. (1993) failing to replicate this finding in their work. Nevertheless, the connection between rape myth acceptance and gender role acceptance were found in both studies.

It can be suggested that rape is symptom of sexism, born from an outdated and redundant society that is no longer applicable. The expectation of women to take lower paying jobs, lose their career should they have children, and operate as a housewife is no longer compatible with modern life. A single median income household is unlikely to fully support a partner and children with a decent lifestyle anymore. The Joseph Rowntree Foundation (JRF) proposes a minimum income standard of £19,600 a year for a single person with no dependents (and no pension contributions), whereas a household with two parents and two children would need a total household income of £34,800 to maintain a minimum standards lifestyle (Davis et al., 2021). Given that the ONS has estimated the median annual pay in the financial year ending April 2021 (likely to be skewed by COVID-19 economic measures) is £31,285 (ONS, 2021c, this indicates that both parents need to work to maintain such a lifestyle, thus requiring women to work. Women entering the workplace creates a discrepancy between the behaviour expected of women to keep themselves safe (i.e., not travelling at night), and the expectancy that they should be working to financially support their family as is required in this time. Whilst on a grand scale there is acceptance of women in the workplace, such as the reduction of the gender pay gap over the decades, and

women entering more higher paid, previously male dominated industries, the threat of rape still encourages traditional gender roles.

Multiple studies have found that men typically accept more rape myths than women (Aosved & Long, 2006; Lonsway & Fitzgerald, 1994; Rollero & Tartaglia, 2019; Suarez & Gadalla 2010). This combined with the positive relationship sexism has on RMA (Aosved & Long, 2006; Rollero & Tartaglia, 2019; Suarez & Gadalla, 2010), and that RMA is positively correlated with rape proclivity (Bohner et al., 1998), with hostile sexism being found to also positively correlate with rape proclivity (Abrams et al., 2003; Masser et al., 2006) supporting rape and rape myths as a symptom of the larger issue of sexism. Indeed, Abrams et al. (2003) argue that the ambivalent factors of sexism towards women (hostile and benevolent, Glick & Fiske, 1996) impact attitudes and behaviours related to sexual assault. Hostile sexism, which features a more aggressive attitude towards women contributes to rape proclivity, indicating that those higher in hostile sexism (who lack respect for women's agency etc.) are more likely to commit sexual assault against women. Benevolent sexism, according to Abrams et al. (2003), then serves to minimise the impact of rape. The higher someone is in benevolent sexism, the higher their RMA tends to be. This suggests that the role of benevolent sexism is to encourage views such as the Just World Belief (Lerner, 1980) and the real-rape and ideal-victim scripts. This discourages victims from reporting if their experiences do not align with the given scripts, and may encourage these views in others (e.g., if a victim does not report their experiences to the police, then it must not have been rape).

Exposure to sexist humour has been shown to cause higher levels of rape proclivity in participants who are high in hostile sexism (Thomae & Viki, 2013). Participants' rape proclivity was measured immediately after exposure to sexist



humour (Thomae & Viki, 2013). The effects of long-term frequent exposure have not been researched. Despite the effects found by Thomae and Viki (2013), long-term effects from exposure to other types of humour (political) has not been found, even after prolonged exposure (daily exposure for two weeks; Mendiburo-Seguel et al., 2017). This connects to previous discussions regarding the emboldening of sexist views in those who already harbour such attitudes after exposure to sexist humour (Section 1.1.2). Whilst long term effects have not been established from singular exposure, repeated exposure may continually elevate a person's rape proclivity. Such exposure can come from frequent contact with sexist jokes (Thomae & Viki, 2013), or online sexist content (see Section 1.3 for a review).

### **1.5 Campaigns and Interventions**

Given the implications of sexism regarding sexual violence attitudes and behaviours, campaigns and interventions should be developed to mitigate this impact. Campaigns and interventions aim to change behaviours and attitudes in others. They have been used to mitigate and adapt behaviour and attitudes for several reasons, however they are primarily used to either reduce damaging behaviours or encourage healthy behaviours. For the purpose of this thesis, I have defined campaigns as those passive in nature to the audience (i.e., campaigns require no physical engagement from the audience exclusive of reading/watching); interventions are defined as those requiring interaction with the materials by the audience/participants. For example, alcohol interventions are commonly associated with the personal and tailored interventions that have a recommended attendance of close family/friends, with no more than eight in attendance (UK Addiction Treatment Centre, *n.d.*). The aim of this format is to enable the target to understand the impact of their addiction on themselves and

others, and to ultimately seek treatment. Interventions can also encompass a wider brief, and target large groups of people, and may not require such a personal approach. An example of wide-spread campaign in the UK is the “Change4Life” healthy lifestyle campaign ran by the National Health Service (NHS, Change4Life, n.d.). Change4Life was designed to engage children in exercise and healthy eating, and its advertisements targeted both children and adults to encourage such behaviours. Since 2009, the campaign claims to have four million families signed up to the program. Ultimately, the goal of the Change4Life campaign was to encourage the population to sign up to an intervention on healthy behaviours. Research into the effectiveness of the campaign has found some healthier food choices in those exposed to the campaign in the short-term (Wrieden & Levy, 2016). Although poster-based campaigns require an engaged audience (to stop and process the information on the poster); they are cost effective and generate a large potential audience depending on placement. Interventions differ as they typically target a specific group as opposed to general population and can be more cumbersome to roll out, although smaller group sizes can be more effective in terms of long-term change (Miller & Prentice, 2016).

A commonly used theory is the information-motivation-behavioural-skills model (Fisher & Fisher, 1992), which was among the top five theories used from Davis et al. (2015) scoping review of intervention research. The information-motivation-behavioural-skills model (IMB, Fisher & Fisher, 1992;2002) argues that for interventions to be successful, the audience of a campaign or intervention requires three core aspects. The first is prevention information, or how well informed the audience is. Prevention information is the provision of information to the target group, it aims to educate the targets and give them an easily

performed behaviour. This information can also be there to correct errors in logic or erroneous heuristics and may not be directly related to a behaviour. An example of prevention information when applied to sexual behaviours would be items such as Figure 1.

### Figure 1

*Example Poster of Prevention Information in a Sexual Assault Prevention Campaign*

**DO YOU KNOW...**  
**REMOVING A**  
**CONDOM DURING**  
**SEX WITHOUT**  
**CONSENT IS RAPE.**

---

**DO YOU GET CONSENT?**

   @ConsentInNotts #GetConsent

For support and information visit:  
<https://nottssvss.org.uk/consent-coalition/>



*Note:* Poster from *Our Campaigns* by Consent Coalition (n.d.):  
<https://nottssvss.org.uk/consent-coalition/campaigns/>

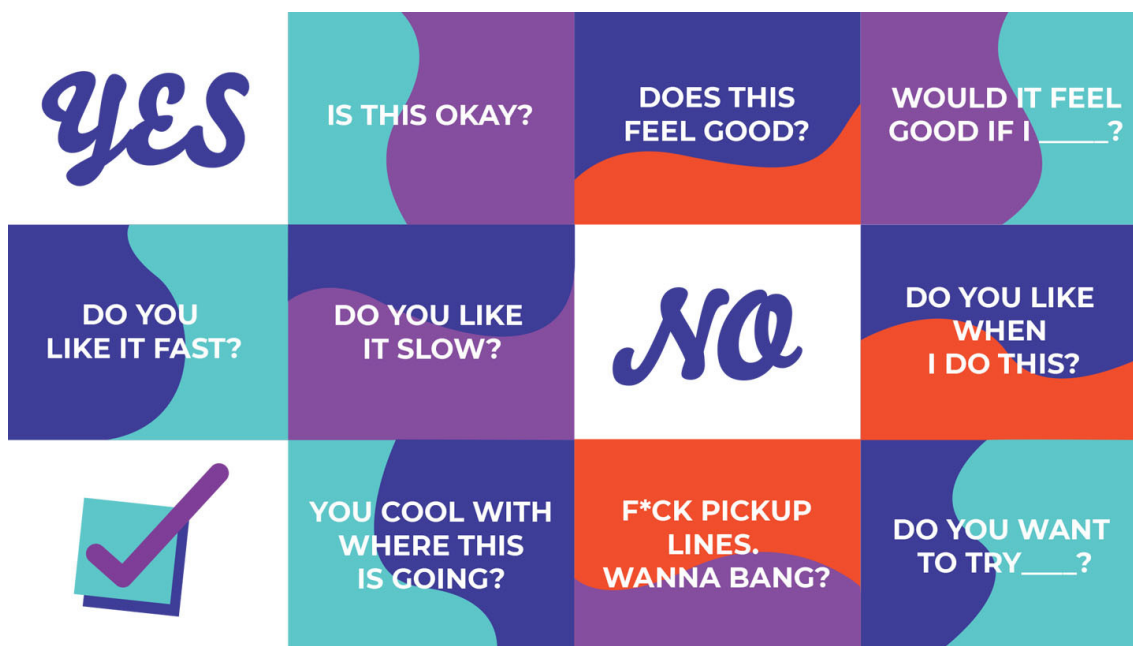
The second aspect to the IMB (Fisher & Fisher, 1992; 2002) is prevention motivation. This is the individual's personal motivation to modify their behaviours. According to Fisher and Fisher (1992; 2002), this can be from a multitude of

sources, such as social motivation, and perceived social support for the behaviour change (similar to injunctive norms). For sexual assault interventions, this may be difficult to measure. Those who are motivated to change may not be the people that should be targeted by campaigns/interventions. Whilst any reduction in incidences of sexual violence would be of benefit, a more subtle approach could yield more positive change as it may not alienate the targets. An ironic aspect of sexual violence intervention research is success can be measured by an increase in sexual violence reports, as this would indicate victims feeling more confident in determining if the incident was rape, and more confident that legal/institutional support is available.

The final aspect of the IMB (Fisher & Fisher, 1992; 2002) is prevention-behavioural skills, this is the individuals' perceived efficacy to enact the behaviour change. If the self-perceived efficacy to perform the necessary change is low, even highly-informed and motivated individuals may fail to change. Applying this to sexual assault, the change needed must seem "easy" to enact to increase the self-perceived efficacy. Some individuals find the active asking of consent to be awkward and "ruins any sexual tension" (EthanNewb, 2019). Materials such as Figure 2 could make it clearer that asking for consent is not an awkward process, thus increasing self-perceived efficacy and therefore change.

**Figure 2**

*Example Poster for Increasing Perceived Efficacy of Behaviour Change.*



*Note:* Image from *Get some consent* (n.d.) by Do Something from <https://www.dosomething.org/us/campaigns/get-some-consent>

The issue with behaviour change is the recipient must be aware of their own initial behaviours (and therefore what needs to change). Whilst some campaigns and interventions on health are widely applicable and encourage positive change regardless of current behaviour (i.e., Change4Life's sugar intake reduction), others require the recipient to recognise their own behaviour and the potential damages. Whilst this can work with behaviours that have external and obvious impacts (i.e., alcohol interventions have the recipient told about the impact of their drinking on others), those who are unaware of damaging behaviours may not seek to mitigate/prevent such behaviours. Such is the case of sexual assault interventions. Where approximately 81% of reported rapes are classified as acquaintance rape during 2017 in England and Wales (ONS,

2021b), and given acquaintance rape can go unidentified as rape (Peterson & Muehlenhard, 2004) a campaign or intervention focussing on direct behaviour related to acquaintance rape may not be engaged with, as the audience may not feel they are targeted and therefore disregard the campaign.

A previous issue with campaigns and interventions towards reducing sexual assault is a tendency to focus on the victim changing behaviour to prevent being assaulted or putting the onus on bystanders to identify a problematic situation and intervene. This is particularly present in poster-based campaigns as the need for nuance and clarification can impede readability. This leads to the creation of eye-catching, but inherently flawed posters for these campaigns, as seen in Figure 3. The campaign poster in Figure 3 was used by Sussex Police to raise awareness of the dangers of being alone on a night out. Whilst the design of the poster is useful for engagement (colourful, bold, and short text sections), the message of the poster attributes blame to the friends/associates of the victim and not the perpetrator of the assault. It also continues the stereotype of rapists being unknown to the victim, which is a false myth and reinforces benevolent sexism with women being the gatekeepers of sex (Thomson et al., in press).

**Figure 3**

*Poster from Sussex Police: Preventing Sexual Assault*



*Note:* Picture retrieved from Sussex Police twitter account: [https://twitter.com/sussex\\_police/status/582828967478067200](https://twitter.com/sussex_police/status/582828967478067200)

Sexual violence has also been used in campaigns aimed to reduce risky behaviour, utilising sexual assault as an unintended consequence of certain behaviours. Figure 4 highlights this method of dangling sexual assault as a

consequence of taking unlicensed mini-cabs and drinking alcohol irresponsibly.

**Figure 4**

*Poster Campaigns Using Sexual Assault as a Fear Tactic from the “Cabwise” Campaign (Left) and an NHS Drinking Campaign (Right).*



*Note:* Images retrieved from a BuzzFeed article: <https://www.buzzfeed.com/rossalynwarren/we-asked-an-expert-what-was-wrong-with-these-anti-rape-poster>

Whilst these campaigns are focussed on preventing behaviours that can be dangerous, the designers use sexual assault as a scare tactic. Indeed, these posters (Figure 4) are categorised as victim-blaming campaigns (Warren, 2015) due to the inference the victims' behaviour is what caused the assault as opposed to the perpetrator, which also reinforces the Just World Belief (Lerner, 1980). This could be interfering with other messaging and reinforce the blitz rape scripts people consider when asked to describe a rape (Ryan, 1988; Stirling et al., 2020). It should be noted both campaigns also used designs that did not feature sexual assault as a consequence for other behaviours, an example being inclusion of



violent crime and injury as a consequence of drinking. However, the TfL campaign seems to explicitly target women, when using unlicensed mini-cabs could be dangerous for all potential passengers, and in the TFL's evaluation of the campaign specifically refers to the shock value of the posters as a positive (Transport for London, 2009).

Reviews of sexual assault prevention campaigns and interventions has overall found disappointing results: many campaigns/interventions are not effective at reducing sexually violent behaviour within their target populations (DeGue et al., 2014; Hills et al., 2020; Rowe & Hills, 2020). A reviews of health interventions by Davies et al. (2010) and Davis et al. (2015) revealed that few interventions are explicitly theory based, which may explain the lack of effectiveness found in a multitude of interventions. One issue could be whether the intervention is targeting behaviour or attitude change. As Thomson et al. (in press) summarise, previous interventions have low to moderate effect sizes (if they are evaluated to begin with), with evaluations typically being self-reported behaviours that may be subject to social desirability. An intervention may target knowledge and awareness, such as the Red Flag Campaign, however this may not specifically target attitudes (and motivation for behaviour change) and may be targeting those predisposed to engagement with such campaigns (Thomson et al. in press). Therefore, it is important to consider underlying attitudes towards these behaviours (Michie & Johnston, 2012), such as sexism and rape myth acceptance, and whether an intervention is feasible for such attitudes.

## **1.6 The Thesis Structure**

Previous research and theory suggest exposure to sexist content (in particular, sexism humour) can increase and embolden sexist thoughts and actions in those who already hold some sexist attitudes. Sexist thoughts and attitudes are associated with an increase in rape myth acceptance, victim blaming, and rape proclivity, and offline impact of sexism has been reflected in online sexist content. As such, it could be exposure to online sexism can, in turn, increase rape myth acceptance, trigger performance issues as found in stereotype threat research, and cause an increase in victim blaming attitudes.

The current thesis aims to establish the relationship between a variety of factors associated with online behaviour and sexual assault. Initially, research will be conducted to determine how individuals in the most at-risk (ONS, 2021a) groups, students, and women, view online sexism, with the inclusion of male-targeted sexism (misandry, Chapter 2: “It doesn’t regard me so it doesn’t bother me”: Reactions to Online Misogyny and Misandry). The project also aims to establish if the effects of offline sexism can be triggered by online sexism, with focus on stereotype threat (Chapter 3: Cyber Sexism and Stereotype Threat) and assignment of blame in sexual assault cases (Chapter 4: Cyber Sexism and Rape Scenario Blame Attribution). As the overall aim of the research is to identify a potential intervention for sexual assault/victim blaming, research will be conducted to establish the rate of occurrence of sexual violence within a student population (Chapter 5: Rape Definitions, Occurrence, and Support Awareness), and finally, an intervention method/experiment will be proposed and tested (Chapter 6: Personalised Normative Feedback as an Intervention for Sexism and Rape Myth Acceptance: A Feasibility Study).

## **Chapter 2: “It doesn’t regard me so it doesn’t bother me”: Reactions to Online Misogyny and Misandry**

### **2.1 Introduction**

One in 5 women in the general population have experienced sexual violence (Rape Crisis, n.d.; Victim Support, n.d.), although this number has been reported as up to 70% (Revolt Sexual Assault, 2018). Women have a higher likelihood of being victims than men (Office for National Statistics (ONS), 2021a; Rape Crisis, n.d.), with students having a high likelihood of victimisation for actual or attempted sexual assault (ONS, 2021a). Research has found male participants have a positive relationship between hostile sexism (aggressive, overt sexism Glick & Fiske, 1996) and rape-proclivity (Masser et al., 2006). This relationship between sexism and reactions and attitudes linked to sexual assault could be a contributing factor towards the heightened risks woman students have of being assaulted. Indeed, the view of men having a lower sense of sexual control, and woman victims needing to be more forceful in their rejections of sexual advances, are views found in UK undergraduate populations (Macneela et al., 2014). Viewing sexist content can enforce (and increase) sexist beliefs in the viewer (Prejudice Norm Theory, Ford & Ferguson, 2004). Given that those higher in sexism have been found to have higher rape proclivity (Masser et al., 2006), and how prevalent online sexism can be (Jane 2014a; Jane 2014b) an exploration into reactions to online sexism and its relationship to individual sexism was conducted.

#### **2.1.1 Effects of Exposure to Sexism**

Sexism towards women (misogyny) can be measured using the Ambivalent Sexism Inventory (ASI, Glick & Fiske, 1996). Ambivalent Sexism has 2 factors: hostile sexism and benevolent sexism. Hostile sexism is overt sexism that is

aggressive and typically prejudiced (e.g., “women should not work because they are useless”), whereas benevolent sexism may appear complimentary to the recipient (e.g., “women should not work as they are better at cleaning and raising children than men”). Participants with high hostile sexism scores were more tolerant of sexist events after exposure to sexist humour (in the form of vignettes of interactions) rather than exposure to general sexism (Ford, 2000). This suggested sexism delivered via humour is “interpreted in a less critical manner” (Ford, 2000), potentially being perceived as “only a joke”, thereby normalising pre-existing prejudices. Gender can also moderate the effect of sexist humour, though the findings are mixed in relation to whether woman/female participants rate jokes about women as more or less humorous than jokes about men/males (Abrams & Bippus, 2011; Abrams & Bippus, 2014; Abrams et al., 2015).

Sexist humour is a type of disparagement humour, where either women or men are negatively targeted by the joke. According to the Prejudiced Norm Theory exposure to this can normalise pre-existing prejudice (Ford & Ferguson, 2004). Exposure to sexist humour will not affect non-prejudiced people. However, in those with pre-existing sexist beliefs, exposure can enhance tolerance of prejudiced events and increase the likelihood of committing prejudiced acts (Ford & Ferguson, 2004).

Sexist humour has been shown to cause higher levels of rape proclivity when tested immediately after exposure in participants who are high in hostile sexism (Thomae & Viki, 2013). Whilst there appears to be immediate effects of exposure to humour on attitudes and behaviours, long-term effects of exposure to humour has not been found with political attitude change after prolonged exposure to political humour (Mendiburo-Seguel et al., 2017). Although the impact from political humour may be less than sexist humour, due to the higher

salience of gender in identity. Surveys conducted across the European Union have found that 21% UK women aged 18-55, have experienced a form of online harassment (Ipsos MORI, 2017), compared to 25% of UK women (aged 17 -74) experiencing sexual harassment in general (this value includes “cyberharrasment”, of which 13% of UK women surveyed were a victim of since they were 15 years old) in the last 12 months (European Union Agency for Fundamental Rights, 2014). These figures do not reflect how common sexist statements are found online, only those who have experienced being specifically targeted by sexual harassment. However, the similar percentage of victims for online and offline sexual harassment indicate the importance of investigating sexism online as well as offline.

### **2.1.2 Online Sexism**

The Online Disinhibition Effect (Suler, 2004) predicts that in online environments, people are less inhibited. Benign disinhibition can be productive, (for example, a person being more open when seeking advice for a situation they may not want to discuss in person). Toxic disinhibition is where people are more likely to display negative behaviours (for example rude language, harsh criticisms, anger, hatred, even threats) in an online environment (Suler, 2004).

While there is much evidence for the online disinhibition effect (Choudhury & De, 2014; Crossley et al., 2016; Hancock et al., 2008; Kielser et al., 1984), there is limited research into whether there is any transfer of disinhibition from online to offline interactions. Additionally, further models of online behaviour are based more on existing psychological theory, such as the Social Identity Model of Deindividuation (SIDE, McKenna et al., 2002). SIDE argues an individual’s identity diminishes online, with group identity (and behaviours) becoming more salient. This is of concern considering the use of online communication platforms

(social media) by those aged between 16 and 24 (97%, ONS, 2020). One relevant study (Fox et al., 2015) has shown exposure to sexist media via social media negatively impacts competency ratings from participants when assessing women in offline settings (Fox et al., 2015). Tweets were gathered using the sexist hashtag “#getbackinthekitchen” (a hashtag is a way of categorising a post, so users can search for similar posts using the hashtag and is prefaced with the symbol: “#”), and participants’ either retweeted or wrote their own tweet with the hashtag. The anonymity of the account participants was tweeting from was also manipulated. Participants’ who used the anonymous account had higher hostile sexism scores. Only those who created sexist content within anonymous accounts held negative views towards woman competency (compared to retweet condition, Fox et al., 2015). Such results extend the effects of computer mediated communication beyond just impacting the target of the media directly; suggesting online behaviour can influence offline behaviour and attitudes.

A link between the content viewed online and subsequent related offline behaviour has been found regarding risky behaviours. A relationship between viewing risky behaviour online (e.g., self-harm, eating disorders, violence on others) and whether participants ( $N=412$ , aged 18-25 years) had performed those behaviours in offline settings has been found (Branley & Covey, 2017). With most of the behaviours measured, a link was present to participants viewing similar risky behaviours online, with gender only moderating this connection in female participants with eating disorder behaviour. Although it is difficult to have a causal relationship (it could be participants who commit risky behaviours are more likely to view similar content online, Branley & Covey, 2017), the research does establish a connection between online and offline attitudes and behaviours. Theories such as Prejudice Norm Theory (Ford & Ferguson, 2004) can be applied

to these findings, as it relies on exposure to content and attitude/prejudice change, for example participants may have had their sexism reinforced via exposure (and interaction), normalising their prejudice, and causing the reduction in competency ratings (Fox et al., 2015). Given the research into this area, the theories explaining offline effects of viewing sexism could apply to effects of viewing online sexism, and reactions to online sexism.

### **2.1.3 The Current Research**

Two exploratory surveys were released (at separate times) to the student population of Bournemouth University. The first survey aims to investigate student reactions to sexist media online, whilst also measuring expected reactions from participants' peers. The research aims to determine the extent students are offended by online sexism, how they would feel about interacting with sexist content online, and how they predict other's reactions to online sexism.

The second survey incorporates reactions to both misogyny (prejudice against women) and misandry (prejudice against men). According to Prejudice Norm Theory (Ford & Ferguson, 2004) male participants may have their (potentially) sexist opinions amplified, making them more tolerant of the sexist tweets, leading more positive reactions to the misogynistic tweets. Priests' Intergroup Conflict Theory (as cited in Priest & Wilhelm, 1974) suggests that when one group conflicts with another (in this case men and women), that group would enjoy hostile jokes targeted at the other (and vice versa). This has been supported, with men appreciating anti-women jokes more than anti-men jokes and vice versa (Priest & Wilhem, 1974), but other research has found that both men and women appreciate woman-targeted humour over man-targeted humour (if they held a traditional view of women, Moore et al., 1987). Survey 2 adopts a more experimental design to Survey 1 and predicts that participants will react

more positively to tweets not targeting their own gender. Survey 2 also measured participants Ambivalent Sexism (Glick & Fiske, 1996) and it is predicted that an increase in these scores will positively correlate to more positive reactions to online misogyny. Due to the subjective nature of sexist humour, qualitative elements are included in Survey 2 to develop a more in-depth understanding of how students react to online sexism.

## **2.2 Survey 1: Method**

### **2.2.1 Design**

As the aim of the research is to discover attitudes towards online sexism, the survey uses an exploratory design, with the independent variable being participant gender identity. The dependent variables were the survey responses, which aimed to measure a variety of interaction intention and attitudes towards misogynistic content.

### **2.2.2 Participants**

A volunteer sample of 268 (74 men, mean age = 21.23 years, S.D. = 3.36, 185 women, mean age = 20.58 years, S.D. = 2.61, and seven who identified as “Other”, mean age = 33.86 years, S.D. = 24.02) participants took part in the survey. Due to the low sample size, and importance in relation to the hypotheses, those identified as “Other” were removed from analysis. As this survey was exploratory in nature, the sample size was determined by how many students participated in the study, a minimum sample size was not set. All were recruited from Bournemouth University, as current students. This population was sampled from as the overall aim of the thesis (and funding) was to investigate and develop an intervention for sexual violence on campuses, therefore the general population was not sampled. Bournemouth University students were specifically sampled (as opposed to students from other institutions) due to ease of access and to



effectively run the prize draw, minimising financial costs. Compensation for participation was entry into a prize draw (for an iPad mini). The survey was distributed via email by Bournemouth University and the Student Union (SUBU).

Participants were asked how often they use social media from “Never” (1) to “Everyday or nearly everyday” (8). For this survey, social media were defined as platforms that users can share media and have conversations through (Carr & Hayes, 2015). Facebook was the most used social media site amongst participants, with 229 responding that they use the platform “Everyday or nearly everyday”, with Flickr being the least used site (223 participants reported “Never” using it). Twitter had a median use rating of 5 (“Once a week”), but the “Everyday or nearly everyday” rating was reported the most (n= 86). This indicates that most participants were familiar with Twitter. This research utilised Twitter as it is the 10<sup>th</sup> most visited website in the UK (Alexa, 2017), and as tweets that are public can be retweeted by any user regardless of if they are formally within each other’s networks (“following” each other).

### **2.2.3 Materials**

As the primary aim of the survey was to measure reactions to online sexism, tweets were sampled as opposed to being created to ensure participants respond to materials they could feasibly view online. Three tweets were collected from Twitter, using the site's search function (the search terms “women” and “girl(s)”) to identify potential tweets of interest for this survey. The researcher then selected the first 3 tweets displaying misogynistic humour. All tweets featured the authors writing about women in a negative light. The tweets used ranged from 13 words to 18: using between 69 and 102 characters (including spaces). All 3 tweets used 2 lines spaces in Twitter’s format, and participants were shown a screengrab of

the tweets. Usernames and profile images were censored. To ensure anonymity of the tweet authors, a summary of the tweets is provided (Appendix 1).

#### **2.2.4 Procedure**

Participants were invited via advertisements and email. The advertisements stated the survey was related to gender attitudes (and made no reference to sexism). Participants completed the survey anonymously online, providing written informed consent (participants were made aware that they would be evaluating tweets), and answering demographic questions (including social media use). Participants were then shown one of the 3 tweets, followed by the 9 questions (Appendix 2). This was repeated until participants had responded to all 3 tweets. The tweets were shown in a counterbalanced order across participants. Participants were then fully debriefed. It took approximately 10 minutes to complete the survey.

The survey measured multiple types of responses to the tweets, including the likelihood of retweet; liking; reply; whether the reply would be to challenge or support the original tweet; likelihood of repeating the tweet in a face-to-face scenario; whether the post is offensive; how offensive participants feel male and female Bournemouth University students would find the tweets; and if the tweets would cause negative judgements from future employers. Participants responded using 5-point Likert-Scales (ranged 1-5). Higher likelihood ratings for the retweet and liking measurements indicate support/agreement with the statement, reply likelihood does not indicate any preference, unless combined with the challenge/support response. High ratings on the other measurements indicates a lack of support/disagreement with the tweets.

### **2.2.5 Ethical Considerations**

The first consideration ethically was potential offense caused to participants in viewing the tweets. To limit this, participants were warned of potential offense and reminded of their right to withdraw. In terms of long-term effects from exposure to this content, ethical concerns were limited as the tweets were publicly accessible and there was the potential for participants to view the tweets. The anonymity of the authors of the tweets were also considered, and their information (username, handle, profile image) were censored. This also aided limited external influences (i.e., if the account had a feminine profile image, it may have impacted the perception of the tweets). Participant anonymity was further considered given, and the role of a prize draw enabled identifiable information to be collected alongside the survey data (participant email address). It was agreed with the ethics review committee that this was acceptable (at the time of application). Once the data was extracted from the survey website, the email addresses of participants was removed and therefore not stored in a local file with participant responses. This survey had ethical approval from Bournemouth University Ethics Committee.

### **2.2.6 Analysis**

All data was analysed with R (2018) using RStudio (RStudio, Version 1.1.456). Given the data, non-parametric tests were run to determine the impact of each tweet on participants responses. Follow up non-parametric tests (i.e., Wilcoxon Signed Rank) are performed when significant main effects are found.

## **2.3 Survey 1 Results**

The results are structured according to what was measured (e.g., the questions regarding offence are grouped together). Due to a non-normal distribution and a

lack of homogeneity of variance present in all data sets, non-parametric tests were used.

### **2.3.1 Tweet Interaction Measures**

Participants were asked how likely they would be to retweet, like, and reply to the tweets. Participants on average reported being “Not at all likely” to retweet or like all three tweets. Participants rated themselves as more likely to reply to the T1 tweet compared to T2 and T3. Participants in general rated themselves unlikely to interact with the tweet (Table 2). Although for the first tweet, female participants found themselves more likely to reply to the content.

**Table 2**

*Friedman's Analysis (and Post-Hoc) Analysis of Tweet Interaction (Retweet, Like, Reply, and Reply Reason) Responses.*

		Retweet Likelihood (1) <i>mdn(mean)</i>	Like Likelihood(2) <i>mdn(mean)</i>	Reply Likelihood(3) <i>mdn(mean)</i>	Post-Hoc				
					$\chi^2$	<i>p</i>	1-2	1-3	2-3
T1	All (N = 253)	1.00(1.20)	1.00(1.25)	2.00(2.06)	<b>145.55</b>	<b>&lt;.001</b>	>.016	<b>&lt;.001</b>	<b>&lt;.001</b>
	Male (N = 70)	1.00(1.34)	1.00(1.44)	1.00(1.93)	<b>22.85</b>	<b>&lt;.001</b>	>.016	<b>&lt;.001</b>	>.016
	Female (N = 174)	1.00(1.14)	1.00(1.17)	2.00(2.07)	<b>119.64</b>	<b>&lt;.001</b>	>.016	<b>&lt;.001</b>	<b>&lt;.001</b>
T2	All (N = 252)	1.00(1.63)	1.00(1.91)	1.00(1.77)	<b>12.07</b>	<b>.002</b>	>.016	>.016	>.016
	Male (N = 71)	1.00(1.92)	1.00(2.27)	1.00(1.66)	<b>10.76</b>	<b>.005</b>	>.016	>.016	>.016
	Female (N = 172)	1.00(1.45)	1.00(1.72)	1.00(1.77)	<b>14.43</b>	<b>&lt;.001</b>	>.016	>.016	>.016
T3	All (N = 261)	1.00(1.26)	1.00(1.33)	1.00(1.70)	<b>40.85</b>	<b>&lt;.001</b>	>.016	<b>&lt;.001</b>	<b>&lt;.001</b>
	Male (N = 73)	1.00(1.30)	1.00(1.38)	1.00(1.53)	3.23	.199	>.016	>.016	>.016
	Female (N = 179)	1.00(1.22)	1.00(1.30)	1.00(1.74)	<b>37.79</b>	<b>&lt;.001</b>	>.016	<b>&lt;.001</b>	<b>&lt;.001</b>
<b>Friedman's Analysis Tweet Differences</b>									
Question Topic	Ps Gender	T1 (1) <i>mdn(mean)</i>	T2 (2) <i>mdn(mean)</i>	T3 (3) <i>mdn(mean)</i>	$\chi^2$	<i>p</i>	1-2	1-3	2-3
Retweet Likelihood	All (N = 264)	1.00(1.22)	1.00(1.64)	1.00(1.28)	<b>44.01</b>	<b>&lt;.001</b>	<b>&lt;.001</b>	>.016	<.001
	Male (N = 73)	1.00(1.37)	1.00(1.95)	1.00(1.30)	<b>16.00</b>	<b>&lt;.001</b>	>.016	>.016	>.016
	Female (N = 182)	1.00(1.16)	1.00(1.46)	1.00(1.24)	<b>22.43</b>	<b>&lt;.001</b>	>.016	>.016	>.016
Like Likelihood	All (N = 259)	1.00(1.27)	1.00(1.91)	1.00(1.33)	<b>65.35</b>	<b>&lt;.001</b>	<b>&lt;.001</b>	>.016	<b>&lt;.001</b>
	Male (N = 73)	1.00(1.49)	1.00(2.26)	1.00(1.38)	<b>21.27</b>	<b>&lt;.001</b>	<b>&lt;.001</b>	>.016	<b>&lt;.001</b>
	Female (N = 177)	1.00(1.17)	1.00(1.72)	1.00(1.30)	<b>39.71</b>	<b>&lt;.001</b>	<b>&lt;.001</b>	>.016	>.016
Reply Likelihood	All (N = 245)	1.00(2.06)	1.00(1.76)	1.00(1.71)	25.92	<.001	<.001	<.001	>.016
	Male (N = 67)	1.00(1.90)	1.00(1.61)	1.00(1.52)	<b>7.77</b>	<b>.021</b>	>.016	>.016	>.016
	Female (N = 169)	2.00(2.08)	1.00(1.77)	1.00(1.74)	<b>18.24</b>	<b>&lt;.001</b>	>.016	<b>&lt;.001</b>	>.016

Reply Reason	<b>All (N = 250)</b>	1.00(1.07)	1.00(1.21)	1.00(1.10)	<b>24.80</b>	<b>&lt;.001</b>	>.016	>.016	>.016
	<b>Male (N = 67)</b>	1.00(1.15)	1.00(1.33)	1.00(1.09)	<b>14.86</b>	<b>&lt;.001</b>	>.016	>.016	>.016
	<b>Female (N = 74)</b>	1.00(1.04)	1.00(1.15)	1.00(1.10)	<b>11.87</b>	<b>.003</b>	>.016	>.016	>.016

**Wilcoxon Analysis Gender Comparison**

Question Topic	Tweet Number	Male <i>mdn(mean)</i>	Female <i>mdn(mean)</i>	<i>W</i>	<i>p</i>	<i>r</i>
<b>Retweet Likelihood</b>	T1 (N = 259)	1.00(1.36)	1.00(1.16)	6236.50	.053	.12
	T2 (N = 256)	1.00(1.95)	1.00(1.45)	<b>5358.50</b>	<b>.002</b>	<b>.19</b>
	T3 (N = 258)	1.00(1.30)	1.00(1.24)	6610.00	.529	.04
<b>Like Likelihood</b>	T1 (N = 257)	1.00(1.49)	1.00(1.16)	<b>6037.00</b>	<b>.021</b>	<b>.14</b>
	T2 (N = 254)	1.00(2.26)	1.00(1.72)	<b>5371.50</b>	<b>.007</b>	<b>.17</b>
	T3 (N = 256)	1.00(1.38)	1.00(1.31)	6592.00	.690	.02
<b>Reply Likelihood</b>	T1 (N = 245)	1.00(1.93)	2.00(2.07)	6525.00	.389	.05
	T2 (N = 249)	1.00(1.66)	1.00(1.75)	6657.00	.443	.05
	T3 (N = 255)	1.00(1.53)	1.00(1.75)	7333.00	.121	.10
<b>Reply Reason</b>	T1 (N = 249)	1.00(1.16)	1.00(1.04)	<b>5560.50</b>	<b>.003</b>	<b>.19</b>
	T2 (N = 244)	1.00(1.32)	1.00(1.15)	<b>4932.00</b>	<b>.002</b>	<b>.20</b>
	T3 (N = 250)	1.00(1.09)	1.00(1.12)	6426.00	.509	.04

*Note: Due to median similarities means are also reported.*

Participants rated themselves as being more likely to reply to the first tweet compared to retweeting and liking, when analysing by gender, female participants maintained these results, with male participants being more likely to reply to the tweet compared to retweeting, but no difference between liking and replying. Tweet two, although having a significant effect on type of interaction, yielded no differences between retweeting, liking, and replying during post-hoc analysis. When rating personal likelihood to interact with the third tweet, overall participants indicated they would be more likely to reply to the tweet as opposed to retweeting or liking, however this preference was only present in female participants after further analysis.

This indicates that the tweet interactions are evaluated differently depending on the tweet shown. A Friedman's ANOVA using tweet number as the independent variable found that tweets were evaluated differently depending on the tweet being evaluated for retweet, liking, and reply likelihood (see Table 2). Post-hoc test revealed that for retweet likelihood, overall participants rated themselves as being more likely to retweet the second tweet over the others ( $p < .001$  for both), however this was not maintained when analysing by gender. Similar was found for liking the tweet, with tweet 2 being rated as more likely to be liked by participants. Male participants also had this preference, for female participants, tweet 2 was only rated as more likely to be liked compared to the first tweet. When considering likelihood to reply to the tweet, tweet one was given higher ratings compared to the other tweets. Female participants only had a significant increase in reply likelihood for tweet 1 when comparing to tweet 3, where-as post-hoc tests failed to reveal significant differences in reply likelihood for male participants.

When comparing across gender, a significant difference in retweet likelihood was found with T2, with men reporting being more likely to retweet T2 than women. Male and female participants had significantly different likelihood ratings for both T1 and T2. Male participants rated themselves as more likely to like T1 compared to female participants. No significant differences were found between the genders when rating how likely they would be to respond to the tweet.

Although the likelihood to reply question reveals a willingness to interact with the content, it fails to reveal the motivation being the willingness. Replying to a tweet can be supportive or contradictive of the original tweet; therefore, some participants may want to reply to the tweet to challenge it, indicating that a higher likelihood to reply rating may not be indicative of being tolerant of the content. Participants were therefore asked whether they would be replying to the tweet to support or challenge the content.

Of the 483 responses over the 3 tweets, 87.78% (n = 424) of participants reported they would challenge the tweets as opposed to supporting the tweets (n = 59; 12.22%). T1 had the highest portion of “Challenge” responses (93.18%), and T2 had the highest “Support” responses (19.25%). Men were more likely to respond to support T1 (instead of challenge) compared to women with no gender differences being found for the other tweets. Although a Chi Square is typical for this data, data for T1 & T3 failed to meet Chi Square assumptions due to low cell size.

### **2.3.2 Likelihood of Repeating the Content Face-to-Face**

Participants on average reported feeling “Not at all likely” to make this type of comment face-to-face (*mdn* = 1.00, see Table 3). A main effect of tweet number



was found ( $p = .032$ ), but post-hoc tests revealed no differences. Male participants reported being significantly more likely to repeat T2 compared to T3, no other differences were found.

**Table 3**

*Analysis of How Likely Participants Feel They Are to Make a Similar Comment in a Face-To-Face Scenario.*

<b>Friedman's Analysis Tweet Differences</b>									
<b>Ps Gender</b>	<b>T1 (1) <i>mdn(mean)</i></b>	<b>T2 (2) <i>mdn(mean)</i></b>	<b>T3 (3) <i>mdn(mean)</i></b>	<b>Post-Hoc</b>					
				<b><math>\chi^2</math></b>	<b><i>p</i></b>	<b>1-2</b>	<b>1-3</b>	<b>2-3</b>	
<b>All (N = 261)</b>	1.00(1.63)	1.00(1.71)	1.00(1.48)	<b>6.86</b>	<b>.032</b>	>.016	>.016	>.016	
<b>Male (N = 73)</b>	1.00(1.92)	1.00(2.05)	1.00(1.40)	<b>14.98</b>	<b>&lt;.001</b>	>.016	>.016	<b>&lt;.001</b>	
<b>Female (N = 179)</b>	1.00(1.50)	1.00(1.53)	1.00(1.49)	0.06	.973	>.016	>.016	>.016	
<b>Wilcoxon Analysis Gender Comparison</b>									
<b>Tweet Number</b>	<b>Male <i>mdn(mean)</i></b>	<b>Female</b>		<b><i>W</i></b>	<b><i>p</i></b>	<b><i>r</i></b>			
<b>T1 (N = 257)</b>	1.00(1.91)	1.00(1.50)		<b>5510.00</b>	<b>.004</b>	<b>.18</b>			
<b>T2 (N = 257)</b>	1.00(2.05)	1.00(1.52)		<b>5080.50</b>	<b>&lt;.001</b>	<b>.23</b>			
<b>T3 (N = 256)</b>	1.00(1.39)	1.00(1.50)		6928.50	.629	.03			

*Note* Due to median similarities means are also reported, bolded results indicate significance.

For T1, men rated themselves as more likely to make a similar comment in a face-to-face scenario compared to women ( $p < .004$ ). The same was found for T2 ( $p < .001$ ), no gender differences were found for T3 ( $p = .629$ ).

### **2.3.3 Personal and Perceived Offence Measures**

Participants were asked how personally offensive the tweets were, as well as being asked how offended they feel male and female students (at their institution) would be after viewing the tweets. When considering personal offence, participants on average rated T1 and T3 as “Somewhat Offensive”, and T2 as “Slightly Offensive”. Participants predicted that male students would find T1 and T3 “Slightly Offensive”, and T2 “Not at All Offensive”. Whereas female students were predicted by male participants to find T1 “Very Offensive”, with T2 and T3 expected to be found “Somewhat Offensive” (see Table 4).

**Table 4**

*Analysis of Offence Measures (Personal Offence, Perceived Male And Female Offence).*

		Friedmans Analysis Tweet Offence							
Tweet Number	Ps Gender	Personal	Perceived Male	Perceived	Post-Hoc				
		Offence (1)	Offence	Female Offence	$\chi^2$	<i>p</i>	1-2	1-3	2-3
		<i>mdn(mean)</i>	(2) <i>mdn(mean)</i>	(3) <i>mdn(mean)</i>					
T1	All (N = 261)	3.00(2.85)	2.00(1.75)	3.00(3.38)	294.01	<.001	<.001	<.001	<.001
	Male (N = 72)	2.00(2.43)	2.00(1.99)	4.00(3.33)	68.12	<.001	.002	<.001	<.001
	Female (N = 180)	3.00(3.00)	1.00(1.66)	3.00(3.35)	224.56	<.001	<.001	<.001	<.001
T2	All (N = 256)	2.00(2.49)	1.00(1.57)	3.00(2.84)	244.99	<.001	<.001	<.001	<.001
	Male (N = 71)	2.00(2.15)	1.00(1.68)	3.00(2.63)	51.28	<.001	>.016	<.001	<.001
	Female (N = 176)	2.00(2.66)	1.00(1.55)	3.00(2.95)	194.70	<.001	<.001	<.001	<.001
T3	All (N = 262)	3.00(2.70)	1.00(1.72)	3.00(3.13)	286.56	<.001	<.001	<.001	<.001
	Male (N = 73)	2.00(2.38)	2.00(2.10)	3.00(3.21)	72.03	<.001	>.016	<.001	<.001
	Female (N = 180)	3.00(2.81)	1.00(1.55)	3.00(3.09)	222.74	<.001	<.001	<.001	<.001
		Friedmans Analysis Tweet Differences							
Question Topic	Ps Gender	T1 (1)	T2 (2)	T3 (3)	Post-Hoc				
		<i>mdn(mean)</i>	<i>mdn(mean)</i>	<i>mdn(mean)</i>	$\chi^2$	<i>p</i>	1-2	1-3	2-3
Personal Offence	All (N = 264)	3.00(2.86)	2.00(2.48)	3.00(2.70)	18.35	<.001	<.001	>.016	>.016
	Male (N = 73)	2.00(2.42)	2.00(2.14)	2.00(2.41)	6.88	.032	>.016	>.016	>.016
	Female (N = 182)	3.00(3.01)	2.00(2.65)	3.00(2.79)	8.38	.015	.002	>.016	>.016
Perceived Male Offence	All (N = 257)	2.00(1.77)	1.00(1.57)	1.00(1.72)	11.52	.003	.007	>.016	>.016
	Male (N = 73)	2.00(2.00)	1.00(1.68)	2.00(2.10)	10.87	.004	>.016	>.016	>.016

		Female (N = 175)	1.00(1.67)	1.00(1.53)	1.00(1.55)	4.56	.102	>.016	>.016	>.016
Perceived Female Offence	All (N = 258)	3.00(3.37)	3.00(2.85)	3.00(3.12)	<b>33.05</b>	<b>&lt;.001</b>	<b>&lt;.001</b>	<b>&lt;.001</b>	<b>&lt;.001</b>	>.016
	Male (N = 70)	4.00(3.34)	3.00(2.63)	3.00(3.20)	<b>20.67</b>	<b>&lt;.001</b>	<b>&lt;.001</b>	<b>&gt;.016</b>	<b>&gt;.016</b>	>.016
	Female (N = 179)	3.00(3.34)	3.00(2.96)	3.00(3.08)	<b>12.40</b>	<b>.002</b>	<b>&lt;.001</b>	<b>&lt;.001</b>	<b>&lt;.001</b>	>.016
<b>Wilcoxon Analysis Gender Comparison</b>										
Question Topic	Tweet Number	Male	Female							
		<i>mdn(mean)</i>	<i>mdn(mean)</i>	<i>W</i>	<i>p</i>	<i>r</i>				
Personal Offence	T1 (N = 257)	2.00(2.42)	3.00(3.01)	<b>8758.50</b>	<b>&lt;.001</b>	<b>.24</b>				
	T2 (N = 257)	2.00(2.14)	2.00(2.66)	<b>8116.00</b>	<b>.007</b>	<b>.17</b>				
	T3 (N = 258)	2.00(2.41)	3.00(2.79)	<b>8000.50</b>	<b>.024</b>	<b>.14</b>				
Perceived Male Offence	T1 (N = 256)	2.00(2.01)	1.00(1.66)	<b>5245.00</b>	<b>.003</b>	<b>.19</b>				
	T2 (N = 253)	1.00(1.68)	1.00(1.54)	6237.00	.455	.05				
	T3 (N = 257)	2.00(2.09)	1.00(1.56)	<b>4704.50</b>	<b>&lt;.001</b>	<b>.26</b>				
Perceived Female Offence	T1 (N = 256)	4.00(3.33)	3.00(3.34)	6454.50	.737	.02				
	T2 (N = 255)	3.00(2.66)	3.00(2.96)	7445.50	.083	.11				
	T3 (N = 256)	3.00(3.21)	3.00(3.09)	6304.00	.466	.05				

Note: Due to median similarities means are also reported, bolded results indicate significance.

When evaluating personal and perceived offence, a significant effect on what was being evaluated occurred, with participants rating themselves as more offended than they perceived other males would be, and potential female offence as significantly higher than both personal and perceived male offence. This was also found when analysing by participant gender. The same was found when participants evaluated the second and third tweets, however male participants did not view themselves as significantly more or less offended by the tweet compared to perceived male offence for both tweet 2 and tweet 3.

Tweet differences were found when participants evaluated personal offence, with tweet 1 being rated as significantly more offensive than tweet 2. This was also found with female participant. Male participants were not more personally offended by any of the tweets compared to the others. When evaluating perceived male offence to the tweets, participants once again rated tweet 1 as being more offensive to male students compared to the other, although gender analysis post-hoc failed to yield significant tweet differences. For perceived female offence, participants rated tweet 1 as being more offensive to female than tweets 2 and 3, this was maintained when analysing female responses, and male responses only identified tweet 1 and being more offensive than tweet 2.

When comparing female and male participant personal offence ratings, female participants rated both T1 and T2 as more personally offensive than male participants. Male and female participants predicted male student offence differently for T1 and T3. Male participants rated male students to be more offended by T1 than female participants. The same effect was found for T3, with male participant ratings being significantly higher than female participant ratings. No differences were found with T2 when evaluating male student offence. When

comparing male and female ratings of perceived female offence, no significant differences were found.

#### **2.3.4 Potential Employers Predicted Reactions**

Participants were asked how they believe a potential employer would view the author of the tweet. Higher ratings indicate employers more likely to take a negative view. For all tweets, participants rated employers as being “Likely” to make a negative judgement about the poster (see Table 5). A Friedman’s ANOVA found tweet number to have a main effect on ratings, with post-hoc analysis (corrected  $\alpha = .016$ ) revealing ratings for T1 to be higher than T2 and T3. When analysing by gender, both female and male participant ratings had a main effect of tweet type, however post-hoc analysis revealed no significant differences.

**Table 5**

*Analysis of How Likely Participants Feel a Potential Employer Would Negatively View the Tweet.*

Friedmans Analysis Tweet Differences								
Ps Gender	T1 (1) <i>mdn(mean)</i>	T2 (2) <i>mdn(mean)</i>	T3 (3) <i>mdn(mean)</i>	Post-Hoc				
				$\chi^2$	<i>p</i>	1-2	1-3	2-3
All (N = 260)	4.00(3.92)	4.00(3.70)	4.00(3.64)	<b>23.74</b>	<b>&lt;.001</b>	<b>.003</b>	<b>&gt;.001</b>	<.016
Male (N = 73)	4.00(3.90)	4.00(3.45)	4.00(3.78)	<b>20.95</b>	<b>.045</b>	>.016	>.016	<.016
Female (N = 178)	4.00(3.92)	4.00(3.83)	4.00(3.57)	<b>9.37</b>	<b>.009</b>	>.016	>.016	>.016
Wilcoxon Analysis Gender Comparison								
Tweet Number	Male <i>mdn(mean)</i>	Female <i>mdn(mean)</i>	<i>W</i>	<i>p</i>	<i>r</i>			
T1 (N = 258)	4.00(3.91)	4.00(3.93)	6692.00	.816	.01			
T2 (N = 255)	4.00(3.42)	4.00(3.84)	<b>7842.50</b>	<b>.025</b>	<b>.14</b>			
T3 (N = 256)	4.00(3.78)	4.00(3.57)	6158.00	.307	.06			

Note: Due to median similarities means are also reported, bolded results indicate significance.



When comparing gender, male and female participants ratings differed for T2, with female participants giving a higher likelihood for negative judgement than male participants ( $p = .025$ ).

## **2.4 Survey 1 Discussion**

Participants responded with low tolerance of the sexist tweets, with most participants responding being unlikely to retweet, like, reply and repeat (in a face-to-face scenario) them. Despite the low tolerance of interacting with the tweets, participants on average rated the content as somewhat offensive. Men were rated as being less likely to find the content offensive compared to women, and participants rated future employers as being likely to respond negatively to the content. The participants' unwillingness to have themselves associated with the content (low retweet likelihood), paired with an awareness of potential offence it could cause would imply that the current sample holds no overt prejudice against women. There could be other reasons for such findings, such as social desirability. When investigating by the individual tweets, further disparities were found.

We found significant variability across the tweets in terms of how offensive they were and how likely participants were to like and retweet them. T2 was rated as more likely for participants to retweet and like, whereas T1 had higher ratings of offensiveness than T2. A brief thematic analysis found that the over-arching theme of T1 and T3 was enforcing gender roles. Whilst T1 discusses gender roles in a more general way ("things that were meant for women to do"), T3 specifies the concept of being "ladylike" in regard to women posting about illegal drug use. T2 however has two themes: violence and women's fault. Where T2 states that a romantic moment has been "ruined" (women's fault) by the author being "pepper sprayed" (violence; pepper spraying is associated with self-defence),

although from a humour perspective T2 reads as more of a joke than T1 and T3 due to the inference that the author is misreading a scenario as romantic.

Gender differences were found in some measures, with men typically giving ratings indicative of having a higher tolerance of the tweets. Male participants rated themselves as more likely to retweet (T2) and to “like” T1 and T2 compared to female participants. Although there were no gender differences for whether the participant would reply to the tweet, men were significantly more likely to respond in a supportive manner to T1 than female participants. Male participants also indicated that men would be more offended by T3 compared to female participant ratings.

Differences between the tweets could be due to the type of humour or sexism displayed. Where the tweets represent different types of humour, participants may have evaluated them differently, and participant gender can influence the ratings (Wilson & Molleston, 1981). T1 represented more hostile sexism, discussing how men outperform women in general, whereas T3 is more benevolent, as it refers to women being more “lady-like”. The second tweet has sexual assault undertones (a feature the other two tweets are missing), which also may have caused the differences between the tweets. Given the non-hostile non-sexual nature of T1, the hostile and sexual nature of T2, and the hostile but non-sexual T3, differences in humour appreciation between the tweets could have caused the varied ratings (Wilson & Molleston, 1981). Previous research has highlighted the differences in participant sexism when measuring benevolent and hostile sexism (i.e., someone may have a high benevolent sexism score, and a low hostile sexism score and vice versa). Benevolent sexism measures are often removed from the Ambivalent Sexism Inventory (Glick & Fiske, 1996), in favour of hostile sexism measures that typically have higher impacts on

subsequent measures. Further research should investigate responses and tolerances of the different types of tweets in relation to participant sexism scores and rape myth acceptance scores to determine a relationship and potentially explain the variances found between the 3 tweets shown.

## **2.5 Survey 2**

The results from Survey 1 indicated participants found online sexism offensive, but it was unclear why. Survey 2 aimed to understand motivations behind participant responses, and measure potential causes such as sexism (as measured by the ASI, Glick & Fiske, 1996). Ambivalent Sexism has been related to increased tolerance of sexist events in offline scenarios (Ford, 2000), and the ASI (Glick & Fiske, 1996) has been included to determine if the effects are also found online, with increases of measured sexism being positively correlated to higher tolerance of the sexist content. A further modification to Survey 1 was to explore whether the effects are based on sexism directed toward women or sexism in general. Due to the lack of recent research into prejudice against men, it is unclear if men's higher tolerance of sexism arises from issues such as prejudice norms (Ford & Ferguson, 2004), or having a higher tolerance of prejudice for outgroup members. To determine if being the target of prejudice influences attitudes towards tweets, examples of misogyny (prejudice against women) and misandry (prejudice against men) were included to explore whether participants found sexism acceptable if directed at another gender.

## **2.6 Survey 2: Method**

### **2.6.1 Design**

A mixed method design, incorporating qualitative and factorial quantitative aspects was used. An exploratory design was utilised for the quantitative elements, with target gender (men/women) being the independent variable. A

separate correlational design was used between the ratings and ASI; HSS; and Benevolent Sexism Score (BSS). The survey measured attitudes towards the tweets by asking participants to rate offensiveness, comfort retweeting from their own Twitter account, comfort repeating the content in a group face-to-face scenario, the humorousness of the content, likelihood participants feel men and women would be to retweet the content, and how offensive participants feel the general population would find the tweet. The qualitative aspect of the design involved open-ended questions such as “Why do you think this?” after giving each rating. Participants were asked to justify their offensiveness, comfort repeating, and humour ratings. Participants also answered why they felt the content was appropriate/inappropriate.

### **2.6.2 Participants**

A volunteer sample of 244 participants (90 male, mean age = 20.93, S.D. = 2.76, 149 women, mean age = 22.55, S.D. = 6.29, and 5 non-binary (participants who do not identify with the male-female gender binary, LGBT Foundation, 2018) completed the survey (those who failed to answer beyond the demographical questions (N=26) and (due to low sample size) non-binary participants were removed from analysis) from Bournemouth University took part in this survey. As this was a follow up and development from Survey 1, the same population was sampled from, with the same sample size considerations as Survey 1. Compensation and distribution were the same as with Survey 1. Of the 239 participants who responded, 65.40% (n = 172) used Twitter, indicating familiarity with the platform and its features (liking, retweeting, and replying). It should be noted the question did not specify daily use (e.g., a participant may have a Twitter account, only use it once a week; but may still select the option).

### **2.6.3 Materials**

Ten tweets (posts) collected from Twitter were selected, with five tweets targeting males, five targeting females. We found the tweets by searching for specific terms (e.g., women; useless; sex etc.) and limiting the author account location to the UK in October 2016. Fifteen tweets were identified as misogynistic by the primary researcher; and 7 tweets were identified as misandrist. A team of three people (two men; one woman) reviewed the tweets to decide the final 10 tweets and removed those similar to another or determined not to be clearly sexist. The tweets used ranged from 8 words to 27: using between 42 and 140 characters (including spaces). The tweets used between 1- and 4-lines spaces in Twitter's desktop format, and participants were shown a screengrab of the tweets. As in Survey 1, tweets were sampled as opposed to being created. Each participant viewed (at random) one of each target set, with the usernames and images of the users censored (see Appendix 3). The questions that followed were opinion based (e.g. "How humorous do you find this tweet?"), using a 5 point Likert scale, or open ended questions covering participants opinions on how appropriate the tweets were, to justify their responses to if they found the tweets offensive, why they would (or would not) feel comfortable repeating the tweets in a face-to-face scenario, and why they may find the tweet humorous (see Appendix 4 for full question set).

The ASI (Glick & Fiske, 1996) was used to evaluate participants' sexism. The ASI evaluates both hostile sexism and benevolent sexism. The ASI has been shown to be reliable ( $\alpha > .73$ ) across different samples and studies, and valid when compared to other methods of measuring prejudice/sexism (Glick & Fiske, 1996). The ASI consists of 22 statements, which participants rate their agreement with on a scale of 0 to 5. A higher ASI score indicates greater holding of sexist

views. The entire survey was created and distributed using Qualtrics, a survey-based software.

#### **2.6.4 Procedure**

Participants were invited to participate either via advertisement through posters, or through email invites. The posters included an image of an iPad (as the prize draw), and indicated the survey involved the topics of gender and social media. After providing written informed consent, participants answered the demographic questions, and were then presented with one (counterbalanced) male-targeted tweet (with a warning the tweet may have offensive language). Following this were the 10 questions. Six of the questions required a response via a 5-point Likert scale (ranged 1 to 5). Given the subjective nature and complexity of topics like sexism, offence, and humour, it was deemed appropriate to include qualitative responses (Saldaña, 2011) to inform and focus further research. To minimise drop-out rates (Knapp & Heidingsfelder, 1999, as cited in Bosnjak & Tuten, 2001), answering the open questions was not compulsory, although some participants did fail to complete the survey (see Appendix 5). The procedure was then repeated with a misogynistic tweet. The order was not counterbalanced as the survey included sexist statements towards men, and due to the lack of research on such content, there was concern exposure to female-targeted sexism may bias participants to respond similarly to male-targeted content. Participants then completed the ASI (Glick & Fiske, 1996). It took approximately 17 minutes for participants to complete the survey.

#### **2.6.5 Ethical Considerations**

Given the similarity of data collection methods, the same ethical issues were considered as survey one (see section 2.2.5 for the outline). This survey was also

approved by the Bournemouth University Science and Technology ethics committee.

### **2.6.6 Analysis**

All quantitative data was analysed with R. Triangulation (Mayring et al., 2007) was used to combine the quantitative and qualitative elements into a mixed-methods survey, with participants being asked to justify their quantitative responses, enabling the qualitative elements to offer a more in-depth investigation into attitudes, opinions, and reactions to online sexism. Although the quantitative and qualitative questions are collected separately, the questions complement each other leading to one set of responses potentially explaining the other. For example, those who respond that they would feel uncomfortable repeating the content in a face-to-face scenario may have responded that way due to issues external to the content (e.g., social anxiety), and this triangulation (Mayring et al., 2007) method will enable this elaboration to be analysed and accounted for.

To analyse the free-text responses, Braun and Clarke's (2006) method of thematic analysis was used to identify underlying themes from participant responses. Although grounded theory is typically used in exploratory analyses (Guest et al., 2012), the large volume of data and presence of previous research and theories made a thematic analysis more appropriate (Guest et al., 2012). Due to the number of responses (1966 total) and the different focus of each question the themes were created from each question separately as opposed to collectively. Participant responses were coded and developed into subthemes and themes. This was initially done by familiarising myself with the data and reading through the responses for each question separately. Once complete, initial coding began. This involved me going through each response and

assigning codes. Within this stage, I tried to keep the codes verbatim to the responses where possible, but some adjustments were made to fit previous codes if appropriate. For example, one participant responded, “it is gallows humour”, which was initially coded as “dark humour” as that particular code had been used previously. Some responses had multiple codes, due to participants providing multiple motivations behind their quantitative responses. For example, the response “no wit involved in the statement, with little effort to create a humorous observation”, which had the codes “no wit” and “little effort” assigned to it. Once initial coding was complete, all initial codes were compiled into a separate document. From this, similar initial codes were grouped together into sub-themes, with references back to the original quotes to ensure context of the original response was maintained, such as “offensive” and “insulting” as initial codes being grouped into “offensive”. Once the initial codes were grouped into sub-themes, they were further developed into themes. The themes were developed according to an overall motivation behind the participants’ responses. For example, some sub-themes developed included “untrue/false” and “accurate”, these were enveloped into the overall theme of “Accuracy”, as both responses, whilst antithetical to each other, are driven by whether the participant determined the content to be accurate. The primary research question was “How do students respond to online sexist materials?” with specific additional questions asked including “Why do students find online sexist materials offensive/inoffensive?”. Given this rationale and the assumption of perceived sexist materials, I may have had some confirmation bias therefore, the analysis was triangulated, with 2 other researchers (both male) reviewing the initial coding and final themes.



For the quantitative measures, a similar analysis method was utilised as in Survey 1.

### **2.7.0 Survey 2 Results**

The results are structured the same Survey 1. For qualitative questions, the male and female-targeted tweet responses were collated to discover a general motivation regardless of target gender; if a theme emerges from one target then it is indicated in the theme table. As there was a large amount of theme cross over, all qualitative results are presented in one block. For the quantitatively measured questions, due to a non-normal distribution and a lack of homogeneity of variance present, non-parametric tests were used.

#### **2.7.1 Offence Measures**

Participants were asked to rate their level of offence to the content, and the perceived offence a member of the general population might have. Priests' Intergroup Conflict Theory (as cited in Priest & Wilhelm, 1974) predicts that participants would be less offended when an outgroup is targeted, and this question aimed to test this. Table 6 suggests male and women find the male-targeted tweet equally offensive, and the female-targeted tweet is more offensive to female participants. Women thought the male-targeted tweet would cause more offence to the general population compared to men and the female-targeted tweet. Male participants appear to rate both tweets as the same level of offensiveness. Comparing personal offence to general population offence, female participants thought the general population would be more offended by the male-targeted tweet, but that the general population would find the female-targeted tweet less offensive compared to their personal offence levels. Male participants did not rate the general population to be offended by the male-targeted tweet but

did estimate offence to the female-targeted tweet to be higher than their own personal offence ratings.

**Table 6**

*Analysis of Participants' Personal Offence to the Tweets, and Estimation of How Offensive the General Population Would Find the Tweets.*

<b>Wilcoxon Analysis Personal and General Population Offence</b>									
<b>Tweet Target</b>	<b>Ps Gender</b>	<b>Personal Offence mdn(mean)</b>	<b>General Population Offence mdn(mean)</b>	<b>V</b>	<b>p</b>	<b>r</b>			
<b>Female-targeted Tweets</b>	<b>All (N = 202)</b>	4.00(3.20)	3.00(3.43)	<b>5316.50</b>	<b>.037</b>	<b>.10</b>			
	<b>Male (N = 77)</b>	2.00(2.12)	3.00(3.04)	<b>148.00</b>	<b>&lt;.001</b>	<b>.49</b>			
	<b>Female (N = 125)</b>	4.00(3.87)	3.00(3.44)	<b>3334.00</b>	<b>&lt;.001</b>	<b>.23</b>			
<b>Male-targeted Tweets</b>	<b>All (N = 220)</b>	2.00(2.17)	2.00(2.51)	<b>3352.00</b>	<b>&lt;.001</b>	<b>.20</b>			
	<b>Male (N = 86)</b>	2.00(2.06)	2.00(2.42)	<b>551.00</b>	<b>&lt;.010</b>	<b>.20</b>			
	<b>Female (N = 134)</b>	2.00(2.24)	3.00(2.57)	<b>1203.00</b>	<b>&lt;.001</b>	<b>.20</b>			
<b>Wilcoxon Analysis Personal Offence</b>									
		<b>mdn(mean)<sub>1</sub></b>	<b>mdn(mean)<sub>2</sub></b>	<b>V</b>	<b>p</b>	<b>r</b>	<b>W</b>	<b>p</b>	<b>r</b>
<b>Male (N = 239)</b>	<b>Men<sub>1</sub> x Women<sub>2</sub></b>	2.00(2.04)	2.00(2.28)				7648.00	.057	.12
<b>Female (N = 209)</b>	<b>Men<sub>1</sub> x Women<sub>2</sub></b>	2.00(2.08)	4.00(3.87)				<b>8504.00</b>	<b>&lt;.001</b>	<b>.55</b>
<b>Male<sub>1</sub> x Female<sub>2</sub></b>	<b>All (N = 209)</b>	2.00(2.15)	4.00(3.16)	<b>1620.50</b>	<b>&lt;.001</b>	<b>.36</b>			
<b>Male<sub>1</sub> x Female<sub>2</sub></b>	<b>Male (N = 83)</b>	2.00(2.06)	2.00(2.08)	505.50	.895	.01			
<b>Male<sub>1</sub> x Female<sub>2</sub></b>	<b>Female (N = 126)</b>	2.00(2.21)	4.00(3.87)	<b>142.50</b>	<b>&lt;.001</b>	<b>.53</b>			
<b>Wilcoxon Analysis General Offence</b>									
		<b>mdn(mean)<sub>1</sub></b>	<b>mdn(mean)<sub>2</sub></b>	<b>V</b>	<b>p</b>	<b>r</b>	<b>W</b>	<b>p</b>	<b>r</b>
<b>Male (N = 220)</b>	<b>Men<sub>1</sub> x Women<sub>2</sub></b>	2.00(2.42)	3.00(2.57)				6423.50	.123	.10
<b>Female (N = 202)</b>	<b>Men<sub>1</sub> x Women<sub>2</sub></b>	3.00(3.40)	3.00(3.44)				4882.50	.856	.01
<b>Male<sub>1</sub> x Female<sub>2</sub></b>	<b>All (N = 202)</b>	2.00(2.50)	3.00(3.43)	<b>792.00</b>	<b>&lt;.001</b>	<b>.43</b>			
<b>Male<sub>1</sub> x Female<sub>2</sub></b>	<b>Male (N = 77)</b>	2.00(2.40)	3.00(3.40)	<b>84.00</b>	<b>&lt;.001</b>	<b>.46</b>			

<b>Male<sub>1</sub> x Female<sub>2</sub></b>	<b>Female (N = 125)</b>	3.00(2.57)	3.00(3.44)	<b>366.00</b>	<b>&lt;.001</b>	<b>.44</b>
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*Note:* Due to median similarities means are also reported, bolded results indicate significance.

Overall participants found the female-targeted tweets (median (*mdn*) = 4.00 to be significantly more personally offensive than male-targeted tweets ( $p < .001$ ), with higher numbers representing more offence. This was also found in women, with male-targeted tweets being regarded as less offensive than female-targeted tweets ( $p < .001$ ). No differences were found with male participants ( $p = .900$ ). Women found female-targeted tweets to be more offensive than men ( $p < .001$ ).

Participants reported female-targeted tweets more likely to be considered offensive by the general population than male-targeted tweets ( $p < .001$ ), once again this was found with the gender analysis (men:  $p < .001$ ; women:  $p < .001$ ).

For male targets, participants rated the general population to be more offended than themselves ( $p < .001$ ). When analysing by gender, both male and female participants rated the male-targeted tweet as significantly more offensive to the general population than themselves (men:  $p = .009$ ; women:  $p < .001$ ).

The female-targeted tweet was rated as more personally offensive ( $p = .037$ ) than offensive to the general population. When analysing by gender, male participants found the female-targeted tweets to be more offensive to the general population than personally offensive ( $p < .001$ ), whereas women rated the content as more offensive to them compared to the general population ( $p < .001$ ).

### **2.7.2 Retweeting and Repeating the Tweets**

On a platform such as Twitter, retweeting is sharing a post to your own profile (your followers can then view the tweet). Retweeting is viewed as akin to agreeing to the tweet (Metaxas et al., 2015), unless the user adds more context to the retweet. By asking participants how comfortable they would feel retweeting the content from their own Twitter account and asking them to predict how

comfortable male and female students would be to do the same, the results can indicate how comfortable participants would feel to be seen to be agreeing with the content, as well as their perceptions on how comfortable others would be. Participants were also asked how comfortable they would feel repeating the content in a face-to-face scenario to a group. This question enables a comparison between comfort repeating something in an online and offline scenario.

Women are more comfortable retweeting the male-targeted tweet, with men preferring to retweet the male-targeted tweet over the female-targeted tweet (see Table 7). Higher responses indicate more comfort/likelihood retweeting.

**Table 7**

*Analysis of Personal Comfort Retweeting and Perceived Male and Female Likelihood to Retweet.*

<b>Friedman's Analysis Retweeting Comfort and Likelihood</b>									
Tweet Target	Ps Gender	Retweet Comfort (1) <i>mdn(mean)</i>	Male Retweet Likelihood(2) <i>mdn(mean)</i>	Female Retweet Likelihood(3) <i>mdn(mean)</i>	Post-Hoc				
					$\chi^2$	<i>p</i>	1-2	1-3	2-3
Female	All ( <i>N</i> = 203)	1.00(1.41)	4.00(3.37)	1.00(1.62)	<b>256.46</b>	<b>&lt;.001</b>	<b>&lt;.001</b>	>.016	<b>&lt;.001</b>
	Male ( <i>N</i> = 78)	1.00(1.62)	3.00(3.00)	1.00(1.71)	<b>82.12</b>	<b>&lt;.001</b>	<b>&lt;.001</b>	>.016	<b>&lt;.001</b>
	Female ( <i>N</i> = 125)	1.00(1.29)	4.00(3.61)	1.00(1.56)	<b>174.86</b>	<b>&lt;.001</b>	<b>&lt;.001</b>	>.016	<b>&lt;.001</b>
Male	All ( <i>N</i> = 220)	1.00(1.85)	1.00(1.78)	4.00(3.51)	<b>244.57</b>	<b>&lt;.001</b>	>.016	<b>&lt;.001</b>	<b>&lt;.001</b>
	Male ( <i>N</i> = 86)	2.00(2.00)	2.00(1.90)	4.00(3.37)	<b>68.68</b>	<b>&lt;.001</b>	>.016	<b>&lt;.001</b>	<b>&lt;.001</b>
	Female ( <i>N</i> = 136)	1.00(1.75)	1.00(1.71)	4.00(3.63)	<b>178.59</b>	<b>&lt;.001</b>	>.016	<b>&lt;.001</b>	<b>&lt;.001</b>
<b>Wilcoxon Analysis Comfort Retweeting</b>									
		<i>mdn(mean)<sub>1</sub></i>	<i>mdn(mean)<sub>2</sub></i>	<i>V</i>	<i>p</i>	<i>r</i>	<i>W</i>	<i>p</i>	<i>r</i>
Male ( <i>N</i> = 206)	Men <sub>1</sub> x Women <sub>2</sub>	2.00(2.05)	1.00(1.75)				5438	.089	.14
Female ( <i>N</i> = 206)	Men <sub>1</sub> x Women <sub>2</sub>	1.00(1.60)	1.00(1.29)				<b>4331</b>	<b>.019</b>	<b>.16</b>
Male <sub>1</sub> x Female <sub>2</sub>	All ( <i>N</i> = 206)	1.50(1.87)	1.00(1.41)	<b>4059.00</b>	<b>&lt;.001</b>	<b>.25</b>			
Male <sub>1</sub> x Female <sub>2</sub>	Male ( <i>N</i> = 80)	2.00(2.05)	1.00(1.60)	<b>523.00</b>	<b>.002</b>	<b>.24</b>			
Male <sub>1</sub> x Female <sub>2</sub>	Female( <i>N</i> = 126)	1.00(1.75)	1.00(1.29)	<b>1699.00</b>	<b>&lt;.001</b>	<b>.27</b>			
<b>Wilcoxon Analysis Male Retweet Likelihood</b>									
		<i>mdn(mean)<sub>1</sub></i>	<i>mdn(mean)<sub>2</sub></i>	<i>V</i>	<i>p</i>	<i>r</i>	<i>W</i>	<i>p</i>	<i>r</i>
Male ( <i>N</i> = 203)	Men <sub>1</sub> x Women <sub>2</sub>	2.00(1.88)	1.00(1.68)				5125.5	.090	.11
Female ( <i>N</i> = 203)	Men <sub>1</sub> x Women <sub>2</sub>	3.00 (3.00)	4.00(3.61)				<b>6417</b>	<b>&lt;.001</b>	<b>.29</b>
Male <sub>1</sub> x Female <sub>2</sub>	All ( <i>N</i> = 203)	1.00(1.76)	4.00(3.37)	<b>640.00</b>	<b>&lt;.001</b>	<b>.52</b>			
Male <sub>1</sub> x Female <sub>2</sub>	Male( <i>N</i> = 78)	2.00(1.88)	3.00(3.00)	<b>140.00</b>	<b>&lt;.001</b>	<b>.44</b>			

Male<sub>1</sub> x Female<sub>2</sub> Female (N = 125) 1.00(1.68) 4.00(3.61) 210.00 <.001 .56

**Wilcoxon Analysis Female Retweet Likelihood**

		<i>mdn(mean)<sub>1</sub></i>	<i>mdn(mean)<sub>2</sub></i>	<i>V</i>	<i>p</i>	<i>r</i>	<i>W</i>	<i>p</i>	<i>r</i>
Male (N = 203)	Men <sub>1</sub> x Women <sub>2</sub>	4.00(3.32)	4.00(3.61)				<b>6873</b>	<b>.016</b>	<b>.16</b>
Female (N = 203)	Men <sub>1</sub> x Women <sub>2</sub>	1.00(1.71)	1.00(1.56)				4557.5	.357	.06
Male <sub>1</sub> x Female <sub>2</sub>	All (N = 203)	4.00(3.50)	1.00(1.62)	<b>15434.00</b>	<b>&lt;.001</b>	<b>.55</b>			
Male <sub>1</sub> x Female <sub>2</sub>	Male (N = 78)	4.00(3.32)	1.00(1.71)	<b>2210.00</b>	<b>&lt;.001</b>	<b>.51</b>			
Male <sub>1</sub> x Female <sub>2</sub>	Female (N = 125)	4.00(3.61)	1.00(1.56)	<b>5989.00</b>	<b>&lt;.001</b>	<b>.56</b>			

Note: Due to median similarities means are also reported, bolded results indicate significance.



Friedman's ANOVAs analysing the personal retweet comfort, and perceived male and female likelihood retweeting scores were conducted. For post hoc analyses, all alpha levels were corrected to  $\alpha = .016$ . Comfort retweeting the male-targeted tweets was affected by who was retweeting ( $p < .001$ ), with female retweet likelihood being rated as higher than personal and male retweet comfort/likelihood ( $p < .001$  for both). This was reversed with the female-targeted tweets ( $p < .001$ ), where male participants self-reported comfort retweeting was lower than how likely men would be to retweet and female retweet likelihood ( $p < .001$  for both).

When analysing this by gender, all participants estimated that women would be more likely to tweet the male-targeted tweets than the female-targeted tweet (men:  $p < .001$ ; women:  $p < .001$ ). Female-targeted tweets were estimated to be more likely to be retweeted by men compared to women and the participant (men:  $p < .001$ ; women  $p < .001$ ). All post-hoc tests were significant at  $p < .001$ . This suggests that participants predict those who are not part of the targeted group to be more likely to retweet it. Both men and women did not estimate their comfort retweeting as significantly different to male likelihood retweeting for the male-targeted tweets. With the female-targeted tweets, individual comfort retweeting was significantly less than perceived male comfort retweeting.

The analysis revealed overall participants felt more comfortable retweeting the male-targeted tweet, than the female-targeted tweet ( $p < .001$ ). This remained when splitting the participants by gender (women:  $p < .001$ ; men:  $p = .002$ ). Men were more comfortable retweeting the female-targeted tweet than women ( $p = .019$ ).

The results were reversed when considering how likely women would be to retweet the stimuli with participants rating women more likely to retweet the male-targeted tweet than the female-targeted tweet.

When the scenario involved offline face-to-face interactions, participants appear to be more comfortable repeating the male-targeted tweet over the female-targeted tweet, with both genders having equal median scores. Higher responses indicate more comfort repeating. However statistical differences were found. Participants felt more comfortable potentially repeating the male-targeted tweets over the female-targeted tweets ( $p < .001$ ), which remained when split by gender (women:  $p < .001$ ; men:  $p < .002$ ). Men were more comfortable than women repeating both the male-targeted tweets ( $p=.033$ ), and the female-targeted tweets ( $p < .010$ ).

When comparing comfort retweeting and comfort repeating, it is clear participants are more comfortable repeating the male-targeted tweet than retweeting it ( $p < .001$ , see Table 8). This was true with the female-targeted tweets, with more comfort repeating the content than retweeting ( $p < .002$ ). When separating by participant gender, the same results were found, with participants preferring the repeating in a face-to-face scenario option, over the retweeting option, excluding female participants with the female-targeted tweets, who had no preference in retweeting and repeating.

**Table 8**

*Comparison of Comfort Retweeting and Comfort Repeating in a Face-to-Face Scenario.*

		Wilcoxon Humour Analysis				
		Comfort Retweeting <i>mdn(mean)</i>	Comfort Repeating <i>mdn(mean)</i>			
Target Gender	Ppt. Gender			V	<i>p</i>	<i>r</i>
<b>Male</b>	<b>All (N = 226)</b>	1.00(1.85)	2.00(2.33)	<b>1553.00</b>	<b>&lt;.001</b>	<b>.27</b>
	<b>Male (N = 87)</b>	2.00(2.01)	2.00(2.59)	<b>213.50</b>	<b>&lt;.001</b>	<b>.29</b>
	<b>Female(N =139)</b>	1.00(1.76)	2.00(2.17)	<b>623.50</b>	<b>&lt;.001</b>	<b>.25</b>
<b>Female</b>	<b>All (N = 204)</b>	1.00(1.41)	1.00(1.64)	<b>302.00</b>	<b>.002</b>	<b>.16</b>
	<b>Male(N = 79)</b>	1.00(1.61)	1.00(1.94)	<b>21.00</b>	<b>.001</b>	<b>.26</b>
	<b>Female(N = 125)</b>	1.00(1.29)	1.00(1.45)	145.00	.112	.10

*Note:* Due to median similarities means are also reported, bolded results indicate significance.

### **2.7.3 Humour**

Participants were asked to rate how humorous they found the content. This question enables the researchers to investigate whether the participants found the tweets humorous and to what extent. Participants appear to rate the male-targeted tweet and female-targeted tweet as equally humorous regardless of gender (see Table 9). However, overall, the male-targeted tweet was rated as more humorous than the female-targeted tweet ( $p < .020$ ), with higher responses indicating finding the tweet more humorous. Women found male-targeted tweets to be more humorous than female-targeted tweets ( $p < .001$ ). Men rated the female-targeted tweet as more humorous than women ( $p < .001$ ).

**Table 9**

*Analysis of Responses to how Humorous Participants' Found the Tweets.*

Target Gender	Ppt. Gender	Wilcoxon Humour Analysis							
		<i>mdn(mean)<sub>1</sub></i>	<i>mdn(mean)<sub>2</sub></i>	<i>V</i>	<i>p</i>	<i>r</i>	<i>W</i>	<i>p</i>	<i>r</i>
Male (N = 203)	Men <sub>1</sub> x Women <sub>2</sub>	1.00(1.54)	1.00(1.48)				4836.50	.880	.01
Female (N = 203)	Men <sub>1</sub> x Women <sub>2</sub>	1.00(1.68)	1.00(1.17)				<b>3763.50</b>	<b>&lt;.001</b>	<b>.26</b>
Male <sub>1</sub> x Female <sub>2</sub>	All (N = 203)	1.00(1.50)	1.00(1.36)	<b>2039.00</b>	<b>.019</b>	<b>.11</b>			
Male <sub>1</sub> x Female <sub>2</sub>	Male (N = 78)	1.00(1.54)	1.00(1.68)	225.50	.468	.06			
Male <sub>1</sub> x Female <sub>2</sub>	Female (N = 125)	1.00(1.48)	1.00(1.17)	<b>993.00</b>	<b>&lt;.001</b>	<b>.26</b>			

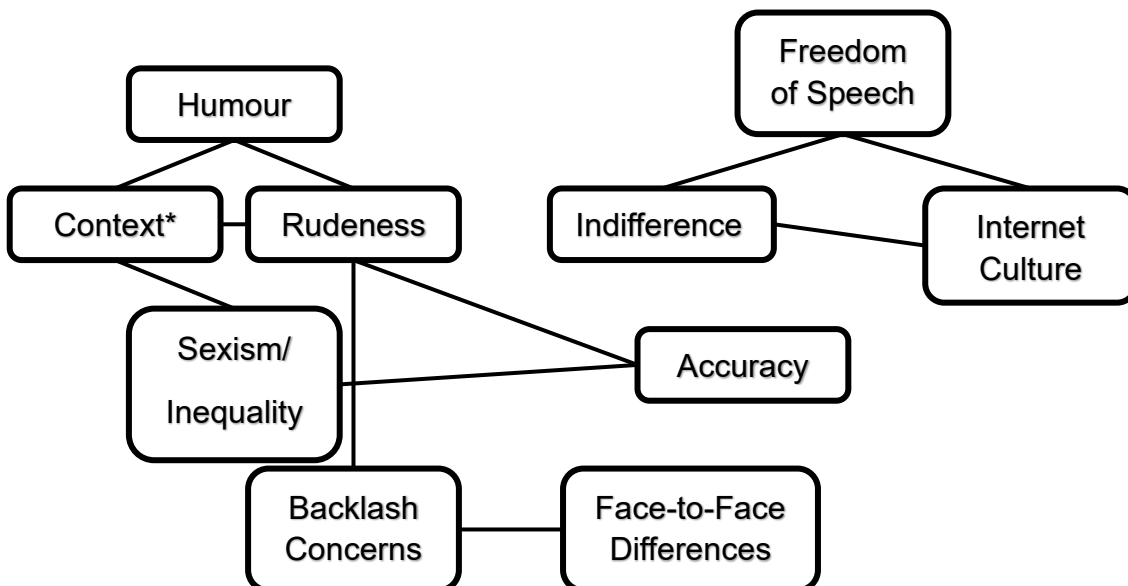
*Note:* Due to median similarities means are also reported, bolded results indicate significance.

## 2.7.4 Qualitative Responses

Participants were given four open response questions. These asked participants whether they found the content appropriate (and why), to justify their responses to the personal offence, comfort repeating, and humour quantitative questions. Forty-eight participants also erroneously responded to the qualitative question justifying their responses to whether the tweet personally offended them with a justification to the following comfort retweeting question. For both male and female-targeted questions (a total of 1580 valid responses and 25,284 words), ten main themes were produced. The themes are displayed in Figure 5. The qualitative results are presented according to the question asked of respondents, with supportive theme descriptions and quotes included, and then all themes and their interconnectedness are presented.

**Figure 5**

*Theme Map of All Qualitative Responses.*



*Note:* Whilst most themes developed from both male-targeted and female-targeted tweets, those marked with an asterisk (\*) developed from responses to male-targeted tweets.

### 2.7.4.1 Do you think it is appropriate to make a comment of this kind? Why do you think this?

For both male and female targeted questions (a total of 421 valid responses, a total of 7422 words), six main themes were produced (see Table 10 for full themes).

**Table 10**

*Theme Table for Respondent's Explanation of Appropriateness.*

Theme	Description	Codes	Quotes
<b>Accuracy</b>	Participants' determination whether the statement was appropriate was affected by how accurate participants deemed the statement. If the statement was deemed accurate, or coincided with the participants' views, then they regarded it as being more appropriate than participants who disagreed/found the statement inaccurate.	with evidence  untrue	<p><i>"It's humouristic, it's not offensive and it's true. So yeah."</i> (Participant 240[MTT])</p> <p><i>"No, as it doesn't have anything to back it up"</i> (Participant 21[FTT])</p>

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<b>Sexism/ Inequality</b>	<p>Whether the participants deemed the content as sexist/promoting inequality determined their rating of inappropriateness. Some participants deemed the MTT appropriate as males are not oppressed and the comment is therefore appropriate. For the FTT some participants stated that sexism/inequality does not exist, making the content appropriate.</p>	could hinder society	<p><i>"I don't think the comment is inappropriate since men are not a marginalised group in society"</i> (Participant 182[MTT])</p>
		misogynistic	<p><i>"No it is misogynistic"</i> (Participant 112[FTT])</p>

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<b>Freedom of Speech</b>	<p>The concept of freedom of speech arose in many responses, with participants feeling that given that people have freedom of speech, content is appropriate within that context as the author has a legal right to say it. Whereas some participants felt that, although the author has a right to say the content, it is still inappropriate considering the public nature of twitter and the audiences that the content can reach</p>	platform for expressing opinions	<p>Participant 107[MTT]: <i>"[...] However, I believe they have the right to voice their ideas on social media as long as it abides by laws and terms and conditions."</i> (Participant 107[MTT])</p>
		freedom of speech	<p><i>"I think if that's is someones opinion then they are open to express it, isn't that what these forums are for to express yourself"</i> (Participant 156[FTT])</p>

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<b>Humour</b>	<p>Alignment of humour was an important aspect of determining whether the tweets were appropriate or not. Participants who felt that the tweets were meant in jest felt that the tweets were appropriate, whereas those whose humour did not match the humour in the tweet or did not think the tweet was intended as humour felt the tweets were inappropriate.</p>	<p>not funny  seems like a joke</p>	<p><i>“No, it is an over generalisation and doesn’t seem to be made in humour”</i> (Participant 140[MTT])</p> <p><i>“This tweet is more satirical. Unlike the previous tweet, this one instigates discussion, although may seem offensive at first.”</i> (Participant 30[FTT])</p>
<b>Rudeness</b>	<p>Participants were concerned about the rudeness of the tweets, with some stating that as the tweets were offensive, they were inappropriate. Inappropriateness was also determined by the participants having empathy for the target and understanding that the tweets may be offensive to others, thereby making it inappropriate. Others felt that as the content was “fine” and therefore appropriate.</p>	<p>not hurting males in general  hateful comment</p>	<p><i>“It was fine because it wasn’t targeting anyone specific”</i> (Participant 94[MTT])</p> <p><i>“So inappropriate and rude and really unkind to a woman, no one should be spoken to like that.”</i> (Participant 56[FTT])</p>

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<b>Context</b>	Participants who were unsure of whether the content was inappropriate due to a lack of context were grouped into this theme. It appears context (which other participants inferred (see humour theme above)) is vital in determining intent and therefore appropriateness.	depends on issue  if serious then inappropriate	<i>“It just seems like it lacks respect, so depends on the tone the writer wants to put across.”</i> (Participant 132[MTT])  <i>“It might be appropriate to say about the societies where the male dominance occurs, like many developing countries.”</i> (Participant 22[FTT])
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#### 2.7.4.2 Explanation of Personal Offense

Due to some confusion regarding the question, of the 409 responses, 48 were removed as participants responses were deemed to be answering a question regarding comfort retweeting (these have been allocated as Question 3.5). 8 themes were produced from the analysis of 361 responses consisting of 6614 words (Table 11).

**Table 11**

*Theme Table of Participants Explaining Reasons for Offence*

Theme	Description	Codes	Quotes
<b>Accuracy</b>	<p>The accuracy of the content was the primary concern for many participants, wherein accuracy determined if the content was offensive/inoffensive. Those who disagreed with the statement/felt it was incorrect tended to infer offense from the tweet. Those who agreed/felt it was accurate tended to state that the content was inoffensive. This suggests that offensiveness is tied to the accuracy of statements.</p>	<p>false statement  may be true</p>	<p><i>“I don't believe women make all decisions, therefore I disagree with the tweet but am not offended by it” (Participant 120[MTT])</i></p> <p><i>“Science isn't sexist it's factual if you don't like it then you are trying to engage in a discourse of censorship” (Participant 25[FTT])</i></p>

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<b>Rudeness</b>	<p>The tweets were determined to be offensive or not based on how pleasant the message was. Participants who felt that the tweets were said in an unpleasant or not nice way felt the statements to be more offensive than those who felt the intent was benign. Participants inferred context from the tweets regarding the intent behind the statements, and from that determined if the tweet was designed to cause offense/not designed to offend viewers.</p>	<p>not bullying not personally offended</p>	<p><i>"It's not offensive and if I was a male I wouldn't be offended by it - it wasn't set to deliberately harm anyone"</i> (Participant 47[MTT])</p> <p><i>"I'm not that offended because I don't personally know the individual but would be more offended if somebody said this to my face."</i> (Participant 154[FTT])</p>
<b>Freedom of Speech</b>	<p>Participants who mentioned freedom of speech referred to offense as a separate entity to freedom of speech, with many participants who referenced freedom of speech stating that the tweets were offensive, however should not be censored to keep freedom of speech intact. For these participants the importance of maintaining freedom of speech was of a higher priority than the offensiveness of the statements.</p>	<p>each to their own entitled to opinion</p>	<p><i>"i believe that it is important to keep the internet a free speech area in which people can talk about their opinions freely, without repercussions"</i> (Participant 79[MTT])</p> <p><i>"I am strong believer of free speech, sadly that sees moronic people such as this person given a platform to speak their narrow minded thoughts however those that actually believe them are in very small numbers, especially in todays world."</i> (Participant 122[FTT])</p>

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<b>Sexism/ Inequality</b>	<p>Offensiveness was also determined by whether the content was deemed to be sexist/promoting inequality between males and females. Some participants felt that as males do not have a history of oppression/discrimination the MTT cannot be offensive (as it lacks an underlying subtext), whereas others stated sexism (regardless of target) is offensive. Responses to the FTT tended to infer the content was sexist; however, some participants stated that as the sexist statement was true, it is not offensive.</p>	<p>aimed at both genders</p> <p>enforces gender roles</p>	<p><i>"I dont agree with sexism"</i> (Participant 82[MTT])</p> <p><i>"Enforcing traditional gender roles are offensive to everyone and not just the target audience of one given tweet/message"</i> (Participant 64[FTT])</p>
<b>Humour</b>	<p>Whether the tweets were inferred as being humorous or not determined offensiveness for many participants. Some felt that as the intent behind the tweet was humour, it cannot be viewed as offensive. Others who did not find the content humorous (no intent of humour) stated that the tweet is more offensive than those who found it humorous. Some participants referred to their own sense of humour and found the content humorous (and therefore inoffensive).</p>	<p>sarcastic</p> <p>banter</p>	<p><i>"Doesn't really offend me, it's only jokes"</i> (Participant 234[MTT])</p> <p><i>"I have a dark humour"</i> (Participant 123[FTT])</p>

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<b>Internet Culture</b>	<p>The expectation of harmful/offensive content communicated via the internet/social media determined offense for some participants. Some participant felt that content delivered online is not offensive as there is the expectation of having negative content on a public platform such as Twitter. Participants stated they tend to ignore such content when online, as it is preferable to being offended by content created by strangers.</p>	<p>not what twitter is for  getting offended is a waste of time</p>	<p><i>“I do not become offended over online messages.” (Participant 130[MTT])</i></p> <p><i>“when people offer their opinion on social media, they should know that people are vicious and nasty on there. They all seek attention and admiration from others. Therefore it should be an expectation to get insulted rather than have meaningful debates, therefore i am indifferent to tweets between consenting adults.” (Participant 203[FTT])</i></p>
<b>Indifference</b>	<p>Some did not explain why they responded how they did but instead participants discussed how they felt indifferent to the tweet, or how the tweet was unnecessary to begin with. This indicates that for some participants, the offensiveness of the post is less important than whether the post is meaningful.</p>	<p>indifferent  waste of time</p>	<p><i>“I feel indifferent about it. It isn't a 'damaging' comment but it is certainly not a very nice one. Also, I don't even know what triggered this comment so it's hard to draw an opinion its context. For all I know it could be satire.” (Participant 24[MTT])</i></p> <p><i>“Bit of a stupid and unnecessary thing to say” (Participant 190[FTT])</i></p>

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**Context  
[MTT Only]**

Some participants required context to determine their responses to the MTT, with no participants requiring context for their answers to the FTT. Those requiring context asked for the intent behind the tweet, such as who is the target, and if the tweet was meant as a joke.

depends on  
target

*“It depemds [depends] on whether it's directed at me” (Participant 135[MTT])*

*“I am a man, and I don't appreciate generalisations. It is not clear this tweet is a joke” (Participant 229[MTT])*

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### **2.7.4.3 Explanation of Comfort Retweeting**

Forty-eight responses were collected from Question 3. Participants were either comfortable or uncomfortable in retweeting the materials.

6 themes were produced from 938 words (Table 12).

**Table 12**

*Theme Table for Why Participants Felt Comfortable/Uncomfortable Retweeting.*

Theme	Description	Codes	Quotes
<b>Negatively Affects User</b>	One of the main motivations for whether the participants would retweet the material was the potentially negative impact on the participants. Participants cited concern of a backlash from their followers/other users or professional concerns. As many Twitter accounts are public, potential employers may find the tweets, and this could negatively impact the participants' employability.	could affect employment  would not want to associated with comments	<p><i>"If this was the comment made at a protest of some kind supporting the Tweeter's opinion, then it's appropriate, but these kind of comments are seen as inappropriate from a professional standpoint, say a job environment, so if your boss gets a hold of this, it won't go too well at your next meeting"</i> (Participant 26[MTT])</p> <p><i>"the tweeter's views are quite strong, I wouldn't want to associate my online persona with such comments through fear of alienating those who follow me"</i> (Participant 127[FTT])</p>



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<b>Accuracy</b>	The accuracy of the tweet, or whether the participants agreed with the statements was a priority to some. They cited feeling uncomfortable retweeting content they disagree with as it may imply agreement.	not own view disagrees with statement	<p><i>"As a male with a good intellectual standing, I would be hypocritical to re tweet this as I don't agree with its message" (Participant 142[MTT])</i></p> <p><i>"I wouldn't re-tweet this as it goes against my beliefs and beliefs of the people who follow me." (Participant 14[FTT])</i></p>
<b>Rudeness</b>	Offensiveness or the intent behind the tweets appears to motivate responses to the question for some participants. Participants who felt that the content was offensive/harmful reported they would feel more uncomfortable retweeting it/would refuse to retweet. If the tweet was interpreted as benign, participants reported being more willing to retweet.	followers wouldn't be offended terrible statement	<p><i>"I don't think any of my followers would take a great deal of offence to this and would probably just see it as a chance to start a fun debate or have a joke." (Participant 143[MTT])</i></p> <p><i>"Would definity [definitely] not retweet this one, as it would have offended female audience of my followers." (Participant 93[FTT])</i></p>

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<b>Sexism/ Inequality</b>	<p>Participants who interpreted the tweets as being sexist/promoting inequality stated they would be more uncomfortable retweeting the material. Some participants implied they would be willing to retweet to highlight the sexist/unequal attitudes, thereby opening a discussion about the content. This implies that although some participants would give a “comfortable” response to Question 4, the motivation behind that response may not be caused by how comfortable they are with the content.</p>	<p>not encourage backward mindedness</p> <p>sexist comment</p>	<p><i>“I don't want to encourage backward mindedness nor have people think i am backward minded. Its an outdated view. Anyone can be anything if the stigma created by messages like this weren't encouraged.”</i> (Participant 134[MTT])</p> <p><i>“It would be to highlight how people can be so outrageous”</i> (Participant 9[FTT])</p>
<b>Humour</b>	<p>Some participants responded that their followers would assume the content was a joke, therefore making them comfortable retweeting the materials. Although this theme is tied to the “Negatively Affects User” theme in that these could cause positive affects for the participants, it has been identified as a separate theme due to the differences in motivation (i.e., responses concerned with negative repercussions were not due to followers not finding the materials funny but were more concerned about causing offense/arguments).</p>	<p>not funny</p> <p>humorous</p>	<p><i>“I have never had anyone say anything negative about the stuff I have tweeted or retweeted, people would probably just assume I was joking”</i> (Participant 13[MTT])</p> <p><i>“ITS FUNNY! and would get a lot of responses from people so that's always fun”</i> Participant 173[FTT])</p>

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**Context  
(MTT Only)**

Although only one participant stated that context was an issue, it is distinguished as a motivation from the other themes. The call for context implies that the response to Question 4 is entirely dependent on what participants interpret from the materials.

context  
dependant

*“Again. The lack of context gives me no reason to retweet. I dont find it clever or funny by its face value.”* (Participant 58[MTT])

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#### **2.7.4.4 Comfort Repeating Face-to-Face**

Three hundred and eighty-three valid responses, with a total of 5794 words were analysed. As with the previous question participants were either comfortable or uncomfortable with repeating the statements. Participants had distinctive reasons as to why they felt comfortable/uncomfortable, creating seven separate themes that motivates comfort repeating the statement (Table 13).

**Table 13**

*What Impacts Participants Comfort Repeating the Stimuli.*

<b>Theme</b>	<b>Description</b>	<b>Codes</b>	<b>Quotes</b>
<b>Accuracy</b>	Participants had concerns regarding the accuracy of the statements, for many participants, if the statement was deemed inaccurate, they reported being uncomfortable/not willing to repeating the statement. Those who felt the statement was accurate felt more comfortable repeating the materials. Indicating for some participants, the implications of potential issues with the statement (i.e., offensiveness) are not as important as factual accuracy. This could connect with offensiveness as those who feel the statement is inaccurate may also imply that it is offensive, whereas those who feel it is inoffensive may do so due to perceived accuracy.	if correct  narrow minded	<i>“Because I know in my heart it's true and whether that's how the world is or not, it's how it should be.”</i> (Participant 88[MTT])  <i>“Because it is a stupid and ignorant thing to say”</i> (Participant 63[FTT])

<b>Group Reactions</b>	<p>Potential reactions from the group participants were interacting with appears to influence comfort levels. Some participants also stated that the members of the group would impact their comfort. Participants reported feeling more comfortable repeating the statement to their friend groups, as their friends would understand if the statement was a joke/not being seriously said. Other drew on concerns for potential backlash and were uncomfortable repeating the statement in case of arguments. The group reaction theme encompasses both personal concern (avoiding arguments as they make participants uncomfortable) and concern for offending others (wanting a group of friends to ensure it is taken as a joke).</p>	<p>could cause aggression</p> <p>cause backlash</p>	<p><i>“May depend on whether it is my actual friend group, but I am sure they would understand it's a joke.”</i> (Participant 69[MTT])</p> <p><i>“People would be angry”</i> (Participant 162[FTT])</p>
<b>Face-to-Face Differences</b>	<p>Theme 3 encompasses participants distinction between repeating the statements in a FtF and CMC environment. Participants felt that as with FtF conversations, context is enabled (potentially through tone of voice, body language and other non-verbal forms of communication), making the repetition more comfortable for those participants. Others highlighted the differences in communication online, stating that as you have to respond, “in the moment” (Participant 79[MTT]) as opposed to when preferred affected their comfort levels.</p>	<p>no context online</p> <p>as a discussion</p>	<p><i>“you would have to deal with responses in the moment rather than at your own preference”</i> (Participant 79[MTT])</p> <p><i>“Again, I would build up context to say this as a joke but as a statement alone then no, this is ridiculous.”</i> (Participant 71[FTT])</p>

<b>Humour</b>	<p>Whether the statement was humorous or not determined many participants comfort in repeating the content. Some participants felt that, although the statement was intended as a joke, as it did not match their humour preferences and therefore would make them uncomfortable to repeat. Others stated that is it would be taken as a joke/would not be taken seriously, they would feel more comfortable. This suggests that participants' own sense of humour (and the sense of humour of the groups) determines comfort as opposed to whether the content is intended as a joke.</p>	<p>not my humour</p> <p>could be a joke</p>	<p><i>"It will be something we can joke about."</i> (Participant 142[MTT])</p> <p><i>"Not a very funny joke coming from a woman so wouldnt want to tell it"</i> (Participant 235[FTT])</p>
<b>Sexism/ Inequality</b>	<p>Content which was determined to be sexist made participants feel uncomfortable potentially repeating the statement in a FtF scenario. Those participants felt that the content would encourage similar thinking in other people and would feel uncomfortable promoting such views. Some participants felt that being vocal about sexism as an issue, and therefore highlighting sexist content was important, making them more comfortable repeating the statement. This also relates to the FtF and CMC differences as it is implied that participants who aim to discuss the content would feel comforting repeating the statement as they could contextualise it as an example of sexism, as opposed to attempting to imply that the content represents their views.</p>	<p>encourages bias</p> <p>feminist</p>	<p><i>"Because its demeaning. I know men who are smarter than women in some aspects and i know women who are physically stronger than men. I've met very few backward minded people, but enough to know i get angry when they talk like this. So why would i encourage them to talk lile [like] this by doing it myself?"</i> (Participant 134[MTT])</p> <p><i>"again, being vocal about issues in sexism is very important to me"</i> (Participant 10[FTT])</p>

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<b>Offensive</b>	<p>Many participants felt that the statements were offensive (see Question 2 responses), impacting their comfort in repeating the statements. Those who determined the statements to be inoffensive appeared to be more comfortable repeating the statements. This could be caused by potential concern about offending others. Participants may feel that if they find the content offensive, then others may too and vice-versa with those who found it inoffensive.</p>	<p>hurt many people  attack</p>	<p><i>"It's just a remark which i dont find offensive"</i> (Participant 38[MTT])  <i>"I think it's wrong and offensive"</i> (Participant 172[FTT])</p>
<b>Freedom of Speech</b>	<p>The opinion that freedom of speech needs to be upheld regardless of content was a determining factor for participants considering repeating the statement in a FtF environment. Participants felt that as people have the right to freedom of speech (and therefore expression of opinions etc.) then they would be comfortable repeating the statement. Although some participants stated that the opinions of the tweets are "quite strong" (Participant 127[FTT]), indicating apprehensiveness repeating the tweets, the right to express/freedom of speech appears to be the priority.</p>	<p>free speech  strong views</p>	<p><i>"I believe every one is entitled to an opinion, no right or wrong"</i> (Participant 204[MTT])  <i>"as stated, it's just an opinion and I wouldn't feel too ashamed speaking about this in front of a woman but the views are quite strong"</i> (Participant 127[FTT])</p>

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### 2.7.4.5 Humour Explanations

Three hundred and sixty-seven valid responses (4516 words) were analysed, producing eight themes (Table 14) Participants felt the tweets were not humorous due to the offensive nature of the material. Other participants rated the statements as humorous, but due to laughing at the user/author being ignorant/ridiculous. Some participants found the statements humorous for other reasons, whereas some still required context to determine how humorous the statements were.

**Table 14**

*Themes from Participants Explaining Whether the Stimuli had Humour.*

Theme	Description	Codes	Quotes
<b>Accuracy</b>	Accuracy was a determining factor when participants decided the humour of the post. Some felt that it was a joke based on facts, however, others that felt it was true therefore felt that it was not funny. The opposite was found in other participants, wherein those who felt the content was incorrect labelled it as not funny.	common opinion	<i>“it wasn't a joke, it was stating a fact”</i> (Participant 70[MTT])
		not necessarily true	<i>“Because it's incorrect and ignorant”</i> (Participant 36[FTT])



<b>Humour</b>	<p>The participants own sense of humour appears to play a large role in determining how humorous the content was. Some participants reported that as they have a dark/sick sense of humour that the content was then humorous. Others decided that the content did not align with their sense of humour, or it was not a joke to begin with. The issue of how subjective humour is has been highlighted within this theme, with participants relying on their own sense of humour to determine their rating, as opposed to a more objective stance.</p>	<p>enjoys seeing that cheap laugh</p>	<p><i>“Because I have a sick sense of humour”</i> (Participant 32[MTT])</p> <p><i>“Because of how old-fashioned the opinion is rather amusing, as its very concerning that people still think like this”</i> (Participant 222[FTT])</p>
<b>Sexism/ Inequality</b>	<p>Unlike previous sexism themes, when determining humour, it seemed there was less of an argument between those who felt it sexist and those who did not. This could be linked to if participants felt the content was sexist, they tended to cite this as the reason for the content not being humorous.</p>	<p>generalisation on personal experience concerning as an opinion</p>	<p><i>“Sexism isnt funny”</i> (Participant 162[MTT])</p> <p><i>“its creating a view of women that's not fair, and this is not funny”</i> (Participant 6[FTT])</p>

<b>Rudeness</b>	<p>The issue of pleasantness covers participants who cited they found the content to be offensive/potentially offensive. It also incorporates those who felt that as the tweet was general, it is not targeting an entire gender and therefore can be viewed as humorous. An interesting response is that there the content is more offensive than it is humorous, and therefore the content is not as humorous (Participant 161[MTT]), this indicates that for some participants there is a limit of offensiveness before a joke becomes less of a joke and more of an attack.</p>	<p>could offend women not meant to offend</p>	<p><i>“It is more offensive rather than humorous”</i> (Participant 161[MTT])  <i>“Because it's about my gender so I'm more offended by it than the previous one referring to men”</i> (Participant 32[FTT])</p>
<b>Highlights Issues</b>	<p>Participants felt that the ridiculousness of the content was humorous as opposed to the actual content. This adds an interesting element to the analysis, as these participants may have rated the content as humorous in Question 7, but not because they genuinely found the tweets humorous, and were laughing more so at the author of the tweet due the perceived ignorance of the author. This theme covers participants disliked the content as it highlights gender-based issues.</p>	<p>double standards feminists work hard</p>	<p><i>“It is to undermining to the male gender. As stated before, if this was said about a female, then there would be an uproar, and to right as well.”</i> (Participant 98[MTT])  <i>“I laughed slightly because of how ridiculous and offensive it is. I find it funny that it is one of the most perfect examples of why we need feminism and demonstrates exactly the point that we live in a rape culture where women are still seen as useful for only sex regardless of the fact many people think we have progressed.”</i> (Participant 37[FTT])</p>

<b>Context</b>	<p>Like in other analyses, some participants cited a lack of context as their reasoning for humour ratings and called for more information. Participant 22[FTT] mentioned societal differences that could make the content true, thereby not making it a joke (linking it to Theme 1: Accuracy, however the mention of cultural context caused the inclusion to this theme).</p>	<p>no context  culturally dependant</p>	<p><i>“I guess if given some context it could be funny. Maybe it's sarcastic?”</i> (Participant 213[MTT])  <i>“This is a fact for some societies so humor is not a question here.”</i> (Participant 22[FTT])</p>
<b>Indifference</b>	<p>Other participants cited their indifference to/tendencies to ignore the tweets. This links to the internet culture and indifference themes found when participants when determining personal offense (Question 3; Theme 6 and Theme 7). Participants appear to respond in a similar way, wherein due to the nature of the internet they would probably ignore the content (and therefore not have a humour rating).</p>	<p>casual tweet  no point</p>	<p><i>“because it is on social media probably looking for a response and have nothing else to tweet about”</i> (Participant 149[MTT])  <i>“Because it will generate an immediate response from a large group”</i> (Participant 173[FTT])</p>

## **Theme Relationships**

Accuracy of the content was a main motivator for determining tolerance of the tweets. If it was felt that the tweets coincided with the viewers' opinions, it was more tolerated than if not. This was connected to the theme of sexism/inequality, as participants sometimes referred to accuracy when categorising the tweets as sexist. Those who deemed the content to be sexist or promoting inequality tended to discuss the tweets in a more negative light. Humour was a consistent theme across all open questions (see Table 9 for full break down), where if the tweet aligns with a viewer's humour, tolerance of the tweet seemed to increase. If the tweet was felt to be made in jest, it impacted other justifying factors such as the sexism/inequality theme, such that a tweet made in jest did not get categorised as sexist by viewers. The perceived rudeness contributed to the justifications of responses to the Likert-Scale questions; if tweets were viewed as unpleasant, offensive or the participant had empathy for the target, less tolerance was shown. Context or further information was required by participants to accurately respond to the quantitative portions. Male-targeted tweets had more calls for context compared to female-targeted tweets (see Table 9). Context was related to other themes such as humour and sexism/inequality, with more context being required to determine tolerance of the tweets, for personal offence and comfort retweeting, context was only required when the tweets were targeted at men.

Freedom of Speech was highlighted when justifying responses; some thought given freedom of speech, content is acceptable within that context as the author has a legal right to say it. Others felt due to its public nature such tweets are unacceptable to provide to a large audience. Freedom of speech was related to Indifference towards the tweets, some discussed how they felt indifferent to the tweet, or how the tweet was unnecessary or meaningless. This also connects to

internet culture, whereby viewing offensive content is expected when online, and therefore having an adverse reaction to the content is perceived as odd. Concern of a backlash from followers/other users, audiences in a face-to-face scenario, or professional concerns were present. As many Twitter accounts are public, potential employers may find the tweets, and this could negatively impact the posters employability. This concern applied when considering repeating the statement face-to-face, with concern that they would be agreeing with the content by repeating it and causing arguments. Like back lash concerns, some highlighted the differences between being in an online and face-to-face scenario, with face-to-face conversations, context is enabled (potentially through tone of voice, body language and other non-verbal forms of communication), and others highlighted the differences in communication online. Responses to the open questions produced themes that recurred throughout the analyses (see Table 15). It is apparent that there are four main considerations by participants when determining the morality/appropriateness/humour of internet content; as the themes of accuracy, sexism/inequality, humour, and rudeness emerge as themes across all measures.

**Table 15***Theme Cross-Overs Between Questions.*

Themes	Questions				
	Appropriate	Personal Offense	Comfort Retweeting	Comfort Repeating	Humour
Accuracy	X	X	X	X	X
Sexism/ Inequality	X	X	X	X	X
Humour	X	X	X	X	X
Rudeness	X	X	X	X	X
Context	X	*	*		X
Freedom of Speech	X	X		X	
Indifference		X			X
Internet Culture		X			
Backlash Concerns			X	X	
Face-to-Face Differences				X	

*Note:* Themes that cross-over into other analyses. "X" represents if the theme was present, "\*" represents when the theme was a male-targeted tweet only.

## **2.7.2 Ambivalent Sexism Inventory Score Analysis**

Men scored higher than women in both the hostile ( $mean_{men} = 1.99$ ,  $S.D. = 1.06$ ;  $mean_{women} = 1.37$ ,  $S.D. = .95$ ;  $W = 5867.50$ ,  $p < .001$ ,  $r = .28$ ) and benevolent ( $mean_{men} = 1.81$ ,  $S.D. = .85$ ;  $mean_{women} = 1.48$ ,  $S.D. = .83$ ;  $t(192) = 2.67$ ,  $p < .008$ ,  $r = .19$ ) subsections of the sexism inventory.

### **2.7.2.1 Hostile Sexism.**

Due to non-normal distribution; Spearman's  $R$  correlation analysis was used and found hostile sexism positively correlated with responses to 7 of the questions; all of the relationships between responses and hostile sexism scores occurred with female-targeted tweets (see Table 16).

**Table 16**

*Correlations Between Hostile Sexism Scores and Responses Male-Targeted Tweet and Female-Targeted Tweet Separated by Gender.*

		Hostile Sexism Scores					
		Male Target			Female Target		
		All	Male	Female	All	Male	Female
	df	188	71	115	188	71	115
<b>Offensiveness</b>	<i>r</i>	-.016	.119	-.062	<b>-.399</b>	-.185	<b>-.372</b>
	<i>p</i>	.413	.157	.252	<b>&lt;.001</b>	.059	<b>&lt;.001</b>
<b>Retweet Comfort</b>	<i>r</i>	.080	-.104	.140	<b>.256</b>	<b>.250</b>	<b>.236</b>
	<i>p</i>	.135	.190	.066	<b>&lt;.001</b>	<b>.017</b>	<b>.005</b>
<b>Face-to-face Comfort</b>	<i>r</i>	<b>.141</b>	.010	.149	<b>.258</b>	<b>.225</b>	<b>.232</b>
	<i>p</i>	<b>.027</b>	.467	.054	<b>&lt;.001</b>	<b>.028</b>	<b>.006</b>
<b>Humour Rating</b>	<i>r</i>	.032	-.030	.092	<b>.262</b>	.107	<b>.314</b>
	<i>p</i>	.328	.401	.162	<b>&lt;.001</b>	.184	<b>&lt;.001</b>
<b>Male Retweets</b>	<i>r</i>	.003	-.043	-.035	-.017	.035	.065
	<i>p</i>	.486	.358	.355	.407	.354	.243
<b>Female Retweets</b>	<i>r</i>	.033	.006	.126	.044	.028	.028
	<i>p</i>	.324	.478	.089	.273	.407	.382
<b>General Population</b>	<i>r</i>	-.001	.047	.021	-.040	-.046	-.040
	<i>p</i>	.495	.348	.412	.294 <sup>!</sup>	.349 <sup>!</sup>	.334

<sup>!</sup> Degrees of freedom change. All = 187; Men = 70; Women = 115.

*Note:* Bolded values indicate significance.



Hostile sexism scores were negatively correlated with the rate of personal offence to the tweets (when they were targeted at women) in female participants ( $r(115)_{\text{women}} = -.37, p < .001$ ), suggesting that an increase in hostile sexism towards women reduces offence taken from misogynistic content in women. Hostile sexism scores were positively correlated with comfort in retweeting the female-targeted tweet from the participants own twitter accounts ( $r(188)_{\text{All}} = .26, p < .001$ ), indicating that as hostile sexism increases, as does the comfort in retweeting misogynistic content. The same relationship existed when repeating the female-targeted stimuli in a face-to-face interaction ( $r(188)_{\text{All}} = .23, p=.028$ ). Overall participants had a positive correlation between repeating the male-targeted tweet and hostile sexism ( $r(188)_{\text{All}} = .14, p = .027$ ). This suggests that comfort repeating sexist content (regardless of target) increases as hostile sexism towards women increases (although repeating male-targeted content has a weaker relationship than female-targeted content).

Female participants' hostile sexism had a positive relationship with how humorous they found the tweet ( $r(115)_{\text{women}} = .31, p < .001$ ). Although it should be noted female participants upper limit for the humour rating was 3 ("a moderate amount").

Hostile sexism was found to be significantly correlated with scores for personal offence (for all participants with female-targeted tweet); comfort retweeting; comfort repeating; humour and ratings as predicted. As all relationships were positive (excluding personal offence), indicating the higher a participant's hostile sexism score, the more tolerable/favourable they found the tweets (only for female-targeted tweet). This indicates that as hostile sexism increases, personal offence in female participants' decreases when viewing female-targeted sexism. Additionally, comfort retweeting and repeating targeted

content also increases as hostile sexism increases. Overall, participants also found the female-targeted tweet more humorous as their hostile sexism score increased, however this relationship was not present with male participants. This suggests that, as previous research has found, as hostile sexism increases, tolerance of sexist content also increases.

### **2.7.2.2 Benevolent Sexism.**

Benevolent sexism was positively correlated (weakly) with the level of comfort participants would have retweeting female-targeted tweets ( $r(185)_{All} = .14, p = .033$ ), when analysing by gender this was also found in female participants ( $r(112)_{women} = .16, p=.043$ ). There were no other relationships involving comfort of retweeting and benevolent sexism, indicating an increase in benevolent sexism can influence how comfortable women are retweeting misogynistic content to their own Twitter accounts (see Table 17).

**Table 17**

*Correlations Between Benevolent Sexism and Responses Male-Targeted Tweet and Female-Targeted Tweet Separated by Gender.*

		Benevolent Sexism Correlations					
		Male Target			Female Target		
		All	Male	Female	All	Male	Female
	df	185	71	112	185	71	112
<b>Offensiveness</b>	<i>r</i>	-.020	.012	-.041	-.104	.056	-.142
	<i>p</i>	.391	.460	.334	.079	.320	.065
<b>Retweet Comfort</b>	<i>r</i>	.087	-.018	.137	<b>.135</b>	.091	<b>.162</b>
	<i>p</i>	.118	.438	.073	<b>.033</b>	.222	<b>.043</b>
<b>Face-to-face Comfort</b>	<i>r</i>	.084	-.007	.117	-.018	-.015	-.046
	<i>p</i>	.127	.475	.108	.402	.449	.312
<b>Humour Rating</b>	<i>r</i>	<b>.128</b>	.108	.145	<b>.244</b>	<b>.206</b>	<b>.248</b>
	<i>p</i>	<b>.040</b>	.182	.062	<b>&lt;.001</b>	<b>.040</b>	<b>.004</b>
<b>Male Retweets</b>	<i>r</i>	.059	.098	.009	.022	.111	.021
	<i>p</i>	.211	.204	.461	.382	.174	.411
<b>Female Retweets</b>	<i>r</i>	.018	-.048	.094	.010	.128	-.093
	<i>p</i>	.406	.342	.160	.445	.141	.163
<b>General Population Offence</b>	<i>r</i>	-.074	-.182	.012	-.064	.005	-.091
	<i>p</i>	.156	.062	.449	.194 <sup>!</sup>	.483 <sup>!</sup>	.169

! Degrees of freedom change. All = 187; Men = 70; Women = 115.

*Note:* Bolded values indicate significance.

Participants benevolent sexism scores had relationships with humour rating for both when rating male ( $r(185)_{\text{All}} = .13, p = .040$ ) and female ( $r(185)_{\text{All}} = .24, p < .001$ ) targeted tweets. When evaluating female-targeted tweets, both male ( $r(71)_{\text{men}} = .21, p = .040$ ) and female ( $r(112)_{\text{female}} = .25, p = .004$ ) participants have a positive relationship to how humorous they find the content, whereas the correlation for male-targeted tweets is not present by gender. This suggests that benevolent sexism is primarily related to an increase in humour ratings for female-targeted tweets.

Benevolent sexism was positively correlated with comfort retweets (female female-targeted tweet only); and humour ratings (only overall participants for male targets; both male and female participants with female targets). The relationships were weaker than those found with hostile sexism and tolerance/favour of the tweets, indicating those with high benevolent sexism are less tolerant of the tweets than those with high hostile sexism (although these scores are not independent of each other). This suggests that as benevolent sexism increases in women, so does tolerance for retweeting sexist statements that target women and increases how humorous participants find sexism. This indicates that participants higher in benevolent sexism are more tolerant of sexist events.

### **2.8.0 General Discussion**

Exploratory surveys were conducted to determine student reactions and attitudes to online sexism. Analysis has indicated students typically have a low tolerance of sexist online content; however, this tolerance can change depending on participant gender, target gender, and the content of the tweet itself. These findings are discussed according to the themes developed and question categories.

Survey 1 explored general reactions to three sexist tweets, measuring personal offence, interactivity likelihood, repetition likelihood, and perceived reactions from others. Male participants did not find the Survey 1 content as offensive as women, with Survey 2 addressing if this was caused by men not being the target of the tweets, or if sexism towards women influenced ratings.

Survey 2 expanded on the method of Survey 1 by utilising a mixed-method design, with some questions involving a qualitative follow-up, typically justifying the quantitative elements of the survey. Male sexism targets were also included, alongside the Ambivalent Sexism Inventory (Glick & Fiske, 1996). Although female participants considered the female-targeted tweets to be more offensive than male-targeted tweets, male participants did not rate the tweets as significantly different. Participants also estimated that members of the non-target gender would be more likely to retweet the content, but male participants estimated their own personal comfort retweeting to be higher compared to female participants when the tweet was targeting women. In terms of humour, the male-targeted tweets were rated as more humorous than female-targeted tweets by female participants, and men found the female-targeted tweets more humorous than women. When investigating the justifications of the responses, ten themes were developed: humour, context, rudeness, sexism/inequality, backlash concerns, face-to-face differences, freedom of speech, indifference, internet culture, and accuracy. Although some themes were only found in certain justifications, the themes of sexism/inequality, humour, rudeness, and accuracy were discovered in all analyses.

The measurements of hostile and benevolent sexism correlated with some responses. For example, as hostile sexism scores increased, tolerance of the female-targeted tweets appeared to increase too concerning offensiveness,

comfort retweeting and repeating, and humour ratings. Only comfort repeating the male-targeted statement face-to-face was correlated with hostile sexism. However, the survey did not include the Ambivalence Towards Men Inventory (Glick & Fiske, 1999), and only measured sexism towards women. Benevolent sexism had similar results to the hostile sexism scores, with most significant correlations being found with female-targeted tweets, and not male.

Some of the themes produced were somewhat expected from the nature of the survey, with motivations ranging from whether the content was sexist, to whether it was stated in a rude way. The freedom of speech theme, another occurring in multiple analyses, involved participants conflicting thoughts between the content being offensive, and being technically appropriate due to laws protecting freedom of speech. The defence of freedom of speech has been linked with higher prejudice towards the targeted group in racist contexts (White & Crandall, 2017), so it could be certain participants are defending their own right to say the content. However, that is not reflected in their responses. Although some participants gave short answers that did not elaborate beyond citing freedom of speech as their motivation, others did elaborate to state the content is inappropriate to others, but not for the internet. This could indicate a more nuanced perception of online sexism, wherein offence is recognised, but the role of the internet and subsequent freedom of speech on such platforms takes priority over reducing offence from such content.

For the closed questions, female-targeted tweets were found to be more offensive than male-targeted tweets, with men not finding either more offensive (although rated the female-targeted tweet as less offensive than women). Female participants found the female-targeted tweet more offensive than the male-targeted tweet, and female-targeted tweet more offensive than male participants.

This supports Priests' Intergroup Conflict Theory (as cited in Priest & Wilhelm, 1974), as those who were not part of the targeted group found the content less offensive compared to when their group was targeted. Participants felt more comfortable repeating the male-targeted tweets in any situation compared to the female-targeted tweets, indicating a higher tolerance to male-targeted sexism, with men being more comfortable in the face-to-face scenario regardless of target gender. As with offence, men did not find one tweet more humorous than the other; women found male-targeted tweets more humorous than female-targeted tweets. Participants felt people would be more likely to retweet the material that targeted the other gender (i.e., men more likely to retweet the female-targeted tweet and vice-versa). Participants rated female-targeted tweets as being more offensive towards the general population compared to male-targeted tweets. The results indicate awareness from male and female participants that female-targeted sexism is not tolerated as much as male-targeted sexism, with most participants rating the female-targeted tweets less positively than the male-targeted tweet, however this could be due to the tweets not being matched.

### **Appropriateness**

Appropriateness was determined using the following motivations: Accuracy; Sexism/Inequality; Freedom of Speech; Humour; Pleasantness; and Context. This indicates participants investigate more facets than purely content before determining appropriateness. That the legality of the content was a factor suggests participants were attributing appropriateness based on whether the content was legal, as opposed to levels of offensiveness etc. Those who cited freedom of speech did not tend to specify other motivations, whereas some themes would cross into each other in other responses (e.g., if the content was

deemed as rude and sexist it would fall under the sexism/inequality theme and the pleasantness theme).

### **Offensiveness**

From the quantitative responses female participants were more personally offended by the female-targeted tweet than the male-targeted tweet, however this was not found with male participants. From the responses gathered when asked to explain the previous response, it could be male participants are less offended by any online content due to the nature of the internet and general indifference to such materials. Prejudice Norm Theory (Ford & Ferguson, 2004) explains this expectation and allowances of offensive content online. It proposes exposure to disparagement humour increases tolerance for prejudiced events; when applying to the current survey, participants who are regularly exposed to disparagement humour may be more tolerant of sexist tweets, which could create the expectation of offensive content and the following indifference found in certain responses. The qualitative responses could explain the female scores as participants were concerned about being a target of the tweets, with the addition of participants' not finding the male-targeted tweet sexist due to a lack of previous discrimination/oppression towards men. The request for context in the male-targeted tweet responses also highlights the differences between interpretations of sexist content depending on target gender. Participants did not request context for the female-targeted tweet, indicating participants' personal offence was easier to determine.

### **Restating Concerns**

Participants were concerned with retweeting content for both male-targeted tweet and female-targeted tweet. This primarily came from concerns over backlash, accuracy of the content, humour, pleasantness and whether the content is sexist.



Many participants reported these factors and discomfort when considering retweeting the content, many rating themselves as uncomfortable regardless of target gender. Impression management could be causing these responses, wherein the use of social media to manage others impressions of themselves are utilised, such as untagging oneself from inappropriate/unflattering posts on Facebook (Birnholtz et al., 2017).

Once again participants reported being uncomfortable with repeating the tweets in a face-to-face scenario (although participants were more comfortable repeating the male-targeted tweet than the female-targeted tweet). This was supported when asked to explain their rating. As with the retweeting question participants appeared to be concerned with potential backlash from the group, but also highlighted they would feel more comfortable in the face-to-face scenario than the retweet scenario due to having the ability to add context to the statement (e.g., make it clear they were speaking in an ironic sense). This indicates participants would be more comfortable, in general, repeating sexist statements with the condition of being able to add context to the conversation or could explain why they repeated the statement. This response and the differences to the retweeting responses suggest participants are aware of the potential effects of online communication and the drawbacks of a lack of context (such as tone etc.). According to the Online Disinhibition Effect (Suler, 2004), participants should be more comfortable retweeting the content as opposed to repeating it in person, however this was not found. One facet of the Online Disinhibition Effect (Suler, 2004) is Dissociative Anonymity, wherein people are more likely to behave differently online as they do offline due to the anonymity afforded by the internet. As the question specified retweeting from the participants' own Twitter account, as opposed to giving them the option of an anonymous account, this could cause

the preference for repeating the content in a face-to-face scenario. As with the retweeting comforts, impression management could also cause the preference for repeating the statements in group face-to-face scenarios. When participants elaborated on their comfort retweeting/repeating scores, some reported discomfort due to the negative impression such content would create, and others stated as they can add context to the statement in a face-to-face scenario, they would be more comfortable. Impression management may explain the preference for a face-to-face repetition, but the inclusion of context as stated in the qualitative portion of the question, can also be explained by hostile attribution bias, wherein individuals will interpret another's behaviour as having a hostile intent, but will not apply this to themselves. Participants cite the ability to add context, enabling the listener to interpret the content positively in a face-to-face scenario, which was not possible when retweeting the material. This combined with impression management would explain why participants appear to be more comfortable repeating sexist statements in a face-to-face scenario.

## **Humour**

Given the role of humour in participants' evaluations of the tweets, analysis of the humour ratings (and justification of the rating) indicated participants did not find the content overly humorous. When investigating their reasoning, many reported a low humour rating caused by the tweets either not being a joke, or not fitting the participants' style of humour (some participants referenced a "dark sense of humour", indicating a preference for black comedy). Other participants reported finding it humorous but in a more ironic sense. Those who stated it reported the ridiculousness of the statement (and therefore the ignorance of the author) was humorous, however this is not truly reflected in the quantitative scores. It appears participants' who found the tweets humorous in an ironic sense also rated the

content as not humorous. This could be caused by participants' concerns they may be categorised as finding the content at face value humorous, as opposed to the ironic humour. This is explained by the Superiority Theory of Humour, wherein content is humorous if it makes the receiver feel superior (Martin, 2007). Although Superiority Theory is typically discussed in form of the target of the joke being made to be inferior to the receiver, it could apply to the above responses suggesting participants found it humorous as it gave them a sense of superiority in terms of the author's level of ignorance.

### **Perceived General Population Reactions**

Participant ratings of how likely they thought men or women would be to retweet the materials revealed participants predicted the target of the tweet would be less likely to retweet the content. This prediction of retweet likelihood was accurate for women, according to participants self-reported comfort retweeting the material. However, predictions of men's retweet likelihood were not accurate, with men reporting more comfort retweeting the male targeted tweet. The gender of the participants also affected ratings, with women rating men as less likely to retweet the male-targeted tweet than men's self-reported comfort retweeting and vice-versa for the female-targeted tweet. This suggests participants believe those who are not the target of the tweet would find the content more enjoyable, and therefore retweet the content. This is not supported by participant ratings of how offensive the general population would find the tweet. Participants rated the content as reasonably offensive to the general population, which contrasts with participant likelihood ratings. This contrast could be caused by the tendency for people to assume that others are more accepting of socially irresponsible behaviours and attitudes than are the actual societal norms. This phenomenon has been documented in a range of behaviours, including alcohol use (McAlaney

et al., 2011). Participants could be estimating potential prejudice (and retweet likelihood) of others to be higher than both themselves and the true norm. This conforms to theories of pluralistic ignorance, wherein individuals “mistakenly believe that their own attitudes and behaviours deviate from those of others” (Boon et al., 2014). Pluralistic ignorance can explain contradicting attitudes and behaviours, for example Boon et al. (2014) investigated cheating in relationships, finding participants estimated others to be more likely to be unfaithful and have a more positive attitude to cheating compared to themselves. It is argued that this misperception attributes to high number of participants who reported being unfaithful, as participants believe the norm is to cheat more often than reality. Given the difference between participants’ ratings of their own offence/retweet/like likelihood and perceived ratings of the general population, it could be participants have a misperception of how acceptable/tolerable the general population finds online sexism, which in turn enables participants to believe they are superior to the general population.

A difference between individual and perceived norms can influence behaviour in relation to sexism. Durán et al. (2018) exposed male participants to (falsified) average responses to the ASI (Glick & Fiske, 1996) that were either high in hostile and benevolent sexism or low, then participants completed the rape proclivity measure (Bohner et al., 1998). Participants in the high hostile sexism peer norm condition reported higher rape proclivity scores than those in the low hostile sexism group if participants had a high hostile sexism score themselves, indicating that individuals who have hostile sexism beliefs have a higher rape proclivity if they believe the peer norm to also be high (Durán et al., 2018). When applied to the current research these findings suggest that the role of pluralistic ignorance combined with exposure to sexist statements may

influence behaviour regarding sexual assault. The perceived author of the content could also influence the results, as participants could believe the tweets were written by the non-target gender, making the content more offensive (for example, “Sexist Objectifying Slurs” were less acceptable when stated by a male, Fasoli et al., 2015). Whether the participant was the target of the content also could have influenced their offensiveness ratings. Those who do not belong to the target group of an offensive statement tend to rate the statement as less offensive (Cowan & Hodge, 1996).

### **Freedom of Speech**

Some participants felt, due to the nature of the internet/Twitter, the tweets shown are acceptable/inoffensive, however, many more participants stated they would not be comfortable repeating the tweets in a face-to-face scenario. It seemed like the fear of backlash caused this trend.

Participant 79 in the male-targeted tweet condition responded, “it is important to keep the internet a free speech area” in response to explaining why they are/are not personally offended by the tweet, however responded they would be “Somewhat uncomfortable” with repeating the tweet face-to-face as “you would have to deal with responses in the moment rather than at your own preference”, highlighting the difference in perception between online and offline content. Participant 79’s response also supports the Online Disinhibition Effect (Suler, 2004), with one of the facets (Asynchronicity; an online feature wherein time delays between responses etc. are possible) causing a disparity between online and offline behaviour.

## **Context**

One primary theme found in the responses of 5 of the 6 qualitative questions analysed was context. Some participants could not determine the nature of the tweet due to the lack of context given from one tweet. When asked about face-to-face interactions, many participants cited if they were to repeat the tweet, they would feel more comfortable repeating it in a face-to-face scenario as they can add context to the quote thus reducing potential backlash/arguments (i.e., quoting the tweet in a sarcastic way). Lack of context in online scenarios has been highlighted in previous research. Fichman and Sanfilippo (2015) investigated if context (in terms of the type of website being used) affects perceptions of the motivations of “trolls”. It was found participants’ determination of the motivation for the “troll” differed depending on the type of website the “troll” was posting on. A similar result was found in Survey 2 regarding context, wherein some participants stated that determining the motivation of the “troll” was impossible as there was “no way to know”, and others asked for the post history of the “troll” to determine motivations. This shows the difficulty participants have with context in online scenarios (for example, they cannot infer sarcasm, voice tone), which was a recurrent theme.

### **2.8.1 Conclusions and Further Research**

These results give a clear indication of what participants find offensive about online misogynistic and misandrist remarks. Given these results, further research should be conducted with more control on the materials. As the tweets were selected given their target gender, and the researcher faced issues finding male-targeted tweets, future research could instead reverse the female-targeted tweets to add more control to the survey. While this might equate the offensiveness linguistically, the lack of ecological validity of such a technique might make the

tweets seem implausible. Furthermore, matched stimuli may not actually be matched in terms of psychological humour. Nevertheless, further work exploring the nature of the Tweets is worth considering. Measuring participants familiarity with Twitter would add an extra level of control, as participants may not have a Twitter account, but be very familiar with the platform via screenshots shown on other sites.

Participants appear to be intolerant towards online sexism, however when the targets are male, there is a slight increase in tolerance ratings. A strength of the current research was it included male targets for sexist comments. This allowed for comparison of participants when their gender is the target of sexist statements compared to when it is not. This was highlighted in the qualitative responses where some participants stated they would not be comfortable repeating the statements if their gender was the target. Male participants were in general more intolerant of male-targeted sexism than female-targeted sexism; and vice-versa for female participants, consistent with an in-group favouritism view. Whether the content is deemed accurate, sexist, humorous, or pleasant seem to be the motivating forces behind such ratings. The perceived nature of online content also affected participants' ratings, with some stating as the content was delivered online, it is less offensive as you can expect to see such content and prepare yourself for it. In the case of a few participants, they simply reported they tend to ignore such content online and are therefore more neutral towards it. Context was an important factor to participants, with some stating that without context (of tone, for example) they cannot accurately rate the materials. There is a positive relationship between hostile sexism and tolerance of sexism in many ratings, whereas benevolent sexism had fewer relationships. This indicates

although most participants had less tolerance of the tweets, those who were higher in hostile sexism tended to have more tolerance.

Chapter 2 investigated how students perceive online sexism, and how they feel others may be impacted by online sexism. This has developed knowledge of how online sexism is perceived but lacks potential impact beyond perceptions and offence. The next stage in understanding of the role of online sexism is to determine the impact of viewing online sexism. Chapter 3 explores whether viewing online sexism can trigger a phenomenon known as Stereotype Threat.

## **Chapter 3: Cyber Sexism and Stereotype Threat**

### **3.1 Introduction**

Stereotype threat is the risk of conforming to an applicable negative stereotype (e.g., poorer performance in mathematical tests for African American people in the US and UK, Steele & Aronson, 1995). It is an effect that translates across multiple stereotypes (especially those associated with ethnicity<sup>2</sup> and gender, for a review see Pennington, et al., 2016), and performance domains (for example, academic, Steele & Aronson, 1995; sporting, Bielock et al., 2006; and childcare, Bosson et al., 2004). Seminal work by Steele and Aronson (1995) discovered that when asked to perform diagnostic tests, African-American participants underperform compared to their White counterparts, however when told the tests are non-diagnostic of ability, the performances did not differ. Further to this, stereotype threat can be triggered in arenas wherein there is no known performance stereotype. For example, it appears that simply the risk of there

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<sup>2</sup> Ethnicity is specified over race due to misperceptions of the term "race" (Valentine et al., 2016).



being a gender-gap in performance can create the stereotype threat effect (Pavlova et al., 2014).

A proposed explanation for the stereotype threat effect is that when a salient stereotype is highlighted during an assessment of the stereotyped ability, there is an additional pressure applied to the individual. The consequence is stress and anxiety that can impact performance. Spencer et al. (1999) propose that this can interfere with performance to the extent that individuals conform to the stereotype, and potentially reinforce it. A bio-cognitive approach, suggested by Schmader et al. (2008), is based on the physiological stress response caused by the stereotype activation, which leads to an impairment in prefrontal cortex processes that are involved in complex reasoning tasks. Similar performance issues with social pressure have been found in other domains such as face recognition (Hills et al., 2019). Further, individuals monitoring their performance because of the activation of the stereotype, and the efforts taken by individuals to suppress negative thoughts and emotions related to the stereotype and task, can lead to a dual-task performance, wherein performance is hindered on the primary task. The explicit monitoring effect is supported by Beilock et al. (2006) who found that in golfing (a skill not associated with heavy working memory load) stereotype threat impacted performance, but this effect was diminished when given a dual task that involved working memory. This indicates that stereotype threat mechanisms may be heavily associated with explicit monitoring of skills, creating performance anxiety. This monitoring can increase mental load that according to Schmader et al. (2008) impacts frontal lobe functioning and performance. Indeed, this suggests common mechanisms between the effects of stereotype threat and the effects found with assessment anxiety (Tempel & Neumann, 2014). This explanation also accounts for the Beilock et al. (2006)

findings. It should be noted that recent research has not found such support for the working memory inhibition explanation for stereotype threat (see Pennington, et al., 2018, for research finding support for the null), suggesting the underlying mechanism behind stereotype threat may not be purely cognitive.

A more socio-cultural approach to stereotype threat has been proposed with Social Identity Threat (Steele et al., 2002). Social Identity Threat comprises of four theoretical assumptions. The first is social identity and vigilance to threats, wherein individuals are in scenarios where they may be devalued/stigmatised as a function of their identity, and therefore become vigilant to any threats to their social identity. Second is the role of context, Steele et al. (2002) theorise individuals form a hypothesis of being devalued and seek evidence to support or contradict this hypothesis (individual differences such as pessimism is theorised to affect this assumption). The third assumption is a resistance to believing the threat, like the denial defence mechanism. The final assumption is disengagement from the domain being threatened. Individuals may categorise performance in those areas as not being a part of their skill set, so the stereotype threat effect will not affect them, e.g., women stating they do not get on with maths in general, therefore expecting lower performance in maths as a protective mechanism. There is evidence supporting Social Identity Threat, Desombre et al. (2018) found participants who were led to believe they would be compared to an out-group by the researcher, performed worse than those in the control group (no groups mentioned). Those who were told they would be comparing themselves (self-evaluation) to the same out-groups, performed even worse than those in the evaluated by the researcher condition. It seems as if participants concern about conforming to a stereotype was exacerbated by self-esteem issues in that domain. Furthermore, there could be a protective function at play after being

potentially prejudiced against. Whilst Steele et al. (2002) theorise a denial mechanism to protect the individual, in cases where prejudice is apparent, self-esteem can be protected. Major et al. (2003) found that after reading vignettes describing a rejection from a University course, participants who were told it was due to prejudices of the course leader, were less likely to blame themselves for the outcome than those who were told the rejection was due to their own failings. It could be the external/internal blame attribution is a role, wherein participants were rejected due to an external factor (the rejectors biases) rather than internal (general poor performance). However, the role of a stereotype for an aspect of an individual's identity for which there is no control can have negative impacts.

Steele (1997) states any member of a group that has a negative stereotype relevant to it can enable stereotype threat. However, the requirement of a negative stereotype is not universal. Aronson et al. (1999) recruited White males and exposed them to the "Asians are good at mathematics" stereotype and found underperformance in their sample. This was exacerbated in those who identify themselves with the mathematics domain (those who believe they are good at mathematics), although Keller and Dauenheimer (2003) also found stereotype threat effects in those without a high identification with mathematics. This suggests that whilst exposure to negative stereotypes is a common, and frequently researched, so-called "positive" stereotypes about an out-group to the participants can also trigger stereotype threat. This relates to more recent work by Pavolva et al. (2014), who found explicit "positive" messaging (i.e., "men are better at mathematics") can in turn create implicit negative messaging ("women are therefore worse at mathematics"), which is more effective at triggering stereotype threat over explicit negative messaging. Although the Aronson et al. (1999) work is unique in that the researchers successfully triggered stereotype

threat in those who do not tend to have a negative stereotype regarding their mathematics performance. Walsh et al. (1999) found underperformance from Canadian women in mathematics tasks (compared to men) when they were told the test yields gender differences, but when told the test is for comparing American scores to Canadian, no such underperformance was found. This indicates the need for a salient and well-known stereotype that the participants are likely to have been exposed to, it could also be that the group must be stigmatised in some way (i.e., Canadians are not typically stigmatised compared to Americans).

The impact of stereotype threat can be long term and go beyond specific task performance. Spencer et al. (1999) predicted that women who are aware of the stereotype of lack of mathematics ability may avoid careers that typically involve mathematics ability (such as engineering or software development). Women could also be negatively impacted by the assessments used to measure ability prior to University admissions, as stereotype threat can be triggered in any diagnostic/skill measuring scenario (entrance exams, for example). This underperformance compared to male applicants could cause female underrepresentation in mathematics-heavy degrees. Indeed, the lack of woman representation in those programmes (STEM Women, 2021) may be in part a by-product of stereotype threat. This domain-avoidance strategy has been found by Pinel (1999) and Davies et al. (2002), who found that after being exposed to stereotypical content, women attempted less mathematics-based questions, and in the case of the Davies et al. (2002) research, indicated less interest in more mathematical based careers/degrees. Woman underrepresentation in Science, Technology, Engineering and Mathematics (STEM) could also be a self-perpetuating cycle, wherein women's underperformance is caused, in part, by

stereotype threat can reinforce the stereotype that women are intrinsically worse in those domains (or better in others), which then creates an interest-gap between those and more stereotypically “feminine” domains such as language arts (Plante et al., 2019). Walton and Spencer’s (2009) meta-analysis of stereotype threat and standardised assessment research recommended that protective measures be put in place to limit the triggering of stereotype threat, and its consequences to avoid minority groups being disproportionately affected by stereotype threat.

Stereotype threat can even impact women who have chosen STEM as a career option. Good et al. (2008) found women students enrolled on a university’s most intense calculus course underperformed in an “in-class” test compared both to their men counterparts, and those who were told that the test does not yield gender differences. Good et al. (2008) attributed this effect to a range of structural issues regarding women’s performance and engagement in mathematics. For example, men outnumbered women on this course, which may have reinforced the stereotype. However, it should be noted that recent work by Thornson et al. (2019) found that working with males does not act as a stressor for females, so may not necessarily act as a stereotype threat trigger for women in all conditions.

Steele et al. (2002) discuss this issue in their review of stereotype threat with reference to those who may work to “disprove” the stereotype. They discuss disproving the gender-mathematics stereotype once may not eliminate the stereotype in others, and that as one develops and progresses through courses, the pressure of disproving becomes greater, and the stereotype becomes more salient (as more women leave mathematics as a domain). Steele et al. (2002) conclude that this pressure, and thus additional work put in to disprove the stereotype, can reaffirm the stereotype.

Indeed, the requirements to “trigger” stereotype threat are varied and can occur across a range of scenarios. Good et al. (2008) found that researchers did not have to specify if a test is diagnostic (just had to say in the other condition that it is not) to trigger Stereotype Threat, although this study has yet to be replicated. Mendoza-Denton et al. (2009) managed to cause lower performance in a non-academic scenario, by having an interviewer’s office decorated in a prejudice-ambiguous way (e.g., items indicating the interviewer evaluates students), a progressive way (e.g., placement of social issue conference attendance badges), or more explicit cues to potential prejudice (e.g., placement of magazine images of women in bikinis). Gender-based rejection sensitivity is concern one will experience rejection as a function of one’s gender. Mendoza-Denton et al. (2009) used a measure developed by London et al. (2008) to measure this aspect. An interaction between gender-based rejection sensitivity and room type were found. Those more sensitive to gender-based rejection had a worse performance in the ambiguous room compared to the prejudiced and progressive rooms. Mendoza-Denton et al. (2009) argue for those with such a sensitivity, not knowing how the interviewer would potentially feel about them as an individual creates uncertainty and therefore performance issues. The lack of negative performance found in the explicit prejudice condition was suggested to be a function of reactance effect, wherein those will actively try to go against the established prejudice. Whilst Mendoza-Denton et al. (2009) did not specifically investigate stereotype threat, the findings are like effects found in stereotype research. The role of rejection sensitivity indicates that factors beyond simple exposure to stereotype associated tasks can impact performance.

Stereotype threat has been found to be dependent on individual factors. One example is awareness of the stereotyped stigma. Pinel (1999) found females

indicated a lower interest in stereotypically male domains if they were competing against a male (compared to a female competitor) and had a high stigma consciousness (awareness of a potential stigma). Those with low stigma consciousness did not differ in their selection across competitor gender. Further work into this area (Brown & Pinel, 2003) found those who were more conscious about stigma had worse performance on mathematics tests (compared to those with low stigma consciousness) after exposure to gender stereotypes, indicating that personal attitudes can affect the impact of stereotype threat.

Most mediating factors of stereotype threat are researched as individual differences, and typically measured before the threat is presented, or after the performance task. Luong and Knobloch-Westerwick (2017) attempted to determine if exposure to counter-stereotypical media after priming stereotype threat could mediate the effects on mathematics performance in women. Participants (all female) were exposed to the threat (of a diagnostic mathematics test), but then asked to select magazines to browse before the mathematics task. Participants could select four magazines that had covers with categories/portrayals of women either in stereotypical roles, counter-stereotypical roles, or neutral (no individual on the cover etc.). It was found that participants in the threat conditions browsed more career (counter-stereotypic) magazines than those in the no threat condition. The threat condition had no effect on stereotypical magazine selection. Assimilation (relatedness) to the role models in the career magazines moderated the effect of exposure time to career magazines, with those with high assimilation having a positive relationship between exposure time and mathematics performance, and those with low assimilation having a negative relationship. The moderating effects of assimilation to the women in the career magazines were only applicable in those

who perceived their mathematics ability to be low. Those with high perceived ability were not affected by assimilation to the models. These results highlight that the attempt to moderate the effect of stereotype threat was itself moderated by level of assimilation and level of perceived mathematics ability. This complex relationship could also be moderated by how important the ability is to the individual's social identity. According to Social Identity Theory (Tajfel & Turner, 1979) people have a need to protect aspects of their social identity from negative influence. Therefore, when that aspect of their identity is threatened, it may cause a negative impact. However, if that aspect of their identity is not as important to the individual, the threat has less impact, compared to those who highly identify with the social identity being threatened (Schmader, 2002).

Whilst suffering from similar issues as other socially based psychological phenomenon such as replication issues and publication bias (Pennington et al., 2018), stereotype threat has been found to be triggered by several types of media. This has ranged from interviews and commercials to test information (Davies et al., 2002; Good et al., 2008; Mendoza-Denton et al., 2009), but thus far there is no research investigating if stereotype threat can be triggered by viewing social media. Viewing sexist social media content has been shown to impact other areas, such as Fox et al. (2015) finding that interaction with sexist media (either by "retweeting" or composing sexist tweets) effects sexist behaviour (in regard to rating of competency, and how "hireable" female job candidates are). In this research, I aim to establish if stereotype threat can be triggered by social media content. The study will use standard stereotype threat procedures, with social media as the stereotype trigger rather than diagnostic statements (stating gender differences have been found on the test). Study One aims to establish stereotype threat with a varied social media feed. Study Two expands on Study



One by exposing participants to only gender-mathematics stereotypical content and including financial incentive as a performance motivator. The addition of a counter-stereotypical condition was to determine if positive media messages relating to the stereotype can improve performance. This is due to the current messaging encouraging women into STEM subjects, potentially impacting performance.

### **3.2 Study 1**

As exposure to sexist content can trigger stereotype threat (and the gender-mathematics stereotype is inherently misogynistic), and interaction with sexist social media content can affect behaviour, it is expected that participants (in particular females) will have poorer mathematics performance if exposed to stereotypic materials compared to those in the neutral and counter-stereotypic conditions. An interaction between social media content and participant gender is predicted for overall performance (as a proportion). The current research will provide participants the option to pass questions that they do not want to attempt. Pass rate was added as a separate measure as an indicator of inability or lack of confidence to answer the question. Due to this indication, an interaction on pass rate as a proportion of questions between participant gender and content type is also expected.

#### **3.2.1 Method**

##### **3.2.1.1 Design**

The study used a 2 x 3 between participant design. The independent variables (IVs) were gender (male/female); and stereotypic nature of the tweets (neutral/stereotypic/counter-stereotypic). Scores on the Gender Based Rejection

Sensitivity Questionnaire (RSQ- Gender; London et al., 2008) were collected to account for some individual differences. Performance (answering correctly) and pass rate on a 15-item math test were the dependent variables (DVs).

### **3.2.1.2 Participants**

Participants were recruited using volunteer sampling. One hundred and thirty participants (mean age = 20.68, *S.D.* = 3.95) completed the experiment. Seventy identified as female (mean age = 20.03, *S.D.* = 3.64); 60 identified as male (mean age = 21.45, *S.D.* = 4.18). This provided 1050 observations for the female group, and 900 observations for the male group. All participants were enrolled at Bournemouth University. Students from Bournemouth University were sampled for three reasons: (a) as this study took place in person; (b) to control for device type; and (c) to ensure a sterile testing environment. Twenty participants per gender per content condition were recruited. An additional 10 participants were recruited in one condition due to a potential error in the Twitter feed (viewing 9 tweets instead of the full 10). As such, the additional 10 were recruited and no statistical differences were found between the potential reduced tweet condition and full condition. Participants either received course credits (if Psychology undergraduate students enrolled at Bournemouth University) or £5 (cash) as compensation.

### **3.2.1.3 Materials**

The tweets shown in the stereotypic and counter-stereotypic conditions were replications of tweets found that fitted the theme surrounding women in STEM/mathematics. The neutral tweets were either created by the researcher/based on similar tweets found with no relevance to gender/science. The original tweets were identified by searching for mathematics and gender

terms on Tweetdeck, limiting the search criteria to United Kingdom located Twitter account. Terms used to search including “mathematics”, “maths”, “STEM”, “science”, “women”, “girls” and synonyms of these phrases. A total of five stereotypical, five counter-stereotypical, and ten neutral tweets were identified. A research team consisting of two female and two male researchers read, discussed, and approved four stereotypical and counter-stereotypical tweets as relevant to the condition. The criteria for inclusion were tweets specifically mentioning women and their ability in mathematics/STEM. The team considered the found tweets from the initial search and removed one of each stereotypical and counter-stereotypical tweets due to the messaging being ambiguous as to who it was targeting. The resulting Tweets are presented in Appendix 6.

Multiple Twitter accounts were created to recreate identified tweets on anonymised accounts (to protect anonymity of the original authors). The Twitter handles were generated using a random word generator to create a two-word handle. The usernames of the Twitter accounts were all based on humorous account names to highlight the anonymity of the posting account, without using gendered terms in the names (see Appendix 6). A random sequence generator was used to determine tweet order (in terms of neutral/condition tweets). It was determined that the four condition tweets would be presented at the first, sixth, eighth and tenth positions in a ten-tweet feed. The remaining tweets were all neutral. Tweets were posted according to this order, and then three final Twitter accounts were created to follow the tweet replication accounts. The feed of these final three accounts were what was presented to participants. An Android (version 7.0; Motorola G<sup>4</sup> Plus) phone with a display resolution of 1920 x 1080; screen size of 5.50 inches was used to display the Twitter application (version 7.7.0), which was logged into one of the three condition accounts.

The mathematics questions were sampled from multiple sources (see Appendix 7 for the question schedule with breakdown of sources). The sources were all official exams for General Certificate of Secondary Education (GCSE) mathematics courses. Multiple exam boards were used to identify questions. The use of GCSE exam papers is due to Bournemouth University requiring a minimum grade C in GCSE level mathematics as an entry requirement; therefore, an assumption can be made that all Bournemouth University students have a GCSE in mathematics. Question sets were developed and informally tested with colleagues (male and female) who had not performed mental mathematics for at least two years to gain feedback on difficulty. Questions determined as difficult were modified to make them simpler (changing the numbers) or replaced with other questions from the original exam papers. Most questions were modified to make them multiple choice with four answer options.

The RSQ-Gender (London et al., 2008) measures participant's expectations and anxiety about certain situations regarding schooling and the workplace (i.e., concern over whether a professor would select you for an answer based on your gender). The RSQ-Gender has been shown to be reliable (retest reliability  $r = .81$ ) and valid (Cronbach alpha =  $.83$ ). The current study used the original RSQ-Gender for female participants, and a modified version for male participants (i.e., "group of men" changed to "group of women" etc.).

#### **3.2.1.4 Procedure**

The research was advertised via the internal Psychology undergraduate participation scheme and via poster advertisement around Bournemouth University. The posters featured the Twitter logo, had the compensation highlighted, and stated that the research would involve browsing social media and completing a questionnaire (see Appendix 8 for a copy of the poster).

Participants were led to a private testing laboratory on the University premises. They were greeted by a female researcher and provided the information sheet and consent form to sign. The researcher verbally described the experiment after the participants had read the information sheet to confirm participants understood the task. After participants provided informed consent, they were shown the account (dependant on stereotype condition). Participants were instructed to browse the full feed of ten tweets in their own time and alert the researcher when they were finished. Participants were asked not to interact with the tweets. Participants were then given the question booklet containing both the mathematics questions and RSQ-Gender. Participants were instructed to complete the mathematics questionnaire, passing questions they found too difficult/could not answer. Participants then completed the RSQ-Gender. Participants were then debriefed. The experiment took approximately 20 minutes to complete.

### **3.2.1.5 Ethical Considerations**

As with Chapter 1, consideration had to be conducted for potential impact of viewing sexist content related to mathematical ability. Given the primary population sampled from consisted of Psychology undergraduate students who as a function of their course requirements have to undertake statistical units, particular care was given when debriefing to highlight there are no such differences in mathematical ability based on gender, and that it is just a stereotype. Care was given to protect the anonymity of the original author by the creation of multiple Twitter accounts which then posted the content, thus creating additional tweets of the same content and obfuscating identifiability of the original authors. Exposure to sexist content has the potential to impact opinions, and stereotype threat research has supported a negative impact on women exposed

to such stereotyped with regards to mathematical ability. There was concern that such exposure to the series of tweets could produce this (indeed, this was the aim of the research). Given the tweets were based on real content found by the researcher, there is a potential for the participants to encounter such content when browsing social media on their own. However, to ensure no further damage from such content, when debriefed by the researcher, the researcher verbally highlighted the lack of effect seen in mathematical ability differences between men and women, and what stereotype threat is and how it can be triggered. Participants were also not provided with their accuracy within the tests to prevent potential negative impacts given the context of the research (sexism and mathematical ability). The research was approved as a low-risk study within the department (approval ID: FST15209).

#### **3.2.1.6 Analysis**

A Linear Mixed Model (LMM) using the maximum likelihood method (due to random factors not being the focus of the hypotheses, Field et al., 2012, p.879) was used in SPSS (v. 25) to analyse the data, with alpha-adjusted Bonferroni corrections conducted where appropriate. A LMM was deemed appropriate to account for natural (random) variance between participants and variance in degree of difficulty of the questions. For descriptive information, percentage correct/pass are presented, or as a proportion (i.e., 1.0 indicates 100% correct, 0.5 indicates 50% correct). For the LMM a hierarchal data structure is used, with binary dependant variables (0 = incorrect, 1 = correct).

### **3.2.2 Results**

The data was “melted” (restructuring the data into hierarchal structures) and analysed using LMM. To analyse performance/correct rate (0 = answered incorrectly; 1 = answered correctly), the gender, content condition, and a gender

condition interaction were inserted as fixed variables, with age, question number, participant rejection sensitivity scores, and subject number inserted as random variables. The calculated chance value of the mathematics test was approximately 53.33%. Table 18 summarises the correct and pass percentage averages across conditions, with Figure 6 visualising the spread of data.

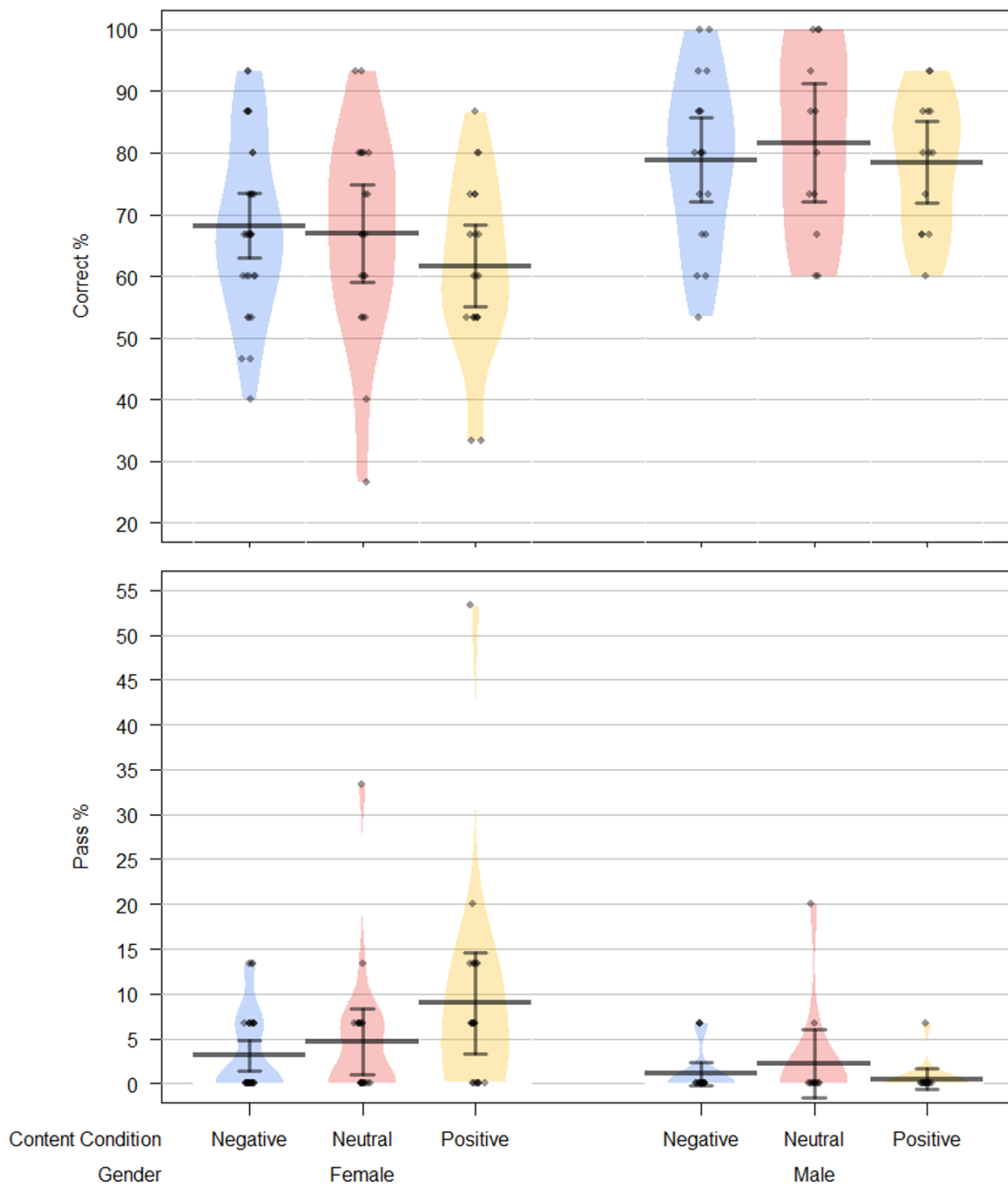
**Table 18**

*Mathematics Test Performance Scores Separated by Tweet Condition and Participant Gender as a Percentage of Correct Responses and Pass Responses.*

	Participant Gender		
	All	Male	Female
<b>Tweet Condition</b>	<b>Correct%</b>		
<b>All</b>	71.49 (15.71)	78.00 (13.85)	65.90 (15.12)
<b>Negative</b>	73.07 (14.94)	80.00 (13.68)	68.44 (14.11)
<b>Neutral</b>	72.17 (16.25)	77.33 (14.25)	67.00 (16.82)
<b>Positive</b>	68.83 (16.15)	76.67 (14.10)	61.00 (14.39)
	<b>Pass%</b>		
<b>All</b>	3.54 (7.34)	1.44 (3.70)	5.33 (9.05)
<b>Negative</b>	2.27 (3.95)	1.00 (2.44)	3.11 (4.54)
<b>Neutral</b>	3.17 (6.58)	1.67 (4.78)	4.67 (7.83)
<b>Positive</b>	5.50 (10.45)	1.67 (3.67)	9.33 (13.40)

**Figure 6**

*Violin Plots of Percentage Correct (top) and Percentage Passed (bottom) Across Twitter Content Condition and Participant Gender.*



Gender was found to have a main effect on performance,  $F(1, 1944) = 20.97, p < .001$ , with further (Bonferroni corrected alpha ( $\alpha$ ) = .025) finding that



males (estimated  $\bar{x} = .79$ ) scored significantly higher than females ( $\bar{x} = .67$ ,  $p < .001$ ) as a proportion. In term of the LLM (see Table 19), the breakdown estimated that being a male contributed significantly compared to being female,  $\beta = 0.15$ ,  $S.E. = .04$ ), 95% CI[0.06; 0.23],  $t(1944) = 3.26$ ,  $p < .005$ , this suggests that gender plays a predictive role in mathematics performance.

**Table 19**

*Linear Mixed Model of Performance.*

<b>Variables</b>	<b><math>\beta</math></b>	<b>S.E.</b>	<b>df</b>	<b><math>t</math></b>	<b><math>p</math></b>	<b>CIL</b>	<b>CIU</b>
<b>Gender(Male)</b>	0.15	0.04	1944	3.26	<.005	0.06	0.23
<b>Content (Neu)</b>	0.05	0.04	1944	1.18	.237	-0.03	0.14
<b>Content (Neg)</b>	0.08	0.04	1944	1.89	.059	0.00	0.15
<b>Subject<sup>a</sup></b>	0.01	0.00	--	--	.010	0.00	0.02
<b>Age<sup>a</sup></b>	<0.01	0.00	--	--	.339	0.00	0.01
<b>Question Number<sup>a</sup></b>	0.05	0.02	--	--	.007	0.02	0.10
<b>RS-G Score<sup>a</sup></b>	<0.01	<.01	--	--	.917	0.00	38002.89

<sup>a</sup> Measurements loaded as random factors

The type of content was not found to have a main effect on performance,  $F(2, 1944) = 20.97$ ,  $p = .222$ . The gender and content interaction did not have an impact on performance,  $F(2, 1944) = 0.35$ ,  $p = .703$ ). For a breakdown of the estimates of the effects (fixed and random) on the model, see Table 19. Of the random effects, only subject ( $\beta = .01$ ,  $p = .010$ ) and question number ( $\beta = .05$ ,  $p = .007$ ) impacted the model. This shows performance varied between both participants and question difficulty. This was accounted and controlled for in the

model. To summarise, participants performance on the mathematics test is higher for males, but the type of Twitter content shown to them prior does not affect performance.

The same modelling structures were used for the pass rate of participants (0 = attempted question; 1 = passed question). Gender had a main effect on pass rate,  $F(1, 1944) = 8.60$ ,  $p = .003$ , with further comparisons (adjusted  $\alpha = .025$ ) finding that women had a significantly higher pass rate (estimated  $\bar{x} = .05$ ) than men ( $\bar{x} = .02$ ,  $p = .003$ ). Being male significantly contributed to the model compared to being female,  $\beta = -.05$  (S.E.=.02), 95% CI[-0.09; -0.02],  $t(1944) = -2.79$ ,  $p = .005$ . The type of content shown to participants had a main effect on how many questions participants passed in the test,  $F(2, 1944) = 3.45$ ,  $p = .032$ , with further tests (adjusted  $\alpha = .017$ ) finding that participants in the positive tweet condition passed more questions ( $\bar{x} = .05$ ) than those in the negative tweet condition ( $\bar{x} = .02$ ,  $p = .011$ , with no differences between the neutral condition and positive and negative (all  $p$ 's  $> .017$ ). Regarding contributing to the model, those viewing the negative content condition contributed to the model significantly compared to those viewing the positive Twitter feed condition ( $\beta = -.05$  (S.E.=.02), 95% CI[-0.09;-0.02],  $t(1944) = -3.02$ ,  $p = .003$ ). The random effects that contributed to the pass rate model included question number ( $\beta = .00$ ,  $p = .016$ ) and rejection sensitivity score ( $\beta = .00$ ,  $p < .001$ , see Table 20 for full model breakdown). As with the performance model, there was no interaction between participant gender and the type of content participants viewed. Whilst women are more likely to pass mathematics questions compared to men, overall, when viewing Twitter feeds featuring positive representations and information relating to women's STEM (with a focus on mathematics) ability, participants tend to pass

more questions, compared to those who viewed a Twitter feed with a negative focus on women’s STEM ability. These two variables did not interact.

**Table 20**

*Linear Mixed Model of Pass Rate.*

	$\beta$	S.E.	df	<i>t</i>	<i>p</i>	CIL	CIU
<b>Variables</b>							
<b>Gender (Male)</b>	0.15	0.04	1944	3.26	0.001	0.06	0.23
<b>Content (Neu)</b>	0.05	0.04	1944	1.18	0.237	-0.03	0.14
<b>Content (Neg)</b>	0.08	0.04	1944	1.89	0.059	0.00	0.15
<b>Subject<sup>a</sup></b>	0.01	<0.01	--	--	.010	<0.01	0.02
<b>Age<sup>a</sup></b>	<0.01	<0.01	--	--	.339	<0.01	0.01
<b>Question Number<sup>a</sup></b>	0.05	0.02	--	--	.007	0.02	0.10
<b>RS-G Score<sup>a</sup></b>	<0.01	<0.01	--	--	.917	<0.01	38002.89

<sup>a</sup> Measurements loaded as random factors

### 3.2.3 Study 1 Discussion

Whilst stereotype threat research has found underperformance in women after being exposed to content that highlights the gender-mathematics stereotype (see Pennington et al., 2016 for a review), the current study aimed to establish whether such content can trigger stereotype threat if conveyed over social media. It was predicted that women would perform worse than men in the stereotype threat condition and perform better when exposed to counter-stereotypical content (compared to women in the control and stereotypical condition). These predictions were not borne out. Indeed, those (regardless of gender) in the positive/counter-stereotype condition passed more than those in the negative stereotype condition.

Overall, men performed better than women did on the 15-item mathematics test, both in terms of performance, and a reduced pass rate of questions. This suggests that men first attempt more questions than women do and tended to answer them correctly. The type of content shown to participants did not impact their ability to answer correctly, however it did impact how likely participants were to pass a question. The original hypothesis predicted an interaction between type of content shown and participant gender, this was not supported. Whilst there was a significant effect of type of content on pass rate, it was sourced from an increase in pass rate from all participants who were shown positive instances of women in STEM.

Previous research indicated women should pass more questions when exposed to content that could trigger stereotype threat, such as highlighting the stereotype that women perform poorly at mathematics. However, in this study it seems exposure to content of women's aptitude at a task they are stereotypically associated with performing poorly on, caused an increase in pass rate. Content

had no impact on whether the participants responded correctly. There are a series of potential causes for the results seen. Participants could be experiencing the reactance effect (Brehm, 1966), with participant's attempting to disprove the stereotype. It could be that for those in the negative content condition this effect was present, which could explain the lack of difference found between the negative and neutral content conditions. This does not explain the increase in pass rate for those in the positive content condition. It could be argued any content that made the participants gender and mathematics ability salient could cause this reduction in pass rate, although the performance rates (and lack of effect from the type of content) act as evidence against this. It could be that viewing content that highlights mathematics ability in a positive context can trigger stereotype threat, and when exposed to negative content, participants attempt to defy stereotype. It could be that instead of triggering a defiance to stereotype threat, causing a drop in pass rates in the negative condition, it could be a performance anxiety stemming from the positive content related to mathematics ability. As stated previously, the presence of a researcher may induce performance anxiety in other cognitive realms (Hills et al., 2019). Whilst the researcher did not stay in the room (to limit evaluation apprehension, Rosenberg, 1965), the anticipation of taking a test could and knowing the researcher would evaluate the test, could have induced said anxiety. The lack of interaction from gender and content conditions was unexpected. It was predicted that women would be impacted more by the negative and positive content conditions than men, however no such interaction was found. As with the findings of the positive/negative difference in pass rates, the presence of any content that highlights a good mathematics ability may be triggering performance anxiety over stereotype threat. The content shown to participants was explicit in its nature, and

undeniably highlights the gender-math stereotype. This could have caused the lack of difference in between negative and neutral conditions in females, as Pavlova et al. (2014) found that implicit stereotype messaging was more effective at triggering stereotype threat than explicit.

The method is not without limitations, which could explain the results found. Little previous research has been done in relation to triggering stereotype threat via social media. It could be that participants are apathetic to social media messages, potentially nullifying stereotype threat. Another explanation could be online disinhibition, as described by Suler (2004), participants may have dissociated the online content from their offline performance/identity, thereby nullifying any stereotype threat effects. As the feeds only comprised of four “trigger” tweets (and six neutral tweets not related to gender or mathematics), it is also possible that the stereotypical/counter-stereotypical messages were not salient enough to “trigger” stereotype threat in participants. Participants were also instructed to browse the feeds in their own time, as they would when browsing social media content. This could be that the lack of investment in the content (i.e., from an unfamiliar account), or a lack of weight of the message as all tweets were posted from anonymised accounts.

Another possibility is that participants may not have had the same incentives to perform well compared to previous stereotype threat research. Much of the research investigating stereotype threat places participants in a scenario wherein they believe that poor performance on the researchers’ task would negatively impact the participants life (e.g., interviews, tests for admissions, diagnostic tests, Steele & Aronson, 1995). The current study lacked such incentive, as participants would receive participation credit, or financial compensation regardless of their performance in the task, with no negative

consequences for not performing well on the task. This could have caused stereotype threat not being triggered within the participants. It has been shown that having performance-based incentives can impact performance in student populations.

The strengths of this work outweigh the limitations. Specifically, the inclusion of a counter-stereotype group and male participants adds an important level of control. Whilst some studies tend to include a control group with neutral conditions for comparisons, there are few studies including a counter-stereotype condition.

### **3.3 Study 2**

Study 2 addresses some of the issues with Study 1. Study 2 was a more targeted version of Study 1, with 10 conditional tweets (as opposed to four in Study 1). Participants browsed the feed for a set time (of 2 minutes) rather than free viewing. The positive tweet condition, and male participants were not included in Study 2 to focus on whether social media can trigger stereotype threat in women. The gender-based Rejection Sensitivity Scale (London et al. 2012) was also removed from Study 2 to streamline the procedure.

As previously discussed, the lack of performance incentives could have created an environment where participants did not process the Twitter feeds content. Study 2 introduces a performance-based incentive to attempt to make personal performance more salient to participants. It is predicted that those in the incentive condition will out-perform and pass less than those in the non-incentive condition, with women in the stereotype content condition performing worse and passing more than those in the control condition. An interactive effect between

incentive condition and content condition on both performance and pass rate is also predicted.

### **3.3.1 Method**

#### **3.3.1.1 Design**

Study 2 used a 2 x 2 between participant design. The IVs were and stereotypic nature of the tweets (neutral/stereotypic), and whether participants received an incentive for performance or not. Those in the no-incentive condition were sampled from Study 1's female participants who were exposed to the negative (stereotypic) and control Twitter feeds. As with Study 1, performance and pass rate on a 15-item mathematics test are the dependant variables.

#### **3.3.1.2 Participants**

Study 2 participants were recruited using volunteer sampling via the SONA recruitment software. The SONA system is for undergraduate students within the Psychology department at Bournemouth University to sign up to participate in research in exchange for participation credits as a function of their course. The sampling justifications for Study 2 matches Study 1. Eighty additional participants who identified as female (mean age = 19.88, *S.D.* = 1.91) completed the experiment. All participants were enrolled at Bournemouth University. Participants had to have received at least a "B" in GCSE mathematics (currently a Level 6 grade or above); could not have participated in Study 1, and to have not enrolled onto a mathematics A/AS-Level course prior to starting University. International equivalents were also used. Participants received course credits (if Psychology students) and/or were enrolled into the incentive condition (see procedure). The no incentive participants were sampled from Study 1's female negative and neutral condition data ( $N = 50$ , mean age = 19.88, *S.D.* = 2.50). The



total sample size was 130, providing 750 observations for the no-incentive condition, and 1200 for the incentive condition.

### **3.3.1.3 Materials**

Four of the ten tweets shown in the incentive stereotypic condition were the same as used in Study 1, with an additional six tweets (see Appendix 9 for Study 2 tweets) sourced the same way as Study 1. The neutral tweets were identical to Study 1's neutral condition. An Android (version 7.0; Motorola G<sup>4</sup>) phone with a display resolution of 1920 x 1080; screen size of 5.50 inches was used to display the Twitter application (version 7.89.0-release.43), which was logged into one of the condition accounts. The mathematics questions were identical to Study 1.

### **3.3.1.4 Procedure**

This procedure was adapted from Study 1. Participants were instructed to browse the Twitter feed for 2 minutes (instead of browsing in their own time). After content exposure, participants were given instruction by the researcher regarding the mathematics test. This included oral reconfirmation of the incentive. Participants were incentivised to perform well by being placed in a random prize draw for an Amazon Voucher (£10.00). Participants were told that each question they answered correctly would count as an entry. Prize draws were run in batches of ten participants, to increase the chances of individuals "winning". The prize draws were run according to the tweet content condition participants were assigned to ensure fairness. Participants were then given the same instructions to complete the mathematics test as in Study 1. After completing the mathematics test, participants wrote their contact email address on a slip of paper than was then attached to the test with a paper clip (for prize draw purposes, after marking the slip was removed from the mathematics test). Participants were then debriefed,

and told that for the prize draw, they were grouped with participants in the same condition as them. The experiment took approximately 20 minutes to complete.

### **3.3.1.5 Ethical Considerations**

The method similarity to the Study 1 (see Section 3.2.1.5) means it had the same ethical considerations with the addition of the nature of the prize draw. As the chances of participants winning the voucher are directly proportional to their performance in the mathematical tests, some restrictions were put in place. For the prize draws (conducted in batches of 10 participants), only participants within the same condition would be placed in the prize draw batch (i.e., only those exposed to the negative condition would be in a prize draw batch). Additionally, prior grades within mathematics were considered to limit those who are more confident in maths (due to grades/more experience) participating to increase their chances of winning the prize draw. At the recommendation of Bournemouth University Ethics Committee for the Faculty of Science and Technology, we enacted the education exclusion criteria outlined in Section 3.3.1.2 (Participants Section) to limit the impact of this. As with Study 1, participants were fully verbally debriefed by the researcher. This research was approved by the Bournemouth University Ethics Committee (FST25804).

### **3.3.2 Results**

The data was analysed in the same format as in Study 1, with averages across conditions summarised in Table 21. Visualisations of results can be found in Figure 7.

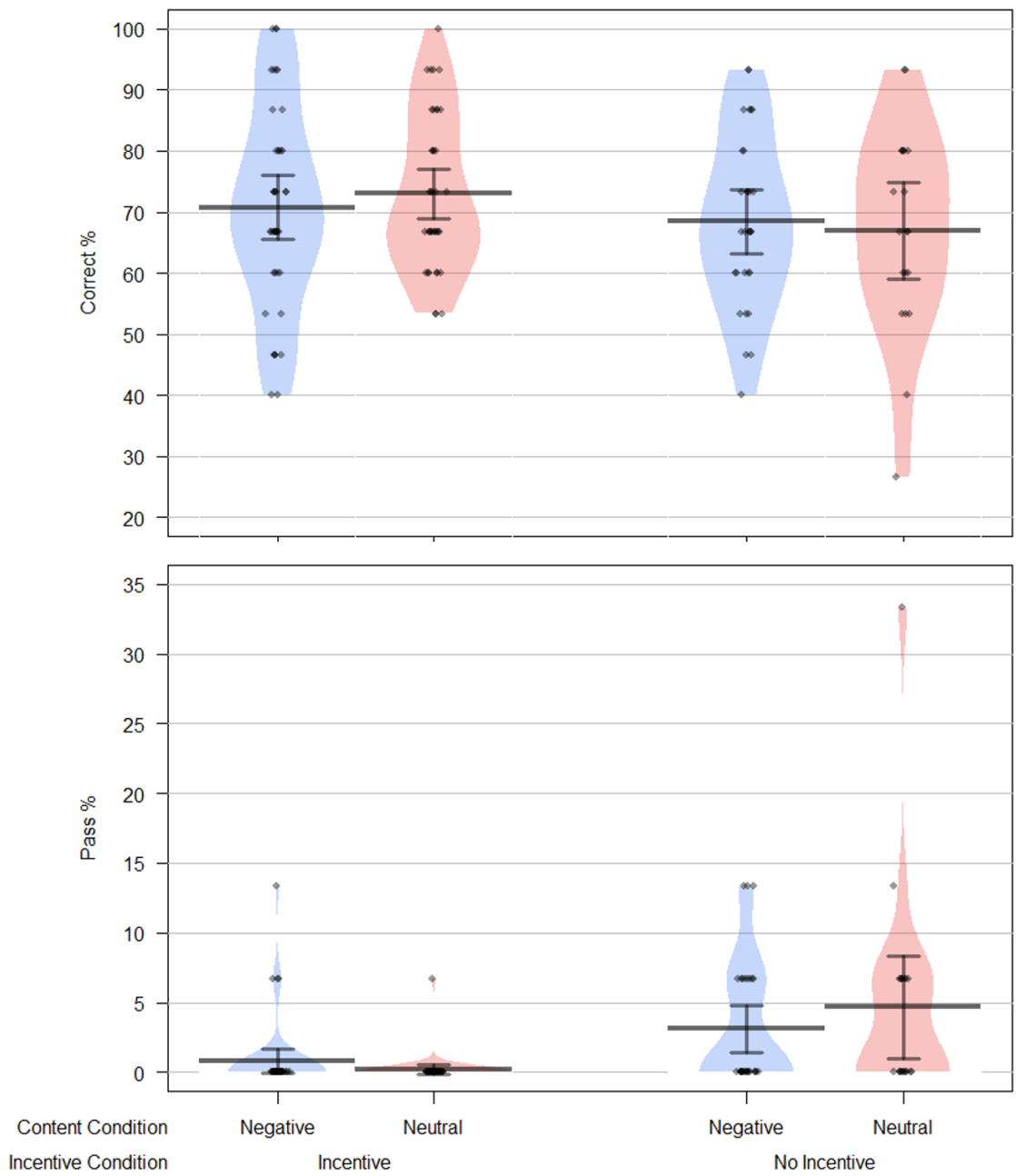
**Table 21**

*Mathematics Test Performance Scores Separated by Tweet Condition and Incentive Condition as a Percentage of Correct Responses and Pass Responses.*

<b>Incentive Condition</b>			
	<b>All</b>	<b>Incentive</b>	<b>No Incentive</b>
<b>Tweet Condition</b>	<b>Correct%</b>		
<b>All</b>	70.31 (14.97)	71.83 (14.77)	67.87 (15.10)
<b>Neutral</b>	70.78 (14.32)	72.67 (12.70)	67.00 (16.82)
<b>Negative</b>	69.90 (15.59)	71.00 (16.71)	68.44 (14.11)
	<b>Pass%</b>		
<b>All</b>	1.74 (4.36)	0.50 (2.06)	3.73 (6.05)
<b>Neutral</b>	1.67 (5.00)	0.17 (1.05)	4.67 (7.83)
<b>Negative</b>	1.81 (3.75)	0.83 (2.70)	3.11 (4.54)

**Figure 7**

*Violin Plots of Percentage Correct (top) and Percentage Passed (bottom) Across Twitter Content Condition and Incentive Condition.*



Looking at the incentive conditions, women had no significant difference in performance between the negative and neutral condition,  $t(78) = 0.502$ ,  $p =$

.617. Similarly, pass rates were not statistically different,  $U(78) = 739.50$ ,  $p = .165^3$ .

The LMM (with incentive condition, content condition, and interaction between those variable as fixed factors; subject number, question number, and age as random factors, see Table 22 for full model) for participant performance found that neither incentive condition,  $F(1, 1946) = 2.77$ ,  $p = .096$ , nor content condition,  $F(1, 1946) = 0.07$ ,  $p = .785$ , impacted whether participants responded correctly. An interactive effect of incentive and content was not found,  $F(1, 1946) = 0.55$ ,  $p = .457$ . Regarding the random factors, where were significant effects caused by participant differences (subject number;  $\beta = .01$ ,  $p < .001$ ) and question number on the test ( $\beta = .05$ ,  $p = .007$ ).

---

<sup>3</sup> Mann-Whitney ( $U$ ) Rank Sum Test used due to lack of homogenous variances and non-normally distributed data. Medians for neutral and negative incentive groups  $<0.01$ ; mean rank for neutral = 38.99, mean rank for negative = 42.01.

**Table 22***Linear Mixed Model of Performance.*

<b>Variables</b>	<b><math>\beta</math></b>	<b>S.E.</b>	<b>df</b>	<b><i>t</i></b>	<b><i>p</i></b>	<b>CIL</b>	<b>CIU</b>
<b>Incentive(None)</b>	-0.03	0.04	1946	-0.71	.477	-0.09	0.04
<b>Content (Neu)</b>	.01	0.03	1946	0.39	.700	-0.05	0.08
<b>Incentive*</b>							
<b>Content(Neu)</b>	-0.04	0.05	1946	-0.74	.457	-0.15	0.07
<b>Subject<sup>a</sup></b>	.01	<0.01	--	--	<.001	0.01	0.02
<b>Age<sup>a</sup></b>	<.01	<0.01	--	--	.639	0.00	0.03
<b>Question</b>							
<b>Number<sup>a</sup></b>	.05	0.02	--	--	.007	0.03	0.11

<sup>a</sup> Measurements loaded as random factors

When investigating the pass rate amongst participants, the same analysis was run as above with pass rate as a dependant variable. Whether or not participants received a performance incentive appears to significantly impact whether they attempt or pass questions,  $F(1, 1946) = 22.61, p < .001$ , with further analysis finding that those in the low incentive (and low target tweets) condition passed significantly more often (estimate  $\bar{x} = .04$ ) than those in the incentive (and high target tweets) condition ( $\bar{x} < .01, p < .001$  (with Bonferroni adjusted  $\alpha = .025$ ), providing support against the null for the prediction of people not passing as many questions when incentivised. The type of content participants read did not impact pass rate,  $F(1, 1946) = 0.81, p = .370$ , neither was an interaction between content and incentive conditions,  $F(1, 1946) = 2.99, p = .084$ . Those in the no incentive condition contributed to the overall model significantly compared to those in the

incentive condition ( $\beta = 0.02$ ,  $S.E.=.01$ , 95% CI[-0.09, 0.04],  $t(1946) = 2.33$ ,  $p = .020$ ). No other variables inputted as fixed effects significantly contributed to the model (see Table 23 for full model). Only the random effect of participant number affected the model ( $\beta < 0.01$ ,  $p = .011$ ).

**Table 23**

*Linear Mixed Model of Pass Rate.*

<b>Variables</b>	<b><math>\beta</math></b>	<b>S.E.</b>	<b>df</b>	<b><math>t</math></b>	<b><math>p</math></b>	<b>CIL</b>	<b>CIU</b>
<b>Incentive(None)</b>	0.02	0.01	1946	2.33	.020	0.00	0.04
<b>Content (Neu)</b>	-0.01	0.01	1946	-0.68	.497	-0.02	0.01
<b>Incentive* Content(Neu)</b>	0.03	0.01	1946	1.73	.084	0.00	0.05
<b>Subject<sup>a</sup></b>	<.01	<.01	--	--	.011	0.00	0.00
<b>Age<sup>a</sup></b>	<.01	<.01	--	--	.699	0.00	0.00
<b>Question Number<sup>a</sup></b>	<.01	<.01	--	--	.063	0.00	0.00

<sup>a</sup> Measurements loaded as random factors

### 3.3.3 Study 2 Discussion

Study 2 aimed to determine if those in Study 1 were not invested enough in the mathematics task to trigger stereotype threat. Therefore, an incentive condition (opportunity to win a £10.00 Amazon Voucher) was introduced. Those in the incentive condition passed less than those in the non-incentive (Study 1) condition, indicating a higher investment in the task than those from Study 1. This potential higher investment in the task did not produce stereotype threat in women. It can be determined that the increase in stereotype threat triggering content (from four tweets in Study 1 to 10 in Study 2) did not create these results

as there was no difference in performance and pass rate between those in the higher tweet frequency condition and the control (remained the same across the incentive conditions).

The results were unexpected and combined with the results from Study 1 imply that stereotype threat is difficult to create from the presentation of negative gender-mathematics stereotype content over social media (specifically Twitter). An interesting result found was the increase in pass rate from those in the positive/counter-stereotypical condition as discussed with Study 1. It could be that those in the negative/stereotype condition experienced the opposite to stereotype threat (Pennington et al., 2016). Those in receiving the positive/counter-stereotypical content had the gender-mathematics stereotype salient, despite it being framed in a positive light, thus causing them to not attempt as many questions as those in the other conditions. This was found regardless of gender, indicating another mechanism is causing this. Whilst it could be that men in the counter-stereotypical condition then felt the impact of stereotype threat, and that women also felt the same stereotype threat effect due to Social Identity Threat mechanisms; the current studies methodological limitations mean there is no current support for this theory.

The incentive given to participants, whilst seemingly encouraging more attempts at the questions, could have caused participants to guess questions more as that could increase their chances of receiving the Amazon Vouchers. Under the current protocols it is impossible to determine if participants failed questions due to a stereotype threat triggered ability hindrance, or due to participants guessing questions to increase their chances of receiving the Amazon voucher. Previous work has found women to have a lower confidence in their mathematics ability (Good & Aronson, 2008). Whilst stereotype threat was



not found to affect confidence in ability, it was suggested it is due to floor effects. Future work should incorporate a confidence measure to determine if stereotype threat materials diminish confidence in low pass rate conditions, and sample from higher confidence in mathematics populations.

### **3.4 General Discussion**

To summarise both studies, the aim was to establish if stereotype threat can be triggered by online sexist content. This was not found in the current research. In this study, we did not explore all the potential moderators of the stereotype threat effect. Further research should include additional measures to the Rejection Sensitivity Scale (London et al., 2008) such as gender-identity importance (Schmader, 2002), and how much participants identify with mathematics. The sample primarily had females from a Psychology undergraduate course, where there are not many men enrolled on the course, some male participants were sampled from other courses, such as students in the computer science department. The course participants were enrolled on was not tracked by the researcher, however this issue in terms of how mathematics content individual courses were may have influenced the results. Further research should not only account for this issue, but also extend participation to a variety of mathematics ability.

The type of social media platform used could have created an environment where participants were not invested in the tasks of either study. Whilst Twitter is a relatively popular platform globally (Alexa, 2017), as seen in Chapter 2, the population sampled from may use other platforms such as Facebook and Instagram more (98.86% of respondents to Survey 2 used Facebook; 72.24% used Instagram; 65.40% used Twitter). Whilst Facebook is not an acceptable platform for such research (user's networks are mostly offline acquaintances in

their Facebook network, Stefanone et al., 2011), recreating this study on a more widely used platform such as Instagram may trigger stereotype threat due to an investment in the content delivery (although adaptations would need to be made due to Instagram's image-based content over Twitter's written).

Given the highly targeted nature of the trigger tweets, it could be that the participants' opposition behaviour, as indicated in Study 1, could be diminished by more general stereotypic content not related to mathematics/STEM ability. Future research should also investigate if generic stereotypic content delivered online can trigger stereotype threat effects compared to STEM stereotype content, as generic sexist content highlighting stereotypes are more likely to be seen compared to those specifically about women and STEM. Indeed, tweets specifically targeting a "gendered" skill, such as the gender-mathematics stereotype, could trigger reactance effects (Brehm, 1966) rather than stereotype threat due to the well-known nature of said stereotype. Generic stereotypes such as those seen in the Davies et al. (2002) study, could make the participants' gender more salient, without invoking a reactance effect within participants.

Given the lack of predicted interactive effect between content and incentive condition, it can be suggested that an increase in the target tweet did not impact the change in pass rate seen across the incentive condition. The role of the incentive was to increase the value of answering the questions correctly, to better replicate conditions in previous research of stereotype effects. Whilst this did have an impact in terms of a lower pass rate in the incentive condition (indicating a higher attempt rate at questions compared to the no incentive condition), the following lack of impact from the type of content participants were shown on both pass rate and performance rate could suggest that stereotype

threat is not triggered by social media, in the conditions presented over these studies.

If future research confirms the current findings, there is a more optimistic explanation for such results. Given stereotype threat involves the individuals being threatened with a stereotype they are aware of, and is salient in society and to the individual, it could be that in this sample of primarily undergraduate Psychology students, women's performance at mathematics is not a stereotype that is salient to the sample. Another explanation is that as the Psychology undergraduate course at Bournemouth University features statistical teaching, participants may have their mathematics ability confirmed by grades from such modules, thereby nullifying the impact of gender-mathematics stereotype content. Indeed, it could be that for Psychology undergraduates, the stereotype of poor mathematics ability simply is not salient in their perceptions of society, so it is easy to dismiss. It could also be that their gender is becoming less relevant to their social identity, meaning that they are less impacted by stereotype threat scenarios (as found by Schmader, 2002). This is an indication of a positive shift in the sampled age brackets that stereotypes are less promoted or taken seriously and given a majority of the sample (based on age) would be online and active during large social justice movements (such as #MeToo) and exposed to the messaging of those movements, that issues such as gender roles and gender-related performance is not as much of an issue with the current University generation (and potential future generations).

To conclude the current research did not find support for stereotype threat being able to be triggered via social media (specifically Twitter) in full. Whilst partial support was found with those in a counter-stereotypical/positive content condition passing mathematics items more often than those in a stereotypical

condition, this was found regardless of participant gender (Study 1). For women who were then incentivised to increase performance (via performance-based prize draws), then passed less than when not incentivised (Study 2). Further research should also look at different social media platforms (e.g., those with video-based content such as TikTok), introducing a sample with wider ranging mathematical ability, and controlling for more factors such as gender identity saliency. Whilst this can be considered underwhelming statistically, it could also be indicative of a cultural shift regarding gender roles and gender-based performance. Additionally, the impact of sexism has impact beyond performance in targeted domains, with little research done to show the if this effect can be triggered by sexist social media content.

This chapter has attempted to replicate the phenomena of Stereotype Threat via online sexism. Whilst this has demonstrated (indirectly, via pass rate changes) negative impacts on women's personal ability, and thus individual impacts, the next chapter will investigate the role of online sexism on the perceptions of others. This will incorporate blame attribution in sexual violence scenarios to investigate online sexism within the context of the justice system and society.

## Chapter 4: Cyber Sexism and Rape Scenario Blame Attribution

### 4.1 Introduction

Victim<sup>4</sup> blaming occurs when individuals assign blame for a crime to the victim as opposed to the perpetrator (Luginbuhl & Mullin, 1981). Recently, the news media has highlighted victim blaming behaviours being utilised in court cases: for example, in a case in The Republic of Ireland, the Defence lawyers cited the victim's underwear style being a contributing factor to her rape; the eventual acquittal of the accused was attributed to this (BBC News, 2018). For UK examples, judges have stated that women should protect themselves when drunk (Rawlinson, 2017), and the sexual history, clothing and sex toy ownership of victims have been cited in rape cases (Eleftheriou-Smith, 2017). A further development has been a new policy requesting rape victims' phone data, with refusal being highlighted as potentially causing the investigation to cease (BBC News, 2019), although it appears the police are aiming to replace the forms which indicate failure to hand over such data could lead to the victim's case not being pursued (Dearden, 2020)<sup>5</sup>.

The primary issue of victim blaming is the potential reduction in blame assigned to the accused, potentially leading to fewer convictions (in the Republic of Ireland case above, for example). Victim blaming rates are higher in rape than in robbery cases (Bieneck & Krahé, 2011) and is further exacerbated in cases of acquaintance rape (Abrams et al., 2003; Viki et al., 2004), where the victim is known to the perpetrator. When the victim and perpetrator of an acquaintance

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<sup>4</sup> The term victim is used as opposed to survivor as the phenomena being researched is most known as victim blaming.

<sup>5</sup> This policy has had recent developments suggesting phone data will only be collected in cases where it could hold relevant evidence. However, exemptions to relevant evidence include stranger and historical rape cases (Crown Prosecution Service, CPS, 2021). Given a large proportion of rape cases have the victim and accused known to each other, this clarification of the policy surrounding victim phone data is low impact.

rape had a previous sexual relationship, the rape (and damages) are viewed less seriously by men (compared to women) than if the parties were unknown (L'Armand & Pepitone, 1982), although recent research suggests participant gender may not impact evaluations of rape cases (Hills et al., 2020). In current UK law, there is not a distinction between acquaintance and stranger rape despite there being observed differences in sentencing for each crime (Clarke et al., 2002)

Whilst victim blaming attitudes can impact evaluations of rape cases, a potentially more important factor is the responsibility assigned to the perpetrators of these crimes. Indeed, it is the perpetrator who would be tried and sentenced, and whilst victim blaming certainly would impact the verdict, the responsibility assigned to victims and perpetrators may not be mutually exclusive (as found in Krahe, 1988). Whilst an increase in victim blaming is typically related to a decrease in perpetrator blame (in adolescents; Cassidy & Hurrell, 1995), it is important to explore these as separate functions to determine if they are truly independent of each other. An example could be where participants blame both the perpetrator and the victim. Home/car insurance can be invalidated if the victim leaves their doors/windows unlocked (RAC, n.d.), suggesting an implicit blame on the victim, however the perpetrator may also be assessed as having a high level of blame.

Rape Myths, which are the false stereotypic aspects of a rape scenario (e.g., "most rapes are committed by strangers"; "most rapes involve the use of force to overpower the victim"; Burt, 1980), and the acceptance or belief in those myths, have been associated in an increase in victim-blaming attitudes (Bohner et al., 1998). Krahe (1998) found those high in RMA assigned less blame to rape perpetrators when the victim (female) did not behave in a stereotypic way,

indicating similar factors influence blame assignment of both perpetrators and victims. This could be due to RMA primarily focussing on victim behaviour over perpetrator. One of the types of rape myths that Bohner et al. (2009) outlines is exonerating the perpetrator, however it appears most of this type of rape myth is focussed on how the victim's behaviour exonerates the perpetrator over the perpetrator being inherently without fault (i.e., the perpetrator could not control themselves around the victim). Additionally, it has been found when the victim of a rape is not "respectable" (Luginbuhl & Mulin, 1981, manipulated this factor by having the victim either be a nun, college student, or "topless dancer"), male participants would give the perpetrators shorter sentences (Luginbuhl & Mulin, 1981). When investigating the differences between stranger and acquaintance rape vignettes, Viki et al. (2004) found perpetrators of stranger rape are given longer sentences than those of acquaintance rape, but those who are high in benevolent sexism (see Chapter 1 for an in-depth introduction into ambivalent sexism) assign lower sentences to acquaintance rape perpetrators (compared to stranger rape perpetrators). This reflects victim blame findings, wherein victims of acquaintance rape are typically assigned more blame than those of stranger rapes (L'Armand & Pepitone, 1982). When comparing to non-sexual crimes, Bieneck and Krahe (2011) found perpetrators of robbery are assigned more blame than those of rape, and when the victim was reported as drunk, perpetrator blame was even lower. Bieneck and Krahe (2011) also manipulated the existing relationship between victim and perpetrators (strangers/acquaintances/ex-partners), finding as the relationship history between the victim and perpetrators increased, perpetrator blame decreased. These findings are concerning, particularly as acquaintance rape cases, contribute to 90% of rape cases known to the CPS (n.d.).

Another factor involved in assessing rape cases is whether a person views the accusation of sexual violence to be false. The UK CPS has found that in a 17-month period, there were 5651 prosecutions of rape, there were only 35 prosecutions for those accused of falsely accusing others of rape (CPS, 2013<sup>6</sup>). Although it should be noted that like rape, it is difficult to prosecute false allegations, potentially due to establishing intent. If someone falsely accuses another of rape, but it is due to the act itself not being rape, the lack of intent from the accuser may make it difficult to prosecute such a case. Despite these low numbers, collaborative work between LeanIn.Org (an organisation which helps women with their careers) and Survey Monkey in 2019 found 40% of male UK managers were uncomfortable working with women out of concern for a false allegation of sexual harassment or assault (LeanIn.Org, n.d.). This concern about being falsely accused of rape indicates people view it as more common than the CPS found it to be (once again consider the difficulty in prosecuting false allegations). Although not previously researched as in-depth as victim blaming, a European Commission found that 30% of UK respondents feel women exaggerate or fabricate claim of abuse or rape (European Commission, 2016). Whilst some research involves participants assigning a guilty/not guilty verdict, our justice system highlights an acquittal does not represent a false allegation on behalf of the claimant. This could mean a defendant is assigned not guilty either due to lack of enough evidence to convict, or because the juror believes the defendant to be innocent.

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<sup>6</sup> Whilst this data appears old, recent rape review by the Ministry of Justice (2021) also cited this data set and value when discussing false accusations.



#### **4.1.1 Sexism and Victim Blaming in Rape**

Sexism is connected both to victim blaming attitudes and RMA. Rollero and Tartaglia (2019) found those high in sexism (measured using the Ambivalent Sexism Inventory; Glick & Fiske, 1996) typically display more victim blaming attitudes, and have higher RMA compared to those low in sexism. However, sexism is not a unitary construct and, in this context, has only been considered as negative, however this may be more nuanced.

Glick and Fiske (1996) developed a two factored approach to sexism: hostile sexism (overt sexism typically characterised by a hatred of women), and benevolent sexism (characteristics assigned to women which appear complementary, are inherently sexist and reinforce gender roles, i.e., women are natural caregivers). Whilst hostile and benevolent sexism are typically positively correlated with each other, they are treated as separate facets of sexism. Ambivalent sexism has been recognised across differing cultures (Glick et al., 2000). Thomae and Viki (2013) found hostile sexism to be linked to higher rape proclivity scores (higher self-reported likelihood to rape if told they would not get arrested, Malamuth, 1981), whereas benevolent sexism is primarily related to victim blaming attitudes (Abrams et al., 2003). As previously discussed, research has found victims' behaviour, particularly that which violates stereotypical expectations, can impact victim blaming in rape scenarios (Abrams et al., 2003; Cassidy & Hurrell, 1995; L'Armand & Pepitone, 1982; Luginbuhl & Mulin, 1981; Valli & Rizzo, 1991). These behaviours, such as clothing, chasteness, and respectability tie into how those who are benevolently sexist expect women to behave. Glick and Fiske (1996) discuss how women can be viewed as the "gatekeepers" to sex, therefore when a woman has an active sexual history, this can violate the classical (benevolent) view of how a woman should behave. The

Ambivalent Sexism Inventory designed by Glick and Fiske (1996) measures benevolent sexism by asking questions of women's "purity", how women have better "moral sensibility" than men, and how women need be "protected and cherished" by men, all of which, when violated in the eyes of a benevolently sexist individual, may cause a higher assignment of blame in rape cases. When assessing vignettes of rape victims who were in relationships at the time of the crime, those who measured higher in benevolent sexism attributed less blame than to victims with no relationship information (Viki & Abrams, 2002). This suggests those in relationships who are victims of rape (with the perpetrator not being their partner/spouse), may be viewed as being unfaithful to their partners, and have more blame than those whose relationship status is unknown. Indeed, the separate nature of hostile and benevolent sexism can be found when people are evaluating rape cases. Hills et al. (2020) found those high in benevolent sexism were more affected by descriptions of wantedness and pleasure in sexual scenarios instead of relying on the only significant issue - whether consent was given, whereas those high in hostile sexism were not impacted by these factors. This indicates sexism can impact how individuals view rape and can also affect which factors in a rape scenario (e.g., pleasure) contribute to these assessments of veracity and blame.

Sexism is not isolated to an individual, sexist attitudes can be perpetuated and spread causing further issues, particularly in cases of sexual assault. How sexism can be perpetuated can originate from the social norms perceived by the individual. Research as shown viewing and interacting with sexist content can, in those already high in sexism, normalise sexist attitudes and behaviours. Ford and Ferguson (2004) proposed the Prejudice Norm Theory (PNT). This suggests, in regard to sexist humour, exposure to such content can increase tolerance for

such content (Ford, 2000; Ford & Ferguson, 2004). This increase in tolerance is theorised by Ford and Ferguson (2004) to then increase the likelihood of an individual committing prejudiced acts. Where PNT focusses on normalising prejudice within the individual, another explanation for how sexism propagates are the informational and normative influences of the group as discussed in Chapter 1 (Section 1.1.2). If an individual's peers are sexist, it is more likely these influences would lead to a change in an individuals' sexist attitudes, which would lean towards to the norm. Whilst exposure to sexist content (either interactions or online material) in relation to your (largely filtered/chosen) peers is potentially low in those who are not already sexist (Similarity Effect, Cataldo & Cohen, 2018), exposure to sexism online is more likely due to the wealth of (largely unfiltered/unchosen) content available.

#### **4.1.2 Sexism and Social Media**

Social media is defined in this research as any online platform which enables users to interact with one another. This could be via comments, interacting with content (e.g., liking and reposting content), direct messaging, or following each other. These can also be known as social networking sites, although these tend to focus users on following each other. Facebook is a well-known social networking site which is also a social media platform, due to the "friend" networks it enables. A website such as Reddit may be considered social media, but not a social networking platform. The users, whilst they can follow each other, relies on subscribing to specific communities as whole over individual users.

Feminist researchers have stated "one does not have to look far to find examples of misogyny" online (Drakett et al., 2018, p. 110). Whilst viewing the occasional piece of sexist content online may not impact the user if they have a varied content stream online, those exposed consistently to sexist content may

have their views either normalised or strengthened by such content (see Chapter 1; Section 1.1 for a full explanation on normalisation of sexism and its impacts).

This normalisation of sexism may lead to an increase in RMA and victim blaming behaviours if sexist individuals are exposed to normalising content. This effect is predominantly found when those high in hostile sexism are exposed to sexist jokes (Ford, 2000). Rape proclivity (how likely participants feel they would engage in non-consensual activities when assured they would not be caught/punished; Bohner et al., 1998; Malamuth, 1981) has also been found to increase in those with high hostile sexism scores after viewing sexist jokes (Thomae & Viki, 2013).

Fox et al. (2015) manipulated participants' level of interaction when using social networking site Twitter before rating job applications. Participants had to read through a Twitter feed (collection of tweets) and either retweet a post (repost the tweet to your own account) or create a tweet which used the sexist hashtag "#getbackinthekitchen" (a hashtag is a keyword/phrase, prefixed with a "#" symbol, which is used to index the keyword and categorise the tweet). Participants were then asked to rate the hireability of job candidates. Fox et al. (2015) manipulated the anonymity of the account (by changing the amount of personal information participants added to the account). Participants had their sexism towards women measured (using the hostile sexism factor in the Ambivalent Sexism Inventory, Glick & Fiske, 1996) and found those who used the anonymous account typically had higher hostile sexism scores post interaction, and those who created tweets rated female job candidates as less competent compared to those who retweeted. This indicates those who interact with sexist tweets in an anonymous environment could manifest those attitudes and behaviours in offline contexts.

Whilst previous research has established a link between sexism and victim blaming and demonstrated interacting with sexist content online can increase sexist behaviours, there is little connecting interaction with sexist content online and victim blaming in one process. The potential for interacting with sexist content affecting victim blaming could have larger consequences when applying the theory and research to court rooms: Currently, whilst jurors are instructed to avoid media related to the case they have been assigned, if jurors on rape cases (and in particular acquaintance rape cases) access victim blaming or sexist content online when outside the court room, it could impact their deliberations and ultimately the outcome of the case.

#### **4.1.3 Current Study**

The current study aims to expand our understanding of the impact of interacting with sexist content online on offline behaviours and attitudes. Specifically, we will assess whether participants' sexism and victim blaming attitudes are impacted by such interactivity. We utilise Twitter as previous work incorporates Twitter (Fox et al., 2015). Twitter was also selected due to the public nature of Tweets (as discussed in Chapter 2, Section 2.2.1). Perpetrator blame will also be measured as an independent rating from victim blaming, thus furthering research into this area. A novel measure of false accusation likelihood has also been included to determine how this is impacted by sexism and type of crimes (robbery/murder/stranger rape/acquaintance rape).

The current study will also expand existing literature into victim blaming by including gender-reversed scenarios that will feature a male victim with a female perpetrator. Whilst male and female victim scenarios have been compared (Felson and Palmore. 2018), it is unclear if the perpetrators of the crimes were female for the male victims. Rye et al. (2006) found male victims of murder are

more harshly judged compared to female victims, and perpetrators in male-victim scenarios are given more leniency. Rye et al. (2006) used a murder scenario over a rape scenario, which may be evaluated differently however differences in gendered evaluations are still clear. Whilst McLean (2013) in his review argues that male victims of rape will be victim blamed due to the “fight back” rape myth, with Bullock and Beckson (2011) stating the physiological response during a sexual assault could be seen as consent (despite this reaction not being voluntary). However, Felson and Palmore (2018) found no differences in blame assignments between male and female victims across rape and robbery scenarios. This area is under-researched, possibly due to the legal definition of rape in the UK excluding the possibility of a female perpetrator forcing penetration from a male. This definition is not in accordance with layman’s definitions of rape (see Chapter 5; Hills et al., 2020) that typically focuses on consent over the act itself. Following on from the rape myths, it is predicted male rape victims (regardless of type of rape) will have increased victim blame assignments compared to robbery and murder victims due to the “fighting back” rape myth, and the stereotype that men are stronger than women. It is anticipated male victims will be assigned more blame overall compared to female victims; with the reverse predicted for perpetrator blame. Given false accusation (or the woman is lying) is a rape myth and is specifically measured in rape myth scales such as the Updated Illinois Rape Myth Acceptance scale (Payne et al., 1999; McMahon & Farmer, 2011), rating how likely the perpetrator is being falsely accused should logically follow similar patterns to victim blaming, therefore a simple difference in false accusation likelihood is predicted between male and female victim scenarios. To streamline the design, the male victim condition will only be asked to browse Twitter (lowest interaction level), and only be compared to the female

victim participants who also browsed Twitter. Those who assess male victims of crimes will complete the Ambivalence Towards Men Inventory (ATMI; Glick & Fiske, 1999) in replacement of the Ambivalent Sexism Inventory (ASI; Glick & Fiske, 1996). Scores on the ATMI will be affected by browsing a misandrist Twitter feed, and participants ambivalence towards males is predicted to impact their evaluations of the crimes.

It is expected those in the high interaction conditions (retweet/create tweet) will have a larger increase in overall, hostile, and benevolent sexism scores compared to those in the browse condition. Those in the higher interactivity conditions are also expected to assign more blame to the victims of acquaintance rape crimes compared to those in the lower interactivity conditions. Those high in benevolent sexism are expected to assign more blame to acquaintance rape victims compared to the other crime types. As found in Viki et al. (2004), those high in benevolent sexism are predicted to assign less perpetrator blame in the acquaintance rape scenario compared to other crime types. False accusation likelihood scores are predicted to be higher in acquaintance rape scenarios and to follow the predictions for victim blame. Those high in hostile sexism are expected to produce similar results but with stranger rape instead of acquaintance rape.

## **4.2 Method**

### **4.2.1 Design**

Three separate designs were used for this study to address different hypotheses. The first measures change in sexism scores due to Twitter interactivity, using a 2 x 3 design with pre- and post-Twitter interaction sexism scores, and Twitter interactivity level (browse/retweet/create). For the victim blame, perpetrator blame, and false accusation likelihood measurements, two designs were used to

streamline the recruitment process, and due to the under-researched nature of male victims. The first design is to determine if male victims are assessed differently to female victims. Therefore, those who complete the male victim condition will only be asked to browse misandrist content on Twitter and be compared to those who browse misogynist tweets in the female victim conditions, utilising a 2 x 2 x 4 mixed design, with the between-participant variables being victim gender (female/male) and participant gender (female/male). The within-participant variable is crime type (robbery/murder/stranger rape/acquaintance rape).

The other design focusses on level of twitter interactivity and used a 2 x 3 x 4 mixed design. The between-participant variables are participant gender and twitter interactivity (browse/retweet/create). The within-participant factor is crime type.

For both designs, sexism score, post-twitter interaction, amount of time spent on social media daily, and number of times per day a participant accesses social media was entered as covariates. Victim blame scores (out of 10), perpetrator blame scores (out of 10), and how likely participants thought the perpetrator was falsely accused of the crime (as a percentage) were the dependant variables across both designs.

#### **4.2.2 Participants**

One-hundred-and-eighteen participants (88 female participants, aged 18 to 76, mean = 28.19, *S.E.* = 1.53, and 30 male participants, aged 18 to 86, mean = 31.13, *S.E.* = 2.89) took part in the research. Participants were recruited primarily from Bournemouth University via poster advertisements, use of the SONA participant recruitment program for undergraduate Psychology students, and



social media advertisements. This sampling method was utilised due to both ease of access to the population, and the research taking place in person (similar in procedure to Study 1 and 2 in Chapter 3). Those who took part in previous research related to sexism were not excluded as the Twitter content and aims were different from previous studies, however those recruited into the male victim/female perpetrator dynamic were excluded from participating in the female victim/male perpetrator dynamic and vice versa. Participants external to Bournemouth University were recruited via social media advert. The advert did not mention sexual assault nor sexism but did mention participants would be viewing a Twitter feed and taking part in measurements and reading scenarios. Prior to entering the lab to interact with the Twitter feeds, participants were invited to complete the ASI or ATMI online to gather pre-Twitter interaction data. After this, participants were welcomed to the laboratory space on campus by a female researcher. Of the participants in the browse condition ( $N = 63$ ), 38 were shown scenarios with a male victim/female perpetrator and completed the Ambivalence Towards Males Inventory (ATMI; Glick & Fiske, 1999), and 25 participants were given the standard materials (see below). Those from Bournemouth University's undergraduate psychology program received course credits or £5 cash as compensation.

#### **4.2.3 Materials**

For those in the female victim condition, participant sexism was measured using the Ambivalent Sexism Inventory (Glick & Fiske, 1996). The ASI evaluates both hostile sexism and benevolent sexism. The ASI has been shown to be reliable ( $\alpha < .73$ ) across different samples and studies, and valid when compared to other methods of measuring prejudice/sexism (Glick & Fiske, 1996). Those who were in the male victim condition had their sexism measured using the Ambivalence

Towards Males Inventory (Glick & Fiske, 1999), and was also found to be reliable ( $.83 < \alpha < .87$ ; Glick & Fiske, 1999).

The tweets were collected by searching on Twitter for keywords related to women (e.g., “feminism”, “women”, “girls”). If a sexist hashtag was identified the research team then developed Tweets utilising these hashtags. The female targeted tweets were created, and these then had their pronouns/gender specific words reversed to then target males (this is due to the difficulty in finding male targeted stereotypic content on Twitter to inspire the tweets, see Appendix 10 for summaries of all tweets). These tweets were then posted by a series of Twitter accounts created for research purposes (the same accounts as used in the Stereotype Threat research, Chapter 3). Six sexist tweets were posted, with four neutral tweets (the same neutral tweets included in the stereotype threat research). A further account was created to follow the accounts with the sexist/neutral tweets, and to enable the participants to retweet/create tweets themselves. The Twitter feed was presented on a smartphone as opposed to on a computer as 80% of Twitter users access Twitter via a smartphone (Omnicores, 2020). An android (version 7.0; Motorola G<sup>4</sup>) phone with a display resolution of 1920 x 1080; screen size of 5.50 inches was used to display the Twitter application (downloaded from the Android Play store). Participants were presented the (unlocked) phone, with the Twitter application and feed already opened, and instructed to perform the task assigned to them (browse/retweet/create; see below for an explanation).

The scenarios were written by the research team. There were four types of crime scenarios involved (robbery, murder, stranger rape, and acquaintance rape), with three scenarios of each crime type. The scenarios were based on those developed in previous research (Fitzpatrick, 2001). Scenarios ranged from

108 to 223 words in length (mean = 152.67). Of the 12 scenarios, 10 involved 2 individuals (the perpetrator and victim), and 2 involved 3 people (one murder scenario; one stranger rape scenario). In all scenarios the victim is named, and the perpetrator is either named or has their gender alluded to via pronouns. As the design involves victim/perpetrator gender as a variable, all names included also had pronouns included in cases of ambiguous gender names (e.g., Chris can be a name for a man or a woman). Victim/perpetrators were not described by racial/ethnic descriptors to eliminate potential bias. The scenarios were not all parallel in story, with some involving more intimate relationships (e.g., marriage) between victim and perpetrator than others (e.g., first date). These variations in scenarios could also impact participant evaluations of blame and false accusation likelihood, but as stated in Hills et al. (2020), the variations will be a better representation of the scenarios as they occur in real-life. The variations will also ensure the participants are less likely to determine the aim of the research and therefore change their responses accordingly. The scenarios were evaluated by nine volunteers of three men and six women, aged between 27 and 33. They were asked to evaluate what crimes were committed and how moral they deemed the victim to be. Of the stranger rape and acquaintance rape scenarios (of key interest for this research), the volunteers all successfully identified the scenarios as rape, and the morality of the victims did not change between the scenarios and crime types drastically (range of 7.44 to 9.66 out of 10 for victim morality). For the robbery and murder scenarios, some were not consistent with crime type, however all scenarios for robbery were labelled as fraud/burglary/robbery, and all the murder scenarios were identified as violent crimes (i.e., grievous bodily harm). Scenarios were organised in the booklet in according to a random order placement (determined by a sequence generator) with the condition that two

crime types were not presented in succession (see Appendix 11 for all women as victim scenarios in the order displayed to participants; and Appendix 12 for man as victim scenarios). This order was then used for all participants.

#### **4.2.4 Ethical Considerations**

The primary ethical concern was for those who have experienced sexual violence, and the potential negative psychological consequences of reading sexual violence scenarios. Within the adverts for this study, and in the information sheet, the exclusion criteria of those who have experienced sexual violence should not take part was highlighted. Concern was also put in place for participants who may experience negative psychological effects regardless, with content warnings highlighted within the information sheet, and throughout the scenario booklet. Additionally, the right to withdraw by notifying the researcher was reiterated throughout the procedure in case participants became uncomfortable with participating (or for any other reasons). Participants were fully debriefed after the study was completed/after withdrawal. The debrief included information for available services related to support if they experience sexual violence both locally and nationally and provided information about the University's wellbeing services if they were negatively impacted by the study. The development of the scenarios was also considered in terms of level of detail, which could be cause negative impacts if too visceral. All materials and procedure were approved by a Bournemouth University Ethics Committee (approval ID: FST18293).

#### **4.2.5 Procedure**

Participants were instructed to complete an online questionnaire at least 24 hours prior to the scenario rating session. The online questionnaire consisted of the ASI or ATMI depending on victim gender condition. Participants were also instructed

to invent a code word so researchers could pair their online responses to the offline responses anonymously. If codewords matched in multiple participants, age and gender were used to differentiate the responses. Participants were asked for their age and gender identity, additionally, participants were asked to write in how often they access social media per day (i.e., open a social media app on their phone), and how much time they felt they spent on social media per day (all responses were open text responses). During the second session (in person), participants were shown the tweet thread (which either had male-targeting tweets or female-targeting tweets depending on victim gender condition), and instructed to either browse, retweet, or create their own tweet using one of the hashtags used in the initial thread. Those in the browse condition had to scroll through the Twitter feed, participants instructed to retweet had to select one tweet from the feed to retweet (repost the tweet to the account being used). The selected tweet had to feature a sexist hashtag. If instructed to create a tweet, participants had to select one of the sexist hashtags seen in the feed and create and post a tweet which featured that tweet (participants were instructed this had to be in line with the tweets previously shown, e.g., could not post a tweet criticising the hashtag). Once this was completed, participants had their ambivalent sexism measured again. The post-Twitter sexism measure was not counterbalanced to ensure sexism changes as a function of Twitter interaction was directly measured, as opposed to potential sexism changes caused by exposure to the crime scenarios. Finally, participants were then instructed to complete the booklet of scenarios (see materials section above). Participants read each scenario, and then assigned victim and perpetrator blame (separately) on scales of 0-10. They were then asked to rate the percentage likelihood of the scenario being a false accusation. After the scenario ratings, participants were

debriefed and given the full explanation of the research. This instruction set (and the ethical considerations contained within the procedure) was kept the same for all participants depending on the Twitter interactivity condition assigned.

#### **4.2.6 Analysis**

To investigate whether Twitter interactivity changed participants sexism scores, paired sample *t*-tests will be used to determine change between pre-Twitter interaction and post. Further, ANOVAs will be conducted with the change in sexism scores as the dependant variable ( $ASI_{pre} - ASI_{post} = ASI_{change}$ ) and Twitter interactivity as the independent variable. This will then be followed by an ANCOVA with participants self-reported time accessing social media and how frequently participants reported accessing social media as covariates.

The self-reported time accessing social media were all converted into minutes, and the frequency was converted into number per day (i.e., if someone responded three times a week, the frequency would be converted to .43). When participants reported a range of values, the mid-point of that range was used. If non-numeric values were reported, the assumption of 18 hours of awake time (although the recommended amount of sleep is around 8 hours per night, NHS, 2018), a survey of 2000 UK residents found the average amount of sleep per night is around 6.2 hours; Chemist 4 u (2018) was used to determine frequency (i.e., once an hour was converted to 18 times). Those who reported accessing social media Very often, frequently, and a lot became 18, all the time and constantly became 36, every day and daily became 9, multiple times became 5. When participants reported a range of values, the mid-point of that range was used.

To analyse the impact of victim gender on victim blaming, perpetrator blaming, and false accusation likelihood, three 2 x 2 x 4 mixed ANOVAs will be conducted. The independent variables will be participants gender (male/female), victim gender (male/female) and the type of crime being evaluated (robbery/murder/stranger rape/acquaintance rape). The dependent variables for each ANOVA will be victim blaming, perpetrator blaming, and false accusation likelihood. To follow this, ANCOVAs will be conducted with the same variables as before, with the addition of post-Twitter interaction (as the most recent measurement prior to assessing the scenarios) sexism scores from both the ATMI and ASI as the covariate.

For Twitter interactivity, three 2 x 3 x 4 mixed ANOVAs will be conducted. These ANOVAs will replace the victim gender IV with the Twitter interactivity level participants performed (browse/retweet/create). As above, ANCOVAs will be conducted to account for participants post-Twitter interaction ASI score, with participants self-reported time spent on social media, and how frequently they access social media per day also being accounting for.

### **4.3 Results.**

Results are structured by what was measured. First the blame assignments and false accusation likelihoods measures are then analysed according to victim gender. Then changes between sexism scores are analysed according to Twitter condition and general changes, by the victim (and therefore sexism measure) gender. This is followed up by analysis of the blame and false accusation likelihood scores according to Twitter interactivity with misogynistic content.

### 4.3.1 Victim Gender Analysis

Across victim gender analysis, the scores given across the 3 crime scenarios were averaged to produce one overall score for each crime type. To analyse all three measures, 2 x 2 x 4 Mixed ANOVAs were used with participants gender (male/female), victim gender (male/female) and type of crime (robbery/murder/stranger rape/acquaintance rape) inputted as the independent variables, with participant and victim gender as between-participants measures, and crime type as the within-participants variable. Dependent variables were participants victim blame ratings, perpetrator blame, and how likely they thought the victim was making a false accusation against the perpetrator (as a percentage). The assumptions for conducting a mixed ANOVA were not fully met in this analysis, with some crime responses not yielding data with a normal distribution. However, given ANOVAs are robust enough when either normality or homogeneity/sphericity assumptions are violated (Field et al., 2012), parametric tests were continued. Following these ANOVAs, further ANCOVAs were conducted with the same variables as the previous ANOVAs with the addition of the post-exposure ASI/ATMI scores as a covariate.

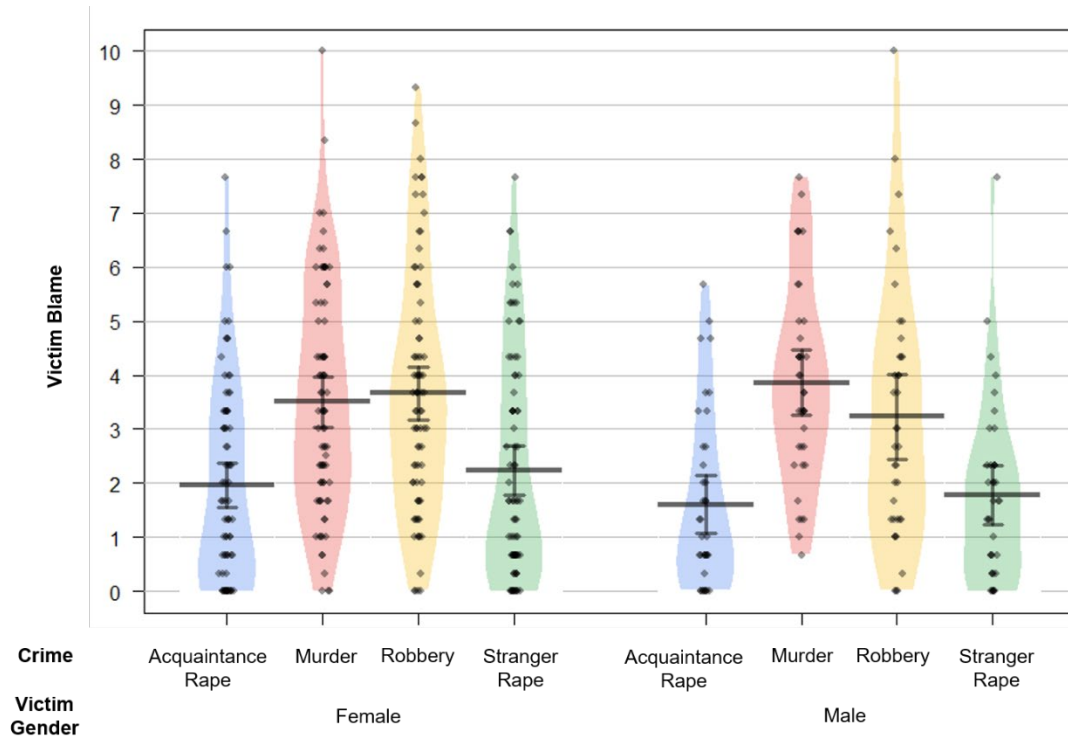
When assigning blame to the victims (see Figure 8) in the scenarios, the type of crime presented had a significant impact on evaluations,  $F(3, 177) = 26.23$ ,  $MSE = 44.50$ ,  $p < .001$ ,  $\eta_p^2 = .31$ , with further (Bonferroni adjusted alpha ( $\alpha$ ) = .008) comparisons find victims of robbery (estimated mean ( $\bar{e}\bar{x}$ ) = 3.38) and murder ( $\bar{e}\bar{x}$  = 3.89) were assigned significantly more blame than victims of both stranger ( $\bar{e}\bar{x}$  = 1.71) and acquaintance rape ( $\bar{e}\bar{x}$  = 1.96; all  $p$ 's <.001). The predicted main effect from victim gender was not present ( $p = .813$ , see Table 24 for a summary of main effects and interactions). There was a significant three-way interaction between crime, participants gender, and victim gender (see Table



24). To investigate this interaction, two ANOVAs were conducted according to participant gender (Bonferroni adjusted  $\alpha = .025$ ). For female participants, there was a significant interaction between type of crime and victim gender,  $F(3, 126) = 6.27$ ,  $MSE = 8.77$ ,  $p = .001$ ,  $\eta_p^2 = .13$ ; whereas male participants did not have this interaction,  $F(3, 51) = 2.33$ ,  $MSE = 5.66$ ,  $p = .086$ ,  $\eta_p^2 = .12$ . Further ANOVAs (adjusted  $\alpha = .013$ ) performed according to both participant and victim gender found when women were evaluating both female and male victims, the type of crime impacted their evaluations,  $F(3, 60) = 22.25$ ,  $MSE = 32.34$ ,  $p < .001$ ,  $\eta_p^2 = .53$ ;  $F(3, 66) = 16.02$ ,  $MSE = 21.60$ ,  $p < .001$ ,  $\eta_p^2 = .42$ , respectively. Bonferroni adjusted ( $\alpha = .002$ ) comparisons found when women evaluate female victims, those in the robbery ( $\bar{e}\bar{x} = 4.79$ ) scenarios were assigned more blame than those in both stranger ( $\bar{e}\bar{x} = 2.54$ ) and acquaintance rape ( $\bar{e}\bar{x} = 2.11$ ) scenarios ( $p$ 's  $< .001$ ), and victims of murder ( $\bar{e}\bar{x} = 3.94$ ) were assigned more blame than victims of acquaintance rape ( $p = .002$ ). When evaluating male victims, only those in the murder ( $\bar{e}\bar{x} = 3.73$ ) scenario are assigned more blame than those in stranger ( $\bar{e}\bar{x} = 1.80$ ) and acquaintance rape ( $\bar{e}\bar{x} = 1.58$ ) scenarios ( $p$ 's  $< .001$ ).

**Figure 8**

*Violin Plots for Participants Victim Blaming Scores Across Type of Crime and Victim Gender.*



**Table 24***ANOVA and ANCOVA Results for Victim Blaming Analysis.*

Source	<i>F</i>	<i>df</i>	<i>MSE</i>	<i>p</i>	$\hat{\eta}_p^2$
<b>ANOVA</b>					
<b>Participant Gender</b>	.31	1, 59	3.35	.582	.01
<b>Victim Gender</b>	.06	1, 59	.62	.813	.04
<b>Crime Type</b>	26.23	3, 177	44.50	<.001	.31
<b>Victim Gender*Participant Gender</b>	2.13	1, 59	25.31	.134	.04
<b>Crime Type*Victim Gender</b>	.84	3, 177	1.43	.471	.01
<b>Crime Type*Participant Gender</b>	1.78	3, 177	3.01	.153	.03
<b>Crime Type*Victim Gender*Participant Gender</b>	6.65	3, 177	11.28	<.001	.10
<b>ANCOVA</b>					
<b>Participant Gender</b>	.19	1, 58	1.26	.663	<.01
<b>Victim Gender</b>	.02	1, 58	.11	.899	<.01
<b>Crime Type</b>	5.72	3, 174	9.85	<.001	.09
<b>ASI/ATMI</b>	40.37	1, 58	265.00	<.001	.41
<b>Victim Gender*Participant Gender</b>	4.51	1, 58	29.61	.038	.07
<b>Crime Type*Victim Gender</b>	.83	3, 174	1.43	.478	.01
<b>Crime Type*Participant Gender</b>	1.76	3, 174	3.03	.157	.03
<b>Crime Type*Victim Gender*Participant Gender</b>	6.56	3, 174	11.30	<.001	.10

After accounting for variance caused by participants ASI/ATMI scores using ANCOVAs, most of the significant findings disappear (see Table 24 for both ANOVA and ANCOVA results). Type of crime still has a main effect on victim blame assignments with robbery ( $\bar{e}\bar{x} = 3.38$ ) and murder ( $\bar{e}\bar{x} = 3.89$ ) victims being assigned more blame compared to stranger ( $\bar{e}\bar{x} = 1.71$ ) and acquaintance ( $\bar{e}\bar{x} = 1.96$ ) rape victims (adjusted  $\alpha = .008$ ; all  $p$ 's <.001). The three-way interaction between type of crime, participant gender and victim gender remained after accounting for participant sexism, with similar findings as before. When

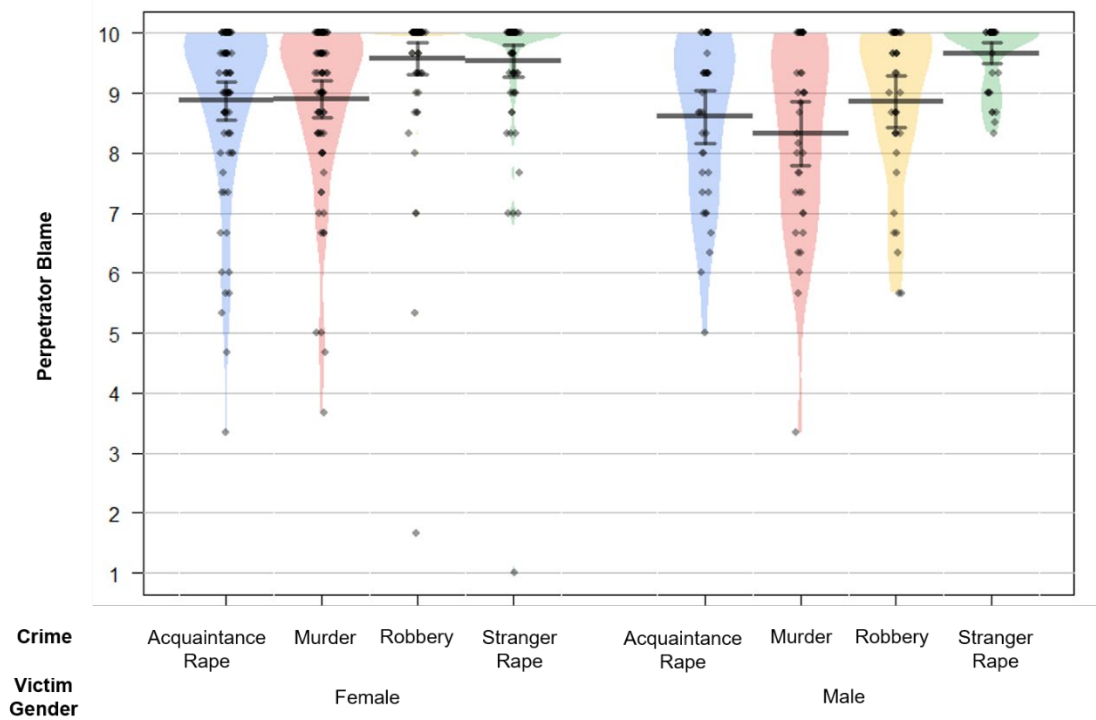
investigating this interaction by participants gender (adjusted  $\alpha = .025$ ), only female participants had a significant interaction between type of crime and victim gender,  $F(3, 123) = 5.99$ ,  $MSE = 8.40$ ,  $p = .001$ ,  $\eta_p^2 = .13$ . When analysing type of crime according to both participant and victim gender, only female participants had a significant impact from type of crime when they were evaluating scenarios with male victims/female perpetrators, with murder victims being assigned more blame ( $\bar{e}x = 3.73$ ) than both stranger ( $\bar{e}x = 1.80$ ) and acquaintance rape ( $\bar{e}x = 1.58$ ) victims (adjusted  $\alpha = .002$ ;  $p$ 's  $<.001$ ). A new interaction between participants gender and victim gender arises when accounting for sexism,  $F(1, 58) = 4.51$ ,  $MSE = 29.61$ ,  $p = .038$ ,  $\eta_p^2 = .07$ , however further investigation found no significant effects for victim gender when analysing by participant gender (all  $p$ 's  $>.025$ ).

When assigning blame to the perpetrator in the scenarios on a scale of 0-10 (see Figure 9), the type of crime the perpetrator was being assessed for impacted participants evaluations ( $p = .005$ ; see Table 25 for full results), with stranger rape perpetrators being assigned significantly more blame ( $\bar{e}x = 9.37$ ) than acquaintance rape perpetrators ( $\bar{e}x = 8.61$ ; Bonferroni adjusted  $\alpha = .008$ ;  $p <.001$ ). The gender of the victims had no main effect on perpetrator blame evaluations ( $p = .206$ ). A significant interaction was found between crime and victim gender ( $p = .009$ ). To source this interaction, further ANOVAs were conducted according to victim gender (Bonferroni adjusted  $\alpha = .025$ ). When evaluating scenarios with a female victim/male perpetrator dynamic, participants did not significantly vary their blame allocation crime to crime,  $F(3, 69) = 3.05$ ,  $MSE = 2.12$ ,  $p = .034$ ,  $\eta_p^2 = .12$ . When the scenarios involved a male victim/female perpetrator, the type of crime being committed did significantly impact blame assessment,  $F(2.28, 82.04) = 9.62$ ,  $MSE = 16.54$ ,  $p <.001$ ,  $\eta_p^2 =$

.21, with female perpetrators of stranger rape being assigned more blame ( $\bar{e}\bar{x} = 9.63$ ) than those perpetrating robbery ( $\bar{e}\bar{x} = 8.83$ ), murder ( $\bar{e}\bar{x} = 8.27$ ), or acquaintance rape ( $\bar{e}\bar{x} = 8.55$ ; adjusted  $\alpha = .004$ ; all  $p$ 's  $<.001$ ).

**Figure 9**

*Violin Plots for Participants Perpetrator Blaming Scores Across Type of Crime and Victim Gender.*



**Table 25***ANOVA and ANCOVA Results for Perpetrator Blaming Analysis.*

Source	<i>F</i>	<i>df</i>	<i>MSE</i>	<i>p</i>	$\eta_p^2$
<b>ANOVA</b>					
Participant Gender	.47	1, 59	1.38	.495	.01
Victim Gender	1.64	1, 59	4.79	.206	.03
Crime Type <sup>a</sup>	4.84	2.51, 148.00	6.19	.005	.08
Victim Gender*Participant Gender	.67	1, 59	1.97	.415	.01
Crime Type*Victim Gender <sup>a</sup>	4.40	2.51, 148.00	5.62	.009	.07
Crime Type*Participant Gender <sup>a</sup>	2.54	2.51, 148.00	3.25	.069	.04
Crime Type*Victim Gender*Participant Gender <sup>a</sup>	2.79	2.51, 148.00	2.51	.052	.05
<b>ANCOVA</b>					
Participant Gender	.74	1, 58	1.91	.39	.01
Victim Gender	2.44	1, 58	6.30	.124	.04
Crime Type <sup>a</sup>	.53	2.48, 143.56	.67	.626	.01
ASI/ATMI	8.87	1, 58	22.88	.004	.13
Victim Gender*Participant Gender	.90	1, 58	2.32	.347	.02
Crime Type*Victim Gender <sup>a</sup>	4.49	2.48, 143.56	5.62	.008	.07
Crime Type*Participant Gender <sup>a</sup>	2.73	2.48, 143.56	3.42	.057	.05
Crime Type*Victim Gender*Participant Gender <sup>a</sup>	2.87	2.48, 143.56	3.58	.049	.05

<sup>a</sup> Greenhouse-Geisser adjustments applied.

When accounting for sexism, the main effect of the type of crime on perpetrator blame is no longer significant (see Table 25). Whilst the 2 way type of crime and victim gender interaction was still significant, and a three-way interaction between type of crime, participant gender, and victim gender was present, further investigation of both these interactions yielded no significant results (all *p*'s > .025; > .013 respectively).

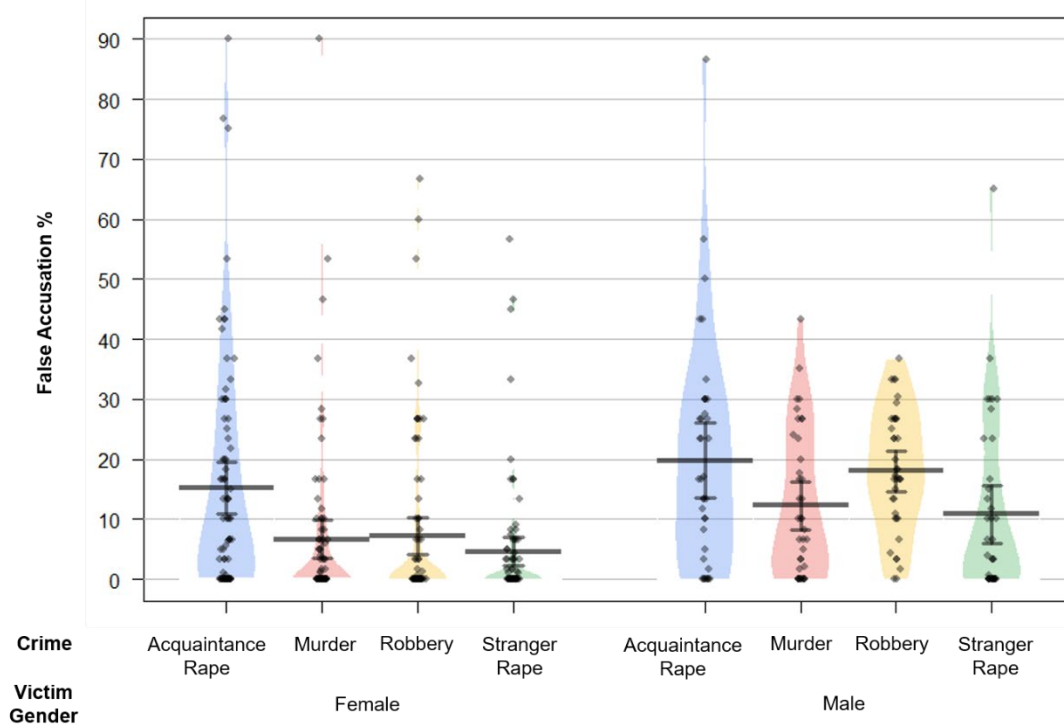
The chances of the perpetrator being falsely accused (as a percentage, see Figure 10) was evaluated by participants. The type of crime had a main effect

on how likely participants felt the perpetrator had been falsely accused ( $p < .001$ ; see Table 26 for full results), with the perpetrators of acquaintance rape being evaluated as having a higher chance of being falsely accused ( $\bar{e}x = 21.23$ ) compared to robbery ( $\bar{e}x = 11.38$ ), murder ( $\bar{e}x = 8.45$ ), and stranger rape ( $\bar{e}x = 7.68$ ) perpetrators (adjusted  $\alpha = .008$ ;  $p = .002$ ;  $p < .001$ ;  $p < .001$  respectively). Two significant interactions were present between crime and participants gender ( $p = .005$ ) and crime and victim gender ( $p = .013$ ). When analysing by participant gender, both male and female participants varied their false accusation likelihood evaluations according to the type of crime,  $F(3, 51) = 8.73$ ,  $MSE = 1207.74$ ,  $p < .001$ ,  $\eta_p^2 = .34$ ;  $F(2.14, 89.77) = 4.47$ ,  $MSE = 511.28$ ,  $p = .012$ ,  $\eta_p^2 = .10$  respectively. The source of the crime and participant gender interaction stems from male participants rating the acquaintance rape scenarios to be significantly more likely to be a false accusation ( $\bar{e}x = 27.15$ ) compared to murder ( $\bar{e}x = 6.32$ ) and stranger rape scenarios ( $\bar{e}x = 6.92$ ; adjusted  $\alpha = .004$ ;  $p = .005$ ;  $p = .010$  respectively), whereas female participants rated acquaintance rape scenarios to be more likely a false accusation ( $\bar{e}x = 15.31$ ) compared only to stranger rape ( $\bar{e}x = 8.45$ ; adjusted  $\alpha = .004$ ;  $p < .001$ ). To investigate the crime and victim gender interaction, false accusation likelihood assessments were analysed according to victim gender (adjusted  $\alpha = .025$ ). Across both male and female victim conditions, crime affected false accusation likelihood ratings,  $F(2.35, 84.53) = 8.22$ ,  $MSE = 1083.82$ ,  $p < .001$ ,  $\eta_p^2 = .19$ ;  $F(1.87, 43.05) = 11.34$ ,  $MSE = 1083.82$ ,  $p < .001$ ,  $\eta_p^2 = .33$  respectively. The source of the crime and victim gender interaction is for female victims, acquaintance rape is rated as being significantly more likely to be a false accusation ( $\bar{e}x = 22.19$ ) compared to robbery ( $\bar{e}x = 4.44$ ), murder ( $\bar{e}x = 5.02$ ), and stranger rape scenarios ( $\bar{e}x = 5.03$ ; adjusted  $\alpha = .004$ ;  $p = .011$ ;  $p = .001$ ;  $p = .002$  respectively), but with male victims, acquaintance rape was only

estimated to be more likely to be a false accusation ( $\bar{e}x = 20.26$ ) compared to murder ( $\bar{e}x = 11.88$ ) and stranger rape crimes ( $\bar{e}x = 10.33$ ; adjusted  $\alpha = .004$ ;  $p = .007$ ;  $p < .001$ ), with robbery ( $\bar{e}x = 18.31$ ) also being reported as more likely to be a false accusation compared to stranger rape ( $p = .007$ ).

**Figure 10**

*Violin Plots for Participants Estimated Likelihood of the Perpetrator Being Falsely Accused Across Type of Crime and Victim Gender.*





**Table 26***ANOVA and ANCOVA Results for False Accusation Likelihood Analysis.*

Source	<i>F</i>	df	<i>MSE</i>	<i>p</i>	$\hat{\eta}_p^2$
<b>ANOVA</b>					
<b>Participant Gender</b>	.12	1, 59	55.48	.733	<.01
<b>Victim Gender</b>	3.03	1, 59	1424.86	.087	.05
<b>Crime Type<sup>a</sup></b>	15.60	2.28, 134.54	2007.32	<.001	.21
<b>Victim Gender*Participant Gender</b>	.14	1, 59	66.42	.708	<.01
<b>Crime Type*Victim Gender<sup>a</sup></b>	4.21	2.28, 134.54	541.73	.013	.07
<b>Crime Type*Participant Gender<sup>a</sup></b>	5.24	2.28, 134.54	674.57	.005	.08
<b>Crime Type*Victim Gender*Participant Gender<sup>a</sup></b>	2.42	2.28, 134.54	311.36	.085	.04
<b>ANCOVA</b>					
<b>Participant Gender</b>	.25	1, 58	103.66	.617	<.01
<b>Victim Gender</b>	4.30	1, 58	1761.15	.043	.07
<b>Crime Type<sup>a</sup></b>	1.79	2.38, 138.27	208.51	.163	.03
<b>ASI/ATMI</b>	9.73	1, 58	3987.70	.003	.14
<b>Victim Gender*Participant Gender</b>	.11	1, 58	42.88	.748	<.01
<b>Crime Type*Victim Gender<sup>a</sup></b>	3.88	2.38, 138.27	451.60	.017	.06
<b>Crime Type*Participant Gender<sup>a</sup></b>	5.90	2.38, 138.27	685.58	.002	.09
<b>Crime Type*Victim Gender*Participant Gender<sup>a</sup></b>	2.42	2.38, 138.27	280.91	.08	.04

<sup>a</sup> Greenhouse-Geisser adjustments applied.

As with the other measures, many effects were diminished after including participant ASI/ATMI scores as a covariate. False accusation likelihood scores no longer varied according to type of crime once accounting for participants sexism measures ( $p = .150$ , see Table 26 for full results). Victim gender had main effect on false accusation likelihood ( $p = .043$ ) when accounting for participant sexism, with crimes involving a male victim/female perpetrator evaluated as having a higher likelihood of being a false accusation ( $\bar{e}x = 15.54$ ) compared to

scenarios with a female victim/male perpetrator ( $\bar{e}x = 8.83$ ). An interaction between type of crime and participant gender was found ( $p = .002$ ), but further investigation found no significant difference from type of crime when analysing by participant gender ( $p$ 's  $> .025$ ). The same was found for the two-way interaction between type of crime and victim gender ( $p = .017$ ), wherein further analysis did not find any significant effects of type of crime after corrected alpha levels ( $\alpha = .025$ ;  $p$ 's  $> .025$ ).

#### 4.3.2 Tweet Interactivity and Ambivalence Scores

For the pre-measurement when completing the ASI (Glick & Fiske, 1996), participants scored 1.77 (*S.D.* = .89) and 1.72 (*S.D.* = .77) on the hostile and benevolent factors of the ASI respectively (see Table 27 for all averages). For ambivalence towards men, participants scored 1.84 (*S.D.* = .87) and 1.35 (*S.D.* = .83) on the hostile and benevolent measures of the ATMI (Glick & Fiske, 1999).

**Table 27**

*Averages of Change in Sexism According to Victim Gender, Tweet Interactivity, and Sub-Scales of the Measures.*

<b>Twitter Interactivity</b>	<b>Change in Ambivalence</b>	<b>Change in Hostility</b>	<b>Change in Benevolence</b>
<b>Male Victims/Ambivalence Towards Men Inventory</b>			
<b>Browse</b>	0.09(.43)	0.08(.50)	0.10(.48)
<b>Female Victims/Ambivalent Sexism Inventory</b>			
<b>Browse</b>	-0.02(.22)	-0.08(.32)	0.04(.35)
<b>Retweet</b>	<-0.01(.46)	-0.10(.60)	0.09(.47)
<b>Create</b>	-0.08(.43)	-0.17(.58)	0.01(.41)

As all data met the assumptions for parametric testing, univariate ANOVAs were run with the victim gender (or target of the sexist tweets) as the independent variable and change in ASI/HS/BS scores as the dependent variables. No statistically significant changes were identified between those browsing misogynistic Twitter feeds and those browsing misandrist Twitter feeds. Further ANOVAs were run to determine if level of interactivity on misogynistic tweets changes measured sexism (see Table 28 for full results). No statistically significant findings were found (all  $p$ 's > .05). When accounting for self-reported social media usage, none of the previous results were changed (see Appendix 13 for full tables with ANCOVAs).

**Table 28**

*ANOVAs Investigating the Impact of Victim Gender and Twitter Interactivity on Change in Sexism Scores.*

<b>Variables</b>	<b>F</b>	<b>df</b>	<b>MSE</b>	<b>p</b>	<b><math>\eta_p^2</math></b>
<b>Ambivalent Sexism Change</b>					
<b>Victim Gender</b>	1.47	1, 61	.19	.230	.02
<b>Interactivity</b>	.30	2, 77	.05	.740	<.01
<b>Hostile Sexism Change</b>					
<b>Victim Gender</b>	2.18	1, 61	.43	.145	.04
<b>Interactivity</b>	.22	2, 77	.06	.807	<.01
<b>Benevolent Sexism Change</b>					
<b>Victim Gender</b>	.28	1, 61	.05	.599	<.01
<b>Interactivity</b>	.28	2, 77	.05	.756	<.01

*Note* These are six one-way ANOVAs as opposed to three 2 x 3 ANOVAs.

### 4.3.3 Twitter Condition Analysis

To investigate the impact of interactivity with online sexist content on assigning blame to victims and perpetrators of crime, as well as determining how likely the perpetrator was falsely accused, three 2 x 3 x 4 mixed ANOVAs were conducted for each measure. The data did not meet all assumptions for parametric testing, with some normality distribution assumptions and homogeneity/sphericity assumptions being violated within specific factor levels. For the conditions wherein homogeneity/sphericity were violated, Greenhouse-Geisser corrections were applied. For the normality distribution violations, as with the victim gender dynamic analysis, the robustness of ANOVAs to a single violation in assumptions warranted the continuation of a parametric test (Field et al., 2012). The within participant variable was type of crime (same as in the victim gender analysis). The between participant factors were participant gender and Twitter interactivity of sexist content (browse/retweet/create). Following this, the ANOVAs were re-analysed as ANCOVAs with participants post-Twitter interaction sexism scores, self-reported social media time, and self-reported social media access frequency inputted as covariates.

For the victim blame ratings, crime had a main effect on how participants evaluated victim blame ( $p < .001$ ; see Table 29 for full results). As with the victim gender analysis, this arises from robbery ( $\bar{e}\bar{x} = 3.28$ ) and murder ( $\bar{e}\bar{x} = 3.50$ ) victims being assigned more blame than stranger ( $\bar{e}\bar{x} = 2.05$ ) and acquaintance rape victims ( $\bar{e}\bar{x} = 2.18$ ; adjusted  $\alpha = .008$ ; all  $p$ 's  $< .001$ ). A two-way interaction between type of crime and participant gender was present ( $p = .005$ ). When performing separate ANOVAs according to participant gender, the type of crime being evaluated significantly impacted victim blaming for both male,  $F(3, 36) = 5.80$ ,  $MSE = 7.01$ ,  $p = .002$ ,  $\eta_p^2 = .33$ , and female participants,  $F(2.70, 167.07) =$

36.71,  $MSE = 63.24$ ,  $p < .001$ ,  $\eta_p^2 = .37$ . The source from the interaction arises from differences between male and female victim blame evaluations. Female participants had similar comparisons to the main effect of type of crime, with robbery ( $\bar{e}x = 3.84$ ) and murder ( $\bar{e}x = 3.49$ ) victims being assigned more blame than stranger ( $\bar{e}x = 2.32$ ) and acquaintance rape victims ( $\bar{e}x = 1.86$ ; adjusted  $\alpha = .001$ ; all  $p$ 's  $< .001$ ). Whereas male participants only assigned significantly more blame to murder victims ( $\bar{e}x = 2.72$ ) compared to stranger rape victims ( $\bar{e}x = 1.79$ ,  $p = .006$ ).

**Table 29**

*ANOVA and ANCOVA Results for Victim Blaming Analysis with Twitter Interactivity.*

<b>Source</b>	<b>F</b>	<b>df</b>	<b>MSE</b>	<b>p</b>	<b><math>\eta_p^2</math></b>
<b>ANOVA</b>					
<b>Participant Gender</b>	.22	1, 74	2.77	.640	<.01
<b>Twitter Interactivity</b>	.12	2, 74	1.48	.889	<.01
<b>Crime Type</b>	17.00	3, 222	25.38	<.001	.19
<b>Twitter Interactivity*Participant Gender</b>	.80	2, 74	10.08	.452	.02
<b>Crime Type* Twitter Interactivity</b>	1.40	6, 222	2.09	.217	.04
<b>Crime Type*Participant Gender</b>	4.34	3, 222	6.48	.005	.06
<b>Crime Type*Twitter Interactivity*Participant Gender</b>	1.80	6, 222	2.69	.100	.05
<b>ANCOVA</b>					
<b>Participant Gender</b>	3.69	1, 71	29.27	.059	.05
<b>Twitter Interactivity</b>	.17	2, 71	1.39	.840	.01
<b>Crime Type</b>	2.72	3, 213	4.08	.045	.04
<b>ASI/ATMI</b>	35.22	1, 71	279.63	<.001	.33
<b>SM Access Frequency</b>	3.96	1, 71	31.43	.050	.05
<b>SM Time</b>	.52	1, 71	4.12	.474	.01
<b>Twitter Interactivity*Participant Gender</b>	.48	2, 71	3.78	.623	.01
<b>Crime Type*Twitter Interactivity</b>	1.12	6, 213	1.68	.353	.03
<b>Crime Type*Participant Gender</b>	4.25	3, 213	6.37	.006	.06
<b>Crime Type*Twitter Interactivity*Participant Gender</b>	1.68	6, 213	2.52	.127	.045

Once accounting for participants sexism, time spent on and frequency accessing social media, the same main effects of crime ( $p = .045$ ; see Table 29 for full results) and the two-way interaction between type of crime and participant gender was found ( $p = .006$ ), albeit with diminished effect size for the type of

crime. For the main effect of crime, the same impacts were found with robbery ( $\bar{e}x = 3.11$ ) and murder ( $\bar{e}x = 3.36$ ) victims being assigned significantly more blame than stranger ( $\bar{e}x = 1.85$ ;  $p$ 's  $<.001$ ) and acquaintance rape ( $\bar{e}x = 2.00$ ;  $p$ 's  $<.001$ ) victims. For the interaction, when analysing by participants gender (adjusted  $\alpha = .025$ ), the type of crime only impacted victim blame assignment for female participants,  $F(2.69, 158.97) = 3.60$ ,  $MSE = 6.31$ ,  $p = .018$ ,  $\eta_p^2 = .05$ , not male participants,  $F(3, 27) = .80$ ,  $MSE = .93$ ,  $p = .503$ ,  $\eta_p^2 = .08$ . Female participants rated victim blame in a similar way to when not accounting for gender, with robbery ( $\bar{e}x = 3.84$ ) and murder ( $\bar{e}x = 3.50$ ) victims being assigned more blame than both stranger ( $\bar{e}x = 2.32$ ) and acquaintance rape victims ( $\bar{e}x = 1.86$ ; all  $p$ 's  $<.001$ ).

When assigning blame to perpetrators, the type of crime committed impacted participants evaluations ( $p <.001$ : see Table 30 for full results), with those committing robbery ( $\bar{e}x = 9.66$ ) being assigned more blame than murderers ( $\bar{e}x = 8.98$ ; Bonferroni adjusted  $\alpha = .008$ ;  $p = .001$ ) and perpetrators of acquaintance rape ( $\bar{e}x = 8.65$ ;  $p <.001$ ), with perpetrators of stranger rape ( $\bar{e}x = 9.40$ ;  $p = .001$ ) also being assigned more blame than those of acquaintance rape. Significant interactions were found between type of crime and participant gender ( $p = .014$ ) as well a three-way interaction between type of crime, participants gender and Twitter interactivity level ( $p = .027$ ). When analysing by participants gender (adjusted  $\alpha = .025$ ), the three-way interaction is no longer significant ( $F_{\text{Female}}(4.86, 150.63) = 1.63$ ,  $MSE = 1.36$ ,  $p = .159$ ,  $\eta_p^2 = .05$ ;  $F_{\text{Male}}(6, 36) = 2.33$ ,  $MSE = 1.54$ ,  $p = .053$ ,  $\eta_p^2 = .28$ ), however the type of crime evaluated has a main effect on perpetrator blame for both female,  $F(2.43, 150.63) = 11.72$ ,  $MSE = 9.83$ ,  $p <.001$ ,  $\eta_p^2 = .16$ , and male participants,  $F(3, 36) = 8.22$ ,  $MSE = 5.35$ ,  $p <.001$ ,  $\eta_p^2 = .40$ . Female participants assigned more blame to perpetrators of robbery

( $\bar{e}x = 9.54$ ) compared to murder ( $\bar{e}x = 8.87, p < .001$ ) and acquaintance rape ( $\bar{e}x = 9.02, p = .013$ ). Those accused of stranger rape ( $\bar{e}x = 9.56$ ) were assigned significantly more blame than those accused of murder ( $p < .001$ ) and acquaintance rape ( $p = .003$ ) by female participants. Male participants only assigned significantly more blame to perpetrators of robbery ( $\bar{e}x = 9.78$ ) compared to acquaintance rape ( $\bar{e}x = 8.28, p = .002$ ).



**Table 30**

*ANOVA and ANCOVA Results for Perpetrator Blaming Analysis with Twitter Interactivity.*

<b>Source</b>	<b>F</b>	<b>df</b>	<b>MSE</b>	<b>p</b>	<b><math>\eta^2_p</math></b>
<b>ANOVA</b>					
<b>Participant Gender</b>	.21	1, 74	1.02	.649	<.01
<b>Twitter Interactivity</b>	.14	2, 74	.66	.874	<.01
<b>Crime Type<sup>a</sup></b>	13.49	2.50, 185.27	10.92	<.001	.15
<b>Twitter Interactivity*Participant Gender<sup>a</sup></b>	.08	2, 74	.37	.927	<.01
<b>Crime Type* Twitter Interactivity</b>	1.64	5.01, 185.27	1.32	.153	.04
<b>Crime Type*Participant Gender</b>	3.74	2.50, 185.27	3.02	.018	.05
<b>Crime Type*Twitter Interactivity*Participant Gender<sup>a</sup></b>	2.60	5.01, 185.27	2.11	.027	.07
<b>ANCOVA</b>					
<b>Participant Gender</b>	.01	1, 71	.04	.929	<.01
<b>Twitter Interactivity</b>	.18	2, 71	.83	.833	.01
<b>Crime Type<sup>a</sup></b>	1.87	2.52, 179.05	1.51	.147	.03
<b>ASI/ATMI</b>	6.02	1, 71	27.33	.017	.08
<b>SM Access Frequency</b>	1.15	1, 71	5.20	.288	.02
<b>SM Time</b>	.56	1, 71	2.56	.455	.01
<b>Twitter Interactivity*Participant Gender</b>	.05	2, 71	.22	.953	<.01
<b>Crime Type*Twitter Interactivity<sup>a</sup></b>	1.45	5.04, 179.05	1.17	.208	.04
<b>Crime Type*Participant Gender<sup>a</sup></b>	3.16	2.52, 179.05	2.56	.033	.04
<b>Crime Type*Twitter Interactivity*Participant Gender<sup>a</sup></b>	2.28	5.04, 179.05	1.84	.048	.06

<sup>a</sup> Greenhouse-Geisser adjustments applied.

When including participants sexism and social media use in the model, the main effect of crime disappears ( $p = .136$ ; see Table 30 for full results), but the two-way interaction between type of crime and gender ( $p = .033$ ) and the three-way interaction between type of crime, participants gender, and Twitter interactivity ( $p = .048$ ) remained. However, further investigation of both

interactions by participant gender (adjusted  $\alpha = .025$ ) found no source for either interaction (all  $p$ 's  $>.025$ ).

Evaluation of how likely the victim was making a false accusation against the perpetrator was impacted by the type of crime being evaluated ( $p <.001$ ; see Table 31 for full results), with acquaintance rape ( $\bar{e}x = 19.51$ ) being estimated as the most likely to be a false accusation compared to robbery ( $\bar{e}x = 6.46$ ;  $p <.001$ ), murder ( $\bar{e}x = 6.34$ ;  $p <.001$ ), and stranger rape cases ( $\bar{e}x = 4.87$ ;  $p <.001$ ). Two-way interactions were found between type of crime and participants gender ( $p = .006$ ) and type of crime and Twitter interactivity condition ( $p = .045$ ). Further investigation of the two-way interaction between type of crime and participants gender (Bonferroni adjusted  $\alpha = .025$ ) revealed type of crime had a main effect on false accusation likelihood ratings for both male,  $F(1.64, 20.03) = 12.54$ ,  $MSE = 2706.19$ ,  $p = .001$ ,  $\eta_p^2 = .51$ , and female participants  $F(2.05, 127.10) = 7.07$ ,  $MSE = 1172.80$ ,  $p = .001$ ,  $\eta_p^2 = .10$ , with male participants rating the acquaintance rape scenarios as being more likely to be false accusation ( $\bar{e}x = 12.63$ ) compared to the murder ( $\bar{e}x = 6.43$ ,  $p = .017$ ) and stranger rape ( $\bar{e}x = 4.30$ ,  $p = .002$ ) scenarios. Female participants rated the acquaintance rape scenarios as being more likely to be false accusations ( $\bar{e}x = 26.40$ ) compared to robbery ( $\bar{e}x = 5.31$ ), murder ( $\bar{e}x = 6.26$ ), and stranger rape scenarios ( $\bar{e}x = 5.44$ ; all  $p$ 's  $= .012$ ). The source of the interaction between type of crime and Twitter interactivity level (adjusted  $\alpha = .016$ ) stems from differences in false accusation likelihood ratings across all three interactivity levels. Those in the browse condition,  $F(1.87, 43.05) = 11.34$ ,  $MSE = 1624.19$ ,  $p <.001$ ,  $\eta_p^2 = .33$ , rated the acquaintance rape scenarios ( $\bar{e}x = 22.19$ ) as being more likely to be a case of false accusation compared to robbery ( $\bar{e}x = 4.44$ ;  $p = .011$ ), murder ( $\bar{e}x = 5.02$ ,  $p = .001$ ), and stranger rape ( $\bar{e}x = 5.03$ ;  $p = .002$ ) scenarios. Those instructed to retweet

misogynistic content, although having a significant effect from the type of crime,  $F(1.46, 39.46) = 6.62$ ,  $MSE = 2305.24$ ,  $p = .007$ ,  $\eta_p^2 = .20$ , did not have any significant differences between false accusation likelihood ratings after further investigations (all  $p$ 's  $> .002$ ). Participants who were instructed to create a misogynistic tweet using a sexist hashtag,  $F(2.11, 50.69) = 4.55$ ,  $MSE = 491.87$ ,  $p = .014$ ,  $\eta_p^2 = .16$ , only rated acquaintance rape ( $\bar{e}x = 15.03$ ) as significantly more likely to be a false accusation compared to murder ( $\bar{e}x = 6.31$ ;  $p = .014$ ) and stranger rape ( $\bar{e}x = 7.57$ ;  $p = .016$ ).

**Table 31**

*ANOVA and ANCOVA Results for False Accusation Likelihood with Twitter Interactivity.*

Source	<i>F</i>	<i>df</i>	<i>MSE</i>	<i>p</i>	$\eta_p^2$
<b>ANOVA</b>					
<b>Participant Gender</b>	.84	1, 74	446.14	.363	.01
<b>Twitter Interactivity</b>	.13	2, 74	69.22	.878	<.01
<b>Crime Type<sup>a</sup></b>	18.86	2.04, 150.69	3177.66	<.001	.20
<b>Twitter Interactivity*Participant Gender<sup>a</sup></b>	.20	2, 74	106.39	.819	.01
<b>Crime Type*Twitter Interactivity<sup>a</sup></b>	2.48	4.07, 150.69	417.61	.045	.06
<b>Crime Type*Participant Gender</b>	5.27	2.04, 150.69	887.72	.006	.07
<b>Crime Type*Twitter Interactivity*Participant Gender<sup>a</sup></b>	.58	4.07, 150.69	96.84	.685	.02
<b>ANCOVA</b>					
<b>Participant Gender</b>	.01	1, 71	5.28	.909	<.01
<b>Twitter Interactivity</b>	.18	2, 71	73.91	.833	.01
<b>Crime Type<sup>a</sup></b>	3.08	2.00, 141.72	520.70	.049	.04
<b>ASI/ATMI</b>	21.69	1, 71	8746.38	<.001	.23
<b>SM Access Frequency</b>	2.00	1, 71	805.00	.162	.027
<b>SM Time</b>	<.01	, 71	1.63	.950	<.01
<b>Twitter Interactivity*Participant Gender</b>	.06	2, 71	24.60	.941	<.01
<b>Crime Type*Twitter Interactivity<sup>a</sup></b>	1.83	3.99, 141.72	309.29	.127	.05
<b>Crime Type*Participant Gender<sup>a</sup></b>	4.75	2.00, 141.72	803.46	.010	.06
<b>Crime Type*Twitter Interactivity*Participant Gender<sup>a</sup></b>	.47	3.99, 141.72	80.14	.755	.01

<sup>a</sup> Greenhouse-Geisser adjustments applied.

After running the ANCOVA with sexism and social media use as covariates, the type of crime being evaluated remained as a main effect ( $p = .049$ , see Table 31 for full results), with acquaintance rape being estimated as being significantly more likely to be a case of false accusation ( $\bar{e}\bar{x} = 18.57$ ) compared

to robbery ( $\bar{e}\bar{x} = 5.56$ ), murder ( $\bar{e}\bar{x} = 5.67$ ), and stranger rape cases ( $\bar{e}\bar{x} = 4.14$ ; all  $p$ 's  $<.001$ ). The interaction between type of crime and participant gender also remained ( $p = .010$ ), although as with the interactions found with perpetrator blame, further investigation did not yield significant impacts from type of crime in either male or female populations ( $p$ 's  $>.025$ ).

#### **4.4 Discussion**

The current research aimed to determine whether the gender of the victim of a crime impacts victim blaming, perpetrator blaming, and whether participants felt the perpetrator was falsely accused of the crime. It also attempted to further research conducted by Fox et al. (2015) into Twitter interactivity and sexist content, by investigating how this can impact participants when evaluating the crime scenarios. We had three research questions which were addressed: Firstly, whether the gender of the victim of crimes impacts blame attribution. Secondly, whether level of interaction with social media (browsing, retweeting, or creating) impacts sexism within participants. Thirdly, whether interacting with sexist social media impacts blame attribution. We will discuss each result in turn.

To address the first aim, when assigning blame to the victims of the scenarios, whilst victim gender did not directly affect evaluations, it did impact participants based on their gender. Female participants evaluated female victims of acquaintance rape as less to blame than victims of robbery and murder, but with male victims, female participants assigned less blame to both stranger and acquaintance rape victims compared to male murder victims. Male participants only differed in their victim blaming ratings across the different crimes when it was a male victim, with more blame being assigned to robbery and murder victims compared to acquaintance rape victims. However, the inclusion of participants sexism scores (gathered after browsing Twitter), only female participants differ in

victim blame assignments across the different crimes when evaluating male victims (with more blame assigned to murder victims compared to both rape scenario victims).

For assigning blame to the perpetrators of the crimes, in general, only stranger rape perpetrators were assigned more blame than acquaintance rape perpetrators. This falls in line with previous historical data whereby acquaintance rape is rarely prosecuted. Whilst acquaintance rape victims were not blamed significantly more than stranger rape victims, the difference in perpetrator blame reflects the issues with prosecuting such crimes. The victim of the crime caused perpetrator blame to differ across crimes, wherein female perpetrators of stranger rape were assigned more blame than all other perpetrators, whereas male perpetrators were not assigned blame differently according to their crimes. Once accounting for participants sexism, all effects disappear, with no statistically significant differences in perpetrator blame being found.

The novel measurement of how likely participants felt the perpetrator was falsely accused of the crime, yielded interesting results. As predicted the acquaintance rape scenarios were estimated to be the most likely to be a false accusation compared to the other crime scenarios, albeit still a low likelihood to be a false accusation. Male participants rated the robbery scenarios as more likely to be a false accusation compared to the stranger rape scenario, but interestingly not acquaintance rape (which was estimated to be more of a case of false accusation compared to murder and stranger rape), whereas females rated acquaintance rape to be more likely to be a false accusation compared to all other crimes. These effects diminished after accounting for sexism, indicating when evaluating false accusation likelihood for crimes, sexism plays a large role. The role of victim gender emerged after accounting for sexism, with female

perpetrators being considered as more likely to have been falsely accused of their crimes compared to male perpetrators. It appears when evaluating how likely someone has been falsely accused of a crime, participants tend to increase their ratings if it is an acquaintance rape scenario, and the gender of both the victim and the evaluator impacts these ratings. This could be due to rape myth acceptance. A common rape myth is the “fight back” myth (Bohner et al., 2009), therefore if a male victim did not “fight back” against a female perpetrator, then the assumption of consent is present. Whilst this is a known myth (McLean, 2013), male victims’ scenarios having a higher false accusation likelihood rating compared to female victims may be due to the stereotype that men are physically stronger than women and should be more able to “fight back”, and this flawed logic may imply consent from the perspective of the participant.

The second aim of the study was to determine if interacting with sexist Twitter content can impact blame attribution and false accusation likelihood. The role of Twitter interactivity when participants then had to evaluate female victim/male perpetrator scenarios was not as impactful as predicted. The level of interactivity did not directly impact ratings of victim blame, perpetrator blame, or false accusation likelihood. Twitter interactivity did impact ratings when combined with the type of crime being committed when evaluating false accusation likelihood. This suggests, contrary to predictions derived from the Fox et al. (2015) study, higher interactivity with sexist content on Twitter did not directly result in changes in evaluations of the crime scenarios. Whilst the Fox et al. (2015) study involved evaluating job candidates, this research focussed on criminal scenarios. It could be participants were less likely to allow the Twitter content to impact the crime evaluations due to the serious content topic. Although it was found interacting with the misogynistic Twitter feeds did not impact sexism

scores as predicted, so potentially participants disregarded the content due to lack of personal investment in the content/platform. The length of exposure could have also reduced the impact of the content, as exposure was short and not controlled, longer exposure or multiple interactions could induce a change in perceptions of rape scenarios. Whilst Twitter interactivity in general did not change participants sexism scores, after accounting for their scores (after interacting with Twitter), a lot of the effects seen from variables such as victim gender, participant gender, and the type of crime disappear. This suggests participants sexism in general impacts their evaluations, and whilst exposure to sexist content may not in the short-term increase sexist evaluations of crimes, pre-existing sexist attitudes do.

Previous research into prevalence of victim blaming and the factors that can impact blaming has found rape cases involve more victim blaming than other crimes, with acquaintance rape victims being assigned the most blame (Abrams et al., 2003; Bieneck & Krahe, 2011; Viki et al., 2004). However, this research has found it is in fact victims of robbery and murder who are assigned more blame (compared to stranger and acquaintance rape), but with perpetrator blame being the lowest rated in these same scenarios. As (after accounting for sexist attitudes) false accusation likelihood was higher when the victim was male than when female there is clearly an issue when it comes to non-stereotypical sexual assault scenarios. Previous work has found men are viewed as more likely to instigate sexual situations, even when inebriated (Corcoran & Thomas, 1991), which could be contributing to these results. Indeed, whilst participants appear to be less stereotypical in their rankings of female victim scenarios, the male victims being rated as more likely to be a false accusation could be caused by the stereotype



of men always “being up for it”, although further research would be needed to determine this difference.

The current research provides insights into the role of sexism and victim gender when evaluating victim blaming, perpetrator blame, and false accusation likelihood. The research is limited in terms of sample size comparative to variables tested, although can be viewed as a basis for further research. Whilst the anonymity manipulation present in the Fox et al. (2015) was not included in this research, further research should aim to replicate this work with the additional variable of how participants are identifiable in the Twitter account they are posting from. Posting from an identifiable account may lead to an increase in sexist behaviours and therefore impact blame attribution. Additionally, some scenarios contained inherent victim blaming language, such as stating the victim knew they should not walk through a certain area of campus due to risk but chose to regardless for convenience. This is inherent victim blaming language and has the issue of providing the reader with information they may not have access to within a court case as a juror. Future research should investigate whether the inclusion of such language impacted the blame attribution within these scenarios via replication with such phrases removed as a variable. Another issue could be the lack of information given to participants with regards to criminal procedures. Additional research wherein some participants are given the legal definitions of the crimes they are evaluating (with control being given no information) could help determine if the results found are applicable to real-world scenarios such as with jury service. From this, the current measures can remain, but with the addition of providing a verdict as would be expected if the case was presented in court to determine if the blame assignments and false accusation likelihood ratings impact how participants would evaluate a court case.

Indeed, the impact of sexism on evaluating these criminal scenarios are a concern. If jurors do not disclose a potential bias in terms of being sexist prior to a criminal case, specifically rape cases, this could impact deliberations and affect the outcome of the trial. Given these may be implicit biases, self-identification from a juror is unlikely without additional measures. The reduction in perpetrator blame in acquaintance rape cases could make prosecuting such cases (which have been stated to be low, and falling recently; Reality Check Team, 2020) more difficult, especially when considering acquaintance rape scenarios were reported as more likely to be false accusation. The implications of this research on prosecuting acquaintance rape should be considered when designing policy surrounding the Crown Prosecution Service and its practices. A potential change in practice could be asking potential jurors to complete a sexism measure such as the ASI (Glick & Fiske, 1996) and select those who have relatively low sexism to sit as jurors. Naturally this could lead to issues of juror selection bias as seen in the United States criminal justice system, and the truly random juror selection process used in England is lauded as a fundamental process in fair verdicts (Willmott et al., 2017). The inclusion of pre-selection scales could improve prosecution outcomes if jurors are biased based on rape myths and sexism.

To conclude, whilst exposure to social media (and varying interaction with sexist content) did not appear to increase sexism in our sample, the type of crime, victim gender, and sexist attitudes of the sample did impact how people evaluate criminal scenarios. The inclusion of a false accusation measure yielded interesting results, with acquaintance rape being viewed as having the highest chance of being a false accusation. This combined with perpetrator blame being the lowest in these scenarios would suggest, whilst victim blame in such scenarios is lower than expected, there are still issues in the perception of

acquaintance rape. Chapter 5 investigates how students define rape, to determine if this definition aligns or extends beyond what the UK criminal justice defines as rape. This could explain the false accusation findings within the currently chapter. In addition, the following research investigates awareness of support services available at higher education institutions, and whether experiences of rape/attempted rape affect this.

## **Chapter 5: Rape Definitions, Occurrence, and Support Awareness**

### **5.0 Introduction**

A recent review by the Ministry of Justice (2021) estimated that there were 128,000 victims of rape per year within England and Wales. This number may not be truly representative as rape is an underreported crime as the report highlighted. The report also stated rape cases have disproportionately low progression within the criminal justice system. Within this review, the current Home Secretary (Priti Patel) claimed there has been a significant drop in charges (and subsequently convictions) over the last five years, with the prevalence of rape (and related crimes) not changing much. This shows a discrepancy between the legal and reporting systems in place for rape and may have subsequent effects of lack of support for victims.

The ONS (2021a) found females and students have the highest likelihood of being victims of sexual assault (including attempts) compared to males and other occupations, suggesting female university students are particularly vulnerable to being targeted for sexual assault. This could be due to a multitude of factors, such as sexualisation of youth culture, the importance of peer norms around the topic, and some argue capitalism (Phipps & Smith, 2012). This suggests this specific group should be focussed on in relation to understanding of sexual assault and rape.

Universities UK (2016) published recommendations for how universities can improve both their reporting of rape occurrence and support access for survivors. One such recommendation is to have university-wide approaches to supporting victims of sexual violence, with a focus on short- and long-term impacts of incidences. More recently the Office for Students (2021), the independent regulator for Higher Education Institutions (HEIs) in England,

published a statement of expectations for HEIs to follow for sexual misconduct. Contained therein is an expectation that institutions have an “easy to understand” provision of information for people who experience sexual misconduct to access support. It is unclear how this metric will be evaluated, nor the effectiveness of such provisions. An important aspect of this is understanding just how many students are aware of services they can access in the case of experiencing sexual violence/misconduct. This research aims to discover this level of awareness at Bournemouth University<sup>7</sup>.

For universities to develop easy to understand support information, it is important to understand what people understand about rape and consent. Indeed, there is some confusion about the definition of rape in the research. Muehlenhard et al. (1992) analysed the definitions of rape used in sexual violence research, and found researchers have quite varied definitions of rape. This causes issues when attempting to compare results across studies. If one set of researchers requires a verbal “no” from a victim, whereas another requires lack of a “yes” to indicate non-consent, then those who are “placed” into categories of being a victim of rape (such as the procedure from Peterson & Meuhlenhard, 2004) will vary between studies, confusing the results. A more pragmatic approach would be to investigate how participants define rape. This would enable a more accurate description according to self-reported rape in research and gives the benefit of identifying potentially damaging (or indeed, dangerous) definitions of rape for future intervention.

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<sup>7</sup> Bournemouth University is an institution with a large population of between 15, 000 and 25, 000 students on the South West coast of the UK, with 53% female students, and 85% of students coming from the United Kingdom. It is ranked 68<sup>th</sup> out of 130 institutions in the UK (Complete University Guide, 2021).

There is a great deal of research that explores how people describe a scenario where a rape occurs. Indeed, this issue of describing and defining rape, through methods such as asking participants for their rape “scripts”, has been established for a long time (Ryan, 1988), and replicated recently (Stirling et al., 2020). The use of scripts in sexual violence research is important, as scripts (or schemas) enable researchers to investigate what participants expect in certain scenarios. These scripts may not be representative of reality and can be biased by cultural expectations (known as rationalisation, Bartlett, 1932). Requesting a participant to develop a narrative, involving multiple abstracts and a full narrative, may increase the use of schemas to limit cognitive processing. In rape script research, it could be participants rely on rape myths and other incorrect (but easily processed) information to evaluate/develop scripts. Rowe and Hills (2020) found those asked about consent prior to evaluating rape scenarios were more accurate in identifying scenarios where a rape occurred. This indicates making the definition of consent (less influenced by cultural aspects) more salient prior to evaluation can disrupt the reliance on rape myths/heuristics. It is therefore important to determine the definitions individuals use for rape.

One potential barrier to accessing support when needed is if a rape is unacknowledged. Peterson and Muehlenhard (2004) found 62% of participants were victims of unacknowledged rape. If are not aware the incidence was rape, they may not access services they need. One aspect of Peterson and Muehlenhard’s (2004) method is getting participants to describe incidences and then label them with items such as rape. Given the portion of women who were categorised as unacknowledged rape victims, it could be the participants definitions of rape did not match the legal definitions of rape, potentially because the event did not match their script of a rape. Furthermore, survivors of rape are

more likely to experience positive adjustment after accessing positive support (Borja et al., 2006), thus highlighting the importance of accessing appropriate support services after experiencing sexual violence and research into awareness of support services.

While asking participants about their rape script allows researchers to establish how people construct a narrative wherein rape occurs, it does not provide researchers with an understanding of how participants define rape. Therefore, we need to find out what is the general understanding of rape held by people. If this does not match the legal definition of rape (penetration of an orifice with a penis without consent, Sexual Offenses Act, 2003) then it will lead onto how universities might develop their support services. Therefore, this study investigated participants' definitions of rape and their awareness of university support services as a basis for future work in developing campaigns.

## **5.1 Method**

### **5.1.1 Design**

A mixed-methodology approach was used for this study. The convergent parallel design was used for data collection, with both quantitative and qualitative data collected concurrently, this was to speed up data collection, and ensure the findings were within-subjects so explanatory power can be higher. Equal priority is given to the quantitative and qualitative elements as both can help explain the other. Both strands of data are independent of the other. The results from both sets of analysis are interpreted together. The reasoning as defined by Bryman (2006) is completeness, with the aim being to establish a more comprehensive account of the perceptions of both defining rape, and support services available to students, with key interest in whether these items are different as according to participants sexual violence history.

### **5.1.2 Participants**

Two-hundred-and-ninety-seven Bournemouth University students were recruited using volunteer sampling. Bournemouth University students were sampled as the research involved specific support systems provided by Bournemouth University, and additionally could be used as a baseline for future interventions conducted at Bournemouth University. Participants responded to posters placed around the University campus. The posters heavily featured the prize draw element £100.00 cash prize and had a prominent QR code for easy access to the survey. The poster also had a warning that the research involved sexual violence and that the responses to the survey were anonymous and kept separate to the prize draw contact details. One response being removed due to the age being reported as 1.00. Whilst this is likely to be a typographical error, as the age could not be verified, the response was removed. Of the 296 responses remaining, 65 identified as male (average age = 19.45, S.D. = 1.22), and 231 as female (average age = 19.64, S.D. = 2.51). Given the survey method of data collection, a minimum sample size was not expected, and as much data as possible was gathered within the time frame.

### **5.1.3 Ethical Considerations**

The primary ethical concern was participant privacy and anonymity. As a function of the research question and aim of the research requires gathering information on participants experiences of sexual violence, anonymity was heavily considered. Considering the prize draw element and the need to collect personally identifiable to run this, participants were directed after the debrief to an entirely separate survey to enter their information for the prize draw. This ensures the contact information is entirely separate from participant responses and minimises the risks of de-anonymising participant data. Another



consideration was the potential impact of directly asking if a participant had experienced rape/sexual violence. The participants were reminded of the right to withdraw and warned in the information sheet the survey asked questions about this topic and they could withdraw at any time if they became uncomfortable. The survey also asked participants about awareness of specific support services available through the University. The debrief highlighted all sexual violence services available to them through both the institution (Wellbeing and counselling provided by the institution; advice provided by the student union; and the chaplaincy which also offers support) and local (e.g., Dorset Rape Crisis) and national (e.g., Victim Support) services. Participants were instructed to screenshot them if they would like this information to hand. This research was approved by Bournemouth University Ethics Committee (approval ID: FST17120).

#### **5.1.4 Procedure**

The survey was hosted by Qualtrics (<https://www.qualtrics.com>). Participants provided informed consent prior to commencing the survey. Participants then provided their age and gender identity. Following this, an open text response (with no character limit) asked participants what they think the definition of rape/attempted rape is, with a reminder that this does not have to be the UK legal definition of rape.

Participants were asked if they had ever been a victim of rape/attempted rape (with a prefer not to say option). To assess awareness of support services participants were asked if they are aware of any University based support services. If they responded "Yes, I am aware", they are prompted to specify what services they are aware of. Participants were then asked if they personally knew someone who was a victim of rape/attempted rape, then if the participants knew

that person is aware of services available. Participants were then presented with a debrief form including links and names of support services available to them. On average, it took participants 5.18 minutes to complete the survey<sup>8</sup>.

## 5.2 Results

The convergent parallel design enables the quantitative and qualitative elements to be analysed separately then merged as complementary items during interpretation (Creswell & Plano Clark, 2011). Results are structured with the quantitative data presented first, followed by the qualitative analysis. The analyses are then combined in interpretation. For the quantitative analysis, chi squared tests are run. These establish the association between two nominal variables (such as gender). For the qualitative analysis, content analysis (Elo & Kyngäs, 2008) will be used to analyse the definition of rape responses and support system responses. This involved me familiarising myself with the data. From this familiarisation, categories are developed and then further refined and developed as coding continued. For each content analysis, the coding structure is specified at the start of that section. As described by Elo and Kyngäs (2008), content analysis allows researchers to categories responses, and in some cases, quantify the qualitative responses. This quantification will be used to enable a statistical analysis of how participants define rape, and if differences are present when accounting for gender and experiences of sexual violence.

To analyse how accurate participants knowledge of university-specific-support systems were, a content analysis was performed on the open text responses. The responses were categorised into three primary categories;

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<sup>8</sup>  $n = 5$  survey duration were removed due to extreme values. Inclusion of these values change the average time to 40 minutes. Participants were able to pause their responses and return to complete the survey later, likely leading to these extreme values.

“university-provided”, “externally-provided”, and “could discover”. To enable ease of coding, participants who listed a larger organisation within the University that would refer/redirect the student to more specific resources provided by the University were classified as “university-provided”. The same procedure was used for externally-provided services such as victim support and rape crisis centres. Some participants responses indicate that whilst they could not name any specific services, they would be able to identify them easily, these were organised into the “could discover” category. The responses were then converted into a binary system, with 1 indicating positive identification within the categories, and 0 indicating not mentioned. As participants could respond with as many services as they would like, some participants have multiple positive identification registered across multiple categories.

### **5.2.1 Quantitative and Awareness of Services Analysis**

Overall, 11.50% (13% of female and 6.20% of male) of respondents reported themselves as being victims to rape or attempted rape, with 83.40% stating they were not (5.10% prefer not to say). No significant association was found between gender identity and victim response, once removing the “Prefer not to say” entries,  $\chi^2(1, N = 281) = 1.99, p = .159$ . Only 11.50% of all respondents reported being aware of support services available to them via their institution in the case of a sexual assault.

Of the 296 respondents, 48.30% reported that they personally knew someone who has been a victim of rape/attempted rape, with 49.30% reporting not knowing any victims. The association between knowing a victim and awareness of student support options was not significant,  $\chi^2(2, N = 296) = 3.31, p = .192$ . The association between self-reported rape/attempted rape victim status and awareness of university-provided support systems was significant,  $\chi^2$

(1,  $N = 281$ ) = 5.65,  $p = .017$ . Of those who reported being a victim of rape/attempted rape, 23.50% were aware of support systems, with 9.70% of respondents who had not experienced rape/attempted rape being aware of support services. This suggests that awareness of support systems in place could rely on personal experience rather than knowledge of others experience, despite the high rate of personally knowing someone who has been a victim of rape/attempted rape. The survey did not specify individual experiences of rape being restricted to their enrolment period. Therefore, it is unclear if experience of rape prior to attending university led to participants seeking out the support services at the University or if experience of rape at university leads to seeking out support services.

The content analysis was a simple one, converting participants free-text responses into binary responses as to if they mentioned a university-specific-service or externally-provided service. Of the participants who indicated they were aware of support services available to them ( $N = 35$ ), eight did not put a response in the free-text follow up box. Of those who responded, 20 wrote down services provided by their institution, 7 provided by external services, and 3 reported being able to discover the services should they need to. A Friedman's test was conducted to examine statistical differences between the type of services participants are aware of. A significant difference was present between source of services,  $\chi^2(2) = 17.56$ ,  $p < .001$ . Bonferroni-corrected ( $\alpha = .017$ ) Wilcoxon signed rank tests revealed that respondents were significantly more aware of Bournemouth University provided services compared to both external services,  $Z = -2.84$ ,  $p = .005$ , and those saying they could discover services,  $Z = -3.55$ ,  $p < .001$ . No difference was found between awareness of externally provided services and those who could discover services,  $Z = -1.27$ ,  $p = .206$ .

This indicates that awareness of services, whilst overall low (11.50%), are more focussed on university-provided services over externally-provided ones.

### **5.2.2 Definition of Rape/Attempted Rape Analysis**

Content analysis was conducted on participants own definitions of rape. This method was chosen to quantify a range of shorter responses into discrete categories (see Table 32 for the code book). Initially I familiarised myself with the data to identify key recurring concepts/categories. The concepts identified and quantified as a function of occurrence/definition were as follows; Consent (did participants mention consent as being required); Wanting (did participants mention wanted/unwanted contact); Willingness (did participants mention will/free will in their responses); Penile Penetration (did participants mention the involvement of a penis in their response); Force (mention of force being a requirement for rape); and Type of Activity (what activity did participants include in their definition).

**Table 32**

*Code Book for Content Analysis of Rape Definitions, with Supporting Examples.*

<b>Category</b>	<b>Frequency (N/%)</b>	<b>Example Response</b>
	<b>Overall Consent</b> 279(96.50%)	
<b>Consent</b>	<b>Consent</b> 252/87.20%	<i>“A form of sexual contact that has not been consented to (in any form)” (27, F)</i>
	<b>Wanting</b> 33/11.40%	<i>“Unwanted sex from either party” (29, F)</i>
	<b>Willingness</b> 18/6.20%	<i>“When someone is forced into having sex or performing a sex act that was against their will” (187, F)</i>
<b>Penile Penetration</b>	6/2.10%	<i>“a male sexually assaulting[sic] a Female with penetration” (156, F)</i>
<b>Force</b>	70/24.20%	<i>“forcing someone to have sex against their will” (145, M)</i>
<b>Type of Act</b>	<b>Unspecified</b> 14/4.80%	<i>“Doing something to someone that they have not consented to/do not feel comfortable with doing.” (253, F)</i>
	<b>Sex/Intercourse</b> 69/23.90%	<i>“Rape is when someone forces or engages with someone in sexual intercourse without their consent” (3, F)</i>
	<b>Penetration</b> 41/14.20%	<i>“[...]Penetration of the penis or forced sexual act[.]” (205, F)</i>
	<b>Any Sexual Activity</b> 147/50.90%	<i>“When someone is forced into having sex or performing a sex act that was against their will” (187, F)<sup>a</sup></i>
	<b>Other</b> 18/6.20%	<i>“a Person/s unwanted sexual advances to another” (176, F)</i>

<sup>a</sup> For coding, this would have been classified under “Any Sexual Activity” as having sex would fall under any sexual activity.

Content analysis relies on interpretation of qualitative data to categorise it (Elo & Kyngäs, 2008). For some entries that were not as explicit in category assignment, I interpreted and assigned as appropriate. For example, if a participant responded, “with or without force”, then their entry would not be classified under the Force category as they are stating that force is not a requirement for a crime to be labelled as rape. For the type of sexual activity, four classes of act were listed. The first being “intercourse/sex”, second “any type of sexual activity”, third “penetration”, and fourth “other”. The other category exists for one-off or rarely mentioned activities, or those which are not clear. Some participants defined rape as, for example, “unconsented sexual assault”, as sexual assault is already a discrete crime, this was labelled as “other”. For responses which included multiple sexual acts listed, they were categorised as encompassing “any type of sexual activity”.

A Friedman’s test was conducted on the frequency of categories mentioned. From interpreting the data, the categories of “Consent”, “Wanting”, and “Willingness” appear to be the same concept with differing wording, and the terms were used interchangeably in some responses, these were combined into one overarching category labelled “Consent” (see Table 32 for a breakdown of frequencies within consent as a category). The distinction between consent and wantedness will be clarified in the discussion. Participants’ definition of rape featuring the categories significantly varied,  $\chi^2 (2) = 427.65, p < .001$ . Further Bonferroni-adjusted ( $\alpha = .017$ ) Wilcoxon signed rank tests found that participants mentioned consent (or lack thereof) as a core aspect of their definition of rape significantly more than both penile penetration,  $Z = -16.40, p < .001$ , and force,  $Z = -14.00, p < .001$ . Participants also mentioned force significantly more than penile penetration,  $Z = -7.54, p < .001$ .

Further tests were run to examine differences in definitions of rape dependent on gender and victim status. No significant differences were found in terms of consent, penile penetration, and force (all  $p$ 's  $>.05$ , see Table 33)

**Table 33**

*Chi-Square Tests for Victims and Gender on Categories in Rape Definitions.*

Category	$\chi^2$	$p$
<b>Self-Reported Victim</b>		
Overall Consent <sup>a</sup>	1.18	.480
Penile Penetration <sup>a</sup>	.293	1.00
Force	.844	.694
<b>Participant Gender</b>		
Overall Consent <sup>a</sup>	.020	1.00
Penile Penetration <sup>a</sup>	.101	1.00
Force	.06	.868

<sup>a</sup>Fisher's exact tests used where cells had lower than expected count.

### 5.3 Discussion

Whilst the current UK legal definition of rape (Sexual Offences Act, 2003) does explicitly require lack of consent *and* penile penetration to be classified as rape (rather than sexual assault), this is not in line with how students defined rape. Whilst (96.50%) of students included consent (or similar term) as an aspect of rape, significantly less specified the requirement of penile penetration (or gender specific terms for perpetrator/victim) for an assault to be classified as rape. Indeed, the clear distinction between sexual assault and rape from a legal



perspective is not as clear to the average undergraduate student. This could stem from participants not being aware of the full legal definition of rape, for example being unaware that penile penetration is required for a rape charge, or a further movement into a non-gendered based legal system.

The mention of “wanting” sexual activity was included in 11.40% of responses. For the purposes of this research, I interpreted the categories of willingness, wantedness and consent together due to participants seeming to use the term interchangeably with consent. This, whilst informed after familiarising myself with the data, is inconsistent with previous research which argues wantedness to be independent of consent (Hills et al., 2020). As an individual can want to engage in a sexual activity, but may not consent to the act, it can create difficulties in identifying rape due to the conflation of the two concepts (Peterson & Muehlenhard, 2007; Hills et al., 2020). The inclusion of wantedness statements in rape scenarios participants evaluated did cause issues of not identifying non-consensual (but wanted) sexual acts as rape (Hills et al., 2020), indicating the confusion between wantedness and consent. It seems participants do conflate the two concepts together when evaluating scenarios, which lends support for my aggregation of consent, wantedness, and willingness together as a singular category, however, this is not a correct conflation with regards to the legal system, and education/interventions are needed to correct this.

Whilst not a majority, 24.20% of participants mistakenly believed rape required force. This indicates that, whilst literature involving rape scripts and so-called “stereotypical rape” find that most people associate rape with physical force (Ryan, 1988; Stirling et al., 2020), this is not a common view amongst the sample when considering definitions. This is an interesting finding, as research involving the same student population at Bournemouth University has found a

much larger portion of the sample referred to force when asked to describe a rape scenario/script (Stirling et al., 2020). This could suggest that whilst participants do not require force to define rape, when asked to describe a scenario wherein a rape takes place force becomes a default aspect of the crime. As consent is the primary aspect of deciding if an act was rape, and combined with the lack of prosecutions of rape, the abandonment of force in a definition, but contrary inclusion of force when describing a rape scenario is not illogical. Whilst all that is legally needed is lack of consent to determine rape, consent is not an easy thing to provide evidence to support/deny the provision of consent (Ministry of Justice, 2021). Most cases can be stalled within the criminal justice system due to a “he-said, she-said” evidence base. Indeed, those who have injuries (or signs of struggle) are three times more likely to report their crime to the police (DuMont et al., 2003), and this could be due to awareness that injuries have higher success rates within the criminal justice system. If this is the case (a more nuanced view of rape becoming the script), this could be an indication of successful campaigns such as the Red Flag Campaign (Hills et al., in press) expanding how people define rape. It is difficult to control for such campaigns, especially in terms of participants engagement with the campaigns, and those external to the University. But it could also be that people are not aware that the law requires penile penetration to be classified as rape. However, the question asked to participants was what they defined rape as, not what they thought the legal definition was.

The change of a law to modernise it and develop it to be more reflective of societal attitudes is not unheard of. The Sexual Offences Act (2003) was designed to integrate and merge separate laws under one sexual offenses umbrella, but also update the law. “Sodomy” between two men was still

considered illegal until the Sexual Offences Act (2003) specifically removed it as a crime. Whilst laws impacting the LGBT community may not have been enforced as it came closer to legislative overhaul, there is precedent to change laws based on societal attitudes. Whilst the issue of a woman stimulating and inducing penetration from a man would come under Section 4 of the Sexual Offences Act (2003), and the custody ranges are the same for both Section 1 and Section 4, the labelling appears to present an issue. A move of the Section 4, Subsection 4 into the Section 1 rape category would alleviate this discrepancy and align the laws more with those found in this research. A complication would be that in the case of sodomy being removed as a crime, a way of legalisation, the removal of sex-specific characteristics in rape would increase the amount of people viable to be sentenced under that law, and therefore is more likely to receive more opposition compared to the removal of a law.

Addressing aim one, compared to research which uses rape scripts (asking participants to describe a rape scenario rather than definition; Ryan, 1988; Stirling et al., 2020), the presence of rape myths (such as physical force) was not as present as compared to other features in the definitions. Indeed, consent was the primary factor in a rape definition. This difference in rape myth presence may be due to the known difficulty of prosecuting rape cases. This warrants further research, with a potential merging of methods into one within-participants design. This approach combined with follow up interviews to determine why participants differ in their rape definition and scripts would yield interesting data and inform the literature further when using scripts as a data collection method. This discrepancy between script and definition could be a function of existing beliefs. Whilst participants may be aware that for an assault to be classed as rape physical force is not required, attitudes and beliefs such as

rape myths and the Just World Belief (Lerner, 1980) may change the script. Indeed, this could be a protective mechanism wherein participants may not wish to consider rape scenarios which do not involve physical force as that eliminates ambiguity within the script and resolves rape myths and Just World Beliefs. The proposed future research should incorporate measures of both phenomena to determine the impact of such beliefs on definitions and scripts of rape.

The most concerning aspect of this research is the lack of awareness of support available to students. At the start of the academic year, there are typically emails, posters, and handouts given to students to remind them of the services available to them. It is unclear why students are not aware they can approach the University if they are assaulted to access support. This could be due to a multitude of reasons: the start of the academic year is typically intense, with a lot of information given to the students, which may cause information overload and they forget. Another option is whether the University specifically mentions sexual violence support in their emails, or if it falls under the “wellbeing” umbrella of support services. More work must be done to increase the awareness of such support systems provided by the University, so if an assault takes place, students have immediate access to vital support systems. Universities UK (2016) published a report on how universities can handle sexual assault reports, and summarised key case studies from a variety of approaches and universities. An interesting case study highlighted was the University of Oxford’s First Response mobile application. This app highlights key contact points for students and can be accessed any time. The existence of this app may increase awareness of support services. The primary issue of the app is students cannot report an incidence through the app, however it did have guidelines for support and university policy. Unfortunately, it seems this app is no longer in use, and the website cited for

further information in the Universities UK (2016) report is no longer the domain for the First Response app. Further searching on the Google Play Store did not find this app. This did show a promising and novel method for students to access support. The University of Manchester had a similar online approach to this, but it was there for students and staff to report incidences of bullying, harassment, and sexual violence. It had anonymous options; however, it appears anonymous reporting excludes individuals for support. It may be victims wish to remain anonymous from a reporting perspective but would still wish to access specialised support. Similar to how victims can access specialised services without having to report their experiences to the police, Universities should offer support without having to identifiable and report the alleged perpetrator. Ideally a compromise would be made, especially with access to technology wherein an anonymised online support chat can be accessed by students to ensure they are receiving adequate support. This research has identified areas for improvement for HEI's to address awareness of support, as well as the need for educational packages for definitions of rape and sexual assault (with a focus on wantedness).

Thus far in this thesis, I have investigated how students feel about online sexism (Chapter 2), and whether online sexism can trigger the same phenomena as offline sexism (Chapter 3). This line of thought was followed into Chapter 4 where the impact of viewing and interacting with online sexism was applied to perceptions of sexual violence via blame attribution, with the sexual violence aspect continued into Chapter 5 wherein students' definitions of rape were investigated. The following, and final experimental chapter is the culmination of this research and addresses the overall thesis aim. Throughout the thesis, there has been a focus on online sexism, with Chapter 4 finding main effects for other independent variables diminishing once controlling for sexism, indicating sexism

being the primary driver (from what was measured) for victim blaming and associated attitudes. Chapter 6 investigates the feasibility of a peer norm intervention for both sexism and rape myth acceptance, with a primary intervention on sexism, and a predicted change in rape myth acceptance as a function of the intervention for sexism.

## **Chapter 6: Personalised Normative Feedback as an Intervention for Sexism and Rape Myth Acceptance: A Feasibility Study**

### **6.1 Introduction**

Rape myths were defined by Burt (1980) as “prejudicial, stereotyped, or false beliefs about rape, rape victims, and rapists” (Burt, 1980, p. 217). Whilst Burt (1980) created a measurement of rape myths, it was not without its issues. Payne et al. (1999), when developing their Illinois Rape Myth Acceptance (IRMA) scale, found that Burt (1980) focussed on the behaviour of the victim disproportionately compared to behaviour of perpetrators. Further research into this area as it developed identified four types of rape myth (Bohner et al., 2009): 1) Blaming the victim (e.g., how women are dressed); 2) Disbelief in claims of rape (e.g., most cases are false accusations); 3) Exonerate the perpetrator (e.g., perpetrator could not control themselves); and 4) Only certain types of women are raped (e.g., women who are sexually promiscuous are likely to be raped).

The impact of rape myths in sexual violence is different for men and women (Bohner et al., 2009). Women who are higher in Rape Myth Acceptance (RMA) tend to have less concern surrounding sexual assault happening to them (Bohner et al., 2009). It is suggested that the ‘Just World Belief’ (Lerner, 1980) explains this effect. The Just World Belief is a fallacy wherein only people who do something “wrong” have negative consequences of such actions and is thought to be a defensive process (Brugg & Harrower, 2008). Applying the Just World Belief to sexual violence, holders of this view would think that the victim’s actions (e.g., clothing choice, being out alone) led to their assault, and such behaviours are avoidable by the hypothesis holder. Bohner et al. (2009) state that this hypothesis protects the individual from living with heightened anxiety surrounding sexual assault and their likelihood of being targeted. Indeed, women who reject

rape myths have been found to have lower self-esteem after exposure to rape scenarios compared to those who believe in rape myths (Bohner & Lampridis, 2004; Schwarz & Brand, 1983). Assuming the Just World Belief is correct, if a supporter of this hypothesis is assaulted, they may try to justify the assault on the behalf of the perpetrator (e.g., I shouldn't have drunk so much) and blame themselves for the assault, as, according to the hypothesis, it would not have occurred if the victim had done something to cause the assault. This could lead to cases of sexual assault not being reported. Indeed, Peterson and Muehlenhard (2004) found that women high in RMA (for myths relating to victims fighting back and teasing) did not appropriately label their sexual experiences as rape. However, the Just World Belief does not account for men assigning more blame to rape victims than women do (Gerber et al., 2004). The role of similarity between the blame assigner and the blame receiver is thought to account for this. This similarity is thought to explain why men are less likely to assign blame to men due to their similarities, and women less likely to assign blame women for their assault. Gerber et al. (2004) also contributes this discrepancy based on gender as caused by gender roles, that is, males are more likely to identify with the individual in the powerful position over the victim (powerless) as it is more stereotypically masculine.

Sex roles have also been identified as related to rape. Burt's (1980) work helped establish a relationship between acceptance of rape myths and sex role stereotyping. Sex role stereotyping (assumptions of behaviour based on sex) can be explained by normative influence. Those who are exposed to stereotypes and may be more influenced by these norms to predict behaviours based on sex.

It can be argued that the primary cause of the hurdles for a victim after sexual violence has occurred is RMA. As previously discussed, Peterson and



Muehlenhard (2004) found that women with high RMA experienced “unacknowledged rape”, in particular when their specific experiences align with the rape myths. This can then lead to knock on effects wherein a victim may only realise a crime has occurred sometime after the event, which then leads to questions regarding why they waited so long to report. An additional factor on reporting is the “real-rape” myth. The belief about the “real-rape” involves victims being more physically resistant (and having injuries), and being unacquainted with the perpetrator (Krahé et al., 2007; Ryan, 1988). DuMont et al. (2003) sampled rape victims and whether they reported the crime to the police. Those who had physical injuries were over three times more likely to report to the police compared that those without injuries. DuMont et al. (2003) state that this could be due to more evidence being collected that encourages the victims to report to the police, however it is interesting that the myth of “fighting back”, which aligns with rape scripts (Krahé et al., 2007; Ryan, 1988) also contributes to victims’ willingness to report to the police. These factors can disincentivise victims from reporting their crimes, even with acknowledged rape, with concerns listed such as not being believed, concerns about being blamed, and distrust of the legal system (Kelly et al., 2005).

If a victim of rape reports their case to the police, and if it is not dropped before being referred to prosecutors (only 1.6% of rape reports results in a charge within the same year of reporting, Ministry of Justice, 2021), the issue of rape myths then become an issue within court rooms. RMA and sexism have been found to impact blame attribution when assessing rape and sexual assault scenarios. For rape myths, higher acceptance has been found to correlate positively with victim blaming, with higher scores typically associated with higher victim blaming compared to low rape myth accepting participants (Abrams et al.,

2003; Krahe, 1988; Masser et al., 2010; Rollero & Tartaglia, 2019; Schuller & Wall, 1998).

An interesting relationship is how sexism plays a role in RMA. Research has identified a correlation between sexist views and acceptance of rape myths (Rollero & Tartaglia, 2019; Suarez & Gadalla, 2010). Whilst causation has not been formally established yet, where gender can be viewed as a foundation of identity (Baron et al., 2014), it can be suggested that sexism (and subsequent gender role attitudes) could contribute to higher RMA. Sexism can contribute to the four types of RMA that Bohner et al. (2009) outlined. Type one involves blaming the victim typically featuring concepts that perpetuate gender roles and sexist stereotypes such as women dressing a certain way, and the removal of women's agency (i.e., "she wanted it really"), the wanting aspect is of particular interest, as it has been shown wanting sexual activity and consenting to sexual activity are discrete (Hills et al., 2020). The second type of rape myth involves disbelief in rape claims, which aligns with hostile sexism as described by Glick and Fiske (1996), which implies that women are inherently malicious and use their sexualities to impart punishment on men. Thirdly, the exoneration of the perpetrator, may not necessarily be a function of misogyny, but rather misandry. Assumptions of men not being able to control themselves is a negative stereotype of men and removes agency from men in certain situations. This assumption of being beholden to biological drives of reproduction are both reductionist and hetero-normative, but also continues to blame women (i.e., "if she had not xyz, he would have been able to control himself"). The fourth and final rape myth as described by Bohner et al. (2009) lend itself to the Just World Belief as previously discussed, wherein only certain types of women are victims of rape. An interesting feature of this rape myth is that victims who do not align with traditional

gender roles are assigned more blame than victims who do (Abrams et al., 2003). Some sexist attitudes connected with traditional gender roles include the assumption of women as sexual gatekeepers (Glick & Fiske, 1996), who control when sex occurs. If a woman violates this expectation by being, for example, sexually active within non-committed relationships, sexist individuals may use this information to justify sexual assault (Abrams & Viki, 2002). This indicates that sexism contributes to RMA as those who do not conform to gender role expectations and stereotypes, are viewed as more likely to be sexually assaulted in those with higher RMA. This supports the argument by feminist theorists throughout the decades that rape is used as a tool to “keep women in their place”. If a woman violates the social contract of how women can behave, then a subsequent sexual assault can be viewed as a punishment for said violation.

Multiple studies have found that men typically accept more rape myths than women (Aosved & Long, 2006; Lonsway & Fitzgerald, 1994; Rollero & Tartaglia, 2019; Suarez & Gadalla 2010). This combined with the positive relationship sexism has on RMA (Aosved & Long, 2006; Rollero & Tartaglia, 2019; Suarez & Gadalla, 2010), and that RMA is positively correlated with rape proclivity (Bohner et al., 1998), with hostile sexism being found to also positively correlate with rape proclivity (Abrams et al., 2003; Masser et al., 2006) supporting rape and rape myths as a symptom of the larger issue of sexism. Indeed, Abrams et al. (2003) argue that the ambivalent factors of sexism towards women (hostile and benevolent, Glick & Fiske, 1996) impact attitudes and behaviours related to sexual assault. Hostile sexism, which features a more aggressive attitude towards women contributes to rape proclivity, indicating that those higher in hostile sexism (who lack respect for women’s agency etc.) are more likely to commit sexual assault against women. Benevolent sexism, according to Abrams

et al. (2003), then serves to minimise the impact of rape. The higher someone is in benevolent sexism, the higher their RMA tends to be. This suggests that the role of benevolent sexism is to encourage views such as the Just World Belief (Lerner, 1980) and the real-rape and ideal-victim scripts. This discourages victims from reporting if their experiences do not align with the given scripts, and may encourage these views in others (e.g., if a victim does not report their experiences to the police, then it must not have been rape).

### **6.1.1 Sexual Assault Interventions**

Bystander interventions aim to empower those not involved in a potential emergency to intervene or offer support (Darley & Latané, 1968). Whilst this can teach women how to be more supportive in the event of their friends being targeted, an adjustment to the perpetrators attitudes and behaviour could prevent the need for such interventions. Bystander interventions have their benefits but given how many sexual assaults take place in the home, due to the prevalence of acquaintance rapes etc., it is unclear how a bystander could intervene in these cases. Whilst a bystander intervention can increase accessibility from an audience perspective (DeMaria et al., 2018), an indirect intervention for perpetrators and victims may yield longer term effects. This highlights the need to focus on perpetrators and victims' attitudes towards sexual violence as opposed to bystanders. Bystander interventions can have some victim blaming attitudes (see Chapter 1, Section 1.5), an example being the DeMaria et al. (2018) paper which argues women should behave as guardians for other women and focusses on situations wherein a victim is drunk. DeMarie et al. (2018) argues women trained as bystanders empowers them to know what they should be looking out for to protect themselves.

Bystander interventions have their place as an initial barrier, but they are inherently limited in scope. According to the ONS (2021b), 63% of rapes/assaults by penetration take place in either the victims or the offender's home. This creates a gap in intervention opportunities wherein the bystanders may be able to intervene prior to the at-risk individuals going to a private location, but once this happens there is likely no witnesses to intervene. DeMaria et al. (2018) found that people reported in focus groups ambiguous situations (an example given in the paper was if a woman was 'playing hard to get') they are less likely to intervene as bystanders. Indeed, it seems potential bystanders are most likely to intervene in unambiguous situations where the woman is clearly too inebriated to consent or is physically resisting the perpetrator.

If bystanders are not willing to intervene due to potential risks to themselves, then interventions should focus on reducing a perpetrators propensity to rape. As Malamuth et al. (2018) summarises, men at high risk of committing sexual assault are likely to have a high hostility towards women, and attitudes more accepting of violence against women. As norms can lead to behaviour (Ajzen, 1991), a method of adjusting behaviour would be to adjust the norm.

### **6.1.2 The Social Norm Approach**

Social norm approaches to intervention operate on the assumption an individual's behaviour is relative to the norm behaviour of their group (Miller & Prentice, 2016). If the perception of the social norm is incorrect, then behaviours and attitudes may be further from the norm than the individual realises. This phenomenon has also been referred as pluralistic ignorance (Berkowitz, 2003) and can lead to behaviours and attitudes not reflective of the individual. Berkowitz (2003) states social norm (or misperceptions of) creates a cycle

wherein a healthy behaviour/attitude is repressed to conform to the group due to misperceived norm. This then creates a situation where the expressed norm is not accurate to the true norm, and new members of the group would perceive an incorrect norm and adopt the unhealthy behaviours/attitudes. Social norm interventions aim to rectify this potential discrepancy between the perceived norm and actual norm, with the effect being a change in behaviour/attitudes. Social norm approaches have been considered to be a more positive approach for behaviour change compared to previous 'health terrorism' fear-based messaging (Dempsey et al., 2018). Indeed, the shock and fear-based interventions may be inflating the norm targeted. For example, shock statistics such as number of women raped in their lifetimes may have the implicit message of men who commit such acts to be more common than reality and can thus normalise such behaviours. Some campaigns will utilise how many women are rape (i.e., one in four women are raped in their lifetimes). Whilst the aim of such shock statistics is for others to take the issue seriously, using how common rape is as opposed to how few men rape may cause an implied view that this is common behaviour in men. In their review of social norm-based interventions, Miller and Prentice (2016) state there are three types of such interventions: Social Norm Marketing, Focus Group Discussion and Personalised Normative Feedback.

Social Norm marketing is likely to be the most familiar to the public. This form of intervention utilises existing norms and then displays them (markets them). One example can be seen in Figure 11. You can see the typical norm is highlighted in the materials. The reasoning behind this format of norm intervention is that individuals upon seeing the true norm may internally adjust their own norm perception and subsequent attitudes/behaviours. The norm can be disseminated in multiple formats such as posters (Crosby et al., 2018) and television adverts

(Perkins et al., 2010). The benefit of Social Norm Marketing is the wide reach enabled by using mass marketing, however as Miller and Prentice (2016) highlight, it is not without its drawbacks. As with all marketing, the primary “aim” of the content must be easily digestible, which can lead to little information being presented, this can in turn lead to misinterpretation. An important point is that social norms marketing as a function of its nature, assumes the norms to be both different to the perceived norm, and positive. For example, in alcohol interventions, if the norm was in fact negative for that peer group, the Social Norm Marketing may not be applicable if most students both partake and support risky drinking behaviours. There is also the issue of having an engaged audience. Placement of advertisements and marketing must be in places with high engagement, but this does not seem to be accurately measured in most Social Norm Marketing based intervention studies (see Mennicke et al., 2018, below).

**Figure 11**

*Example of a Social Norms Marketing Campaign for Reduction of Smoking Near a Hospital*



*Note.* From “The impact of a social norms approach on reducing levels of misperceptions around smokefree hospital entrances amongst patients, staff, and visitors of a NHS hospital: a repeated cross-sectional survey” by S. Crosby, D. Bell, G. Savva, B. Edlin, and B. M. Bewick, 2018, *BMC Public Health*, 18, Article 1365 (2018), (<https://doi.org/10.1186/s12889-018-6231-x>). Copyright 2018 by The Authors.



Focus Group Discussion based interventions are more personalised and confrontational. This norm-based intervention format would involve recruiting participants to all meet in the same place and actively discuss behavioural and attitudinal norms surrounding the target behaviours. Some Focus Group Discussions involve finding the norm within the group using in-group data collection (LaBrie et al., 2008). Whilst this behavioural intervention could be highly effective in terms of having participants actively discuss the norms and adjust them as more information comes in, it is very resource intensive. Small groups must be used, and trained facilitators must be used. This would lead to a much smaller reach over a larger period compared to Social Norm Marketing but could yield more positive results due to the personalisation and engagement offered by Focus Group Discussion norm interventions.

Personalised Normative Feedback is a more individualised approach to adjusting norms. Participants are shown both the actual norm, and how they compare to said norm. This enables a much more direct format of communicating differences between the norm and behaviour/attitudes than Social Norms Marketing. Personalised Normative Feedback has been successful in adjusting behaviours in alcohol consumption (e.g., Agostinelli et al., 1995). However, as Miller and Prentice (2016) highlight, sometimes the norm is adjusted, but does not lead to behaviour change (as found in Bewick et al., 2008). It is suggested targets of the intervention act independently of the norm; therefore, behaviour change will not stem from a norm perception adjustment. Blanton et al. (2008) suggest targeting injunctive (attitudinal) norms over descriptive (behavioural) norms. They argue that whilst descriptive norms can be adjusted, if individuals have a misperception of attitudinal norms, descriptive norm behaviours may not change. This connects with the IMB (Fisher & Fisher, 1992; 2002) behaviour

change model, which stipulates support (or perceived support) from peers can be a motivating factor in behaviour change. If the individual perceives the norm to be less supporting than reality, the motivation for change may not be present. In the case of alcohol consumption, they give the example of a student who is aware of the true descriptive norm, but as the perceived injunctive norm of high alcohol consumption is positive, the behaviours may not change. Indeed, studies find that students underestimate their peers' support for intervening with their drinking friends and that providing students with accurate information about the supportive actions of others increases students' willingness to undertake those actions themselves (Mollen et al., 2013). This use of injunctive norms supports that attitudinal intervention can lead to behaviour change.

Sexism (and subsequently RMA) can be argued to be attitudinal in nature. Those who are lower in sexism are less likely to approve of sexism and sexist behaviours (as supported by Chapter 2, Sections 2.5-2.8.1), wherein those who scored lower on the ASI tended to respond more negatively to sexist online content). An intervention focussed on how people score on such measures could have a longer lasting effect than descriptive/behavioural interventions (Kenney et al., 2013; Mollen et al., 2013). Whilst Mollen et al. (2013) used a social norm messaging approach, their method was more experimental compared to previous examples, with pre- and post-testing present and a gap of four weeks between testing to determine effectiveness over the short term.

### **6.1.3 Norm Based Intervention for Sexual Violence**

Mennicke et al. (2018) took a Social Norm Marketing approach to a sexual violence intervention. The campaign focused on four themes: consent, bystander interventions, rape myths, and sexual activity. To administer the campaign, each year a variety of adverts were developed, utilising posters, bus adverts, table tents and billboards. Mennicke et al. (2018) specifically targeted men, and the norm messaging involved statements following the template of “most men [theme statement]”. Participants were sampled from the male student body of a large institution in southeast U.S.A., with a total of 4,158 students took part in the attitudes and behaviours surveys. Over a sampling period of 5 years, it was found that perceptions of the norm adjusted closer to the real norms, and there was some behaviour change evident. Whilst this shows the effectiveness of a social norm messaging campaign, and the sample was large, it is resource intensive to administer such a campaign year-on-year. The negotiation of valuable “real estate” such as poster space would be difficult to achieve consistently. Mennicke et al. (2018) also did not track specific individuals, nor measure participants awareness of the campaign. Given the sample was collected between 2010 and 2015, it could be the results found are a by-product of a more progressive and aware cohort of students, rather than the intervention directly. Nevertheless, Mennicke et al. (2018) have produced a potentially effective campaign using social norms to combat both attitudes and behaviours surrounding sexual violence.

Miller and Prentice (2016) in their review of norm-based interventions argue the more successful interventions target those who have “preference inconsistent” (i.e., the behaviour is not one they prefer) behaviours, but their behaviour is “norm consistent” (i.e., the behaviour matches how they perceive the

norm to be). With RMA there is research finding a norm misperception on how accepting of rape myths others are (Boulter, 1997). Whilst the preference and norm consistency can be easily determined within certain behaviours such as drug and alcohol consumption (wherein most people would agree over consumption is a negative behaviour), determining the preference basis and norm consistency of sexist and rape myth attitudes may be difficult.

The current study aims to do the same, by utilising a Personalised Norm Feedback model of intervention (as suggested by Treat & Viken, submitted), it should account for some of the pitfalls in the Mennicke et al. (2018) study, by having a within-participants design. This also enables us to develop more experimental variables within the intervention and is less resource intensive to administer. Given the timeline of the thesis, it was not possible to measure long-term effects of said intervention, however this aims to establish if the methods presented are feasible, and act as a pilot for larger samples and longer-term testing. Peer Normative Feedback was used as the basis for this intervention due to the ability to have a more tailored level of feedback (enabling a direct comparison between recipient and peer group). Whilst Neighbors et al. (2011) found Social Norm Marketing to be more effective than Personalised Normative Feedback in light drinkers, a Personalised Normative Feedback intervention allows a more comprehensive comparison between pre- and post-intervention, which can be difficult when measuring effectiveness of interventions based on Social Norm Messaging. The other format as described by Miller and Prentice (2016), focus groups, would not be a wide enough sample to determine statistical effectiveness of the intervention. This research will take an experimental approach, including false accuracy to determine the impact of inflated comparison to peer groups (that has thus far not been conducted with

Personalised Normative Feedback). A further variable of feedback regularity will also be included. Given the novelty of this research, feedback regularity was included to determine if a “one-and-done” intervention is viable, or if repeated exposure to Personalised Peer Norm feedback is critical for effectiveness. Most research indicates repeated exposure in interventions are required for effectiveness in web-based interventions (Dempsey et al., 2018), however it would be prudent to include such a variable for a thorough analysis of this method of intervention. Given the short-term timeframe, this should inform future, longer-term studies if more regular normative exposure is required.

It is predicted that the peer norm intervention will reduce sexism scores over three parts for those in the accurate peer norm condition compared to those in the inflated (false) and control conditions. A difference in sexism scores over time between consistent feedback and inconsistent feedback participants is predicted, with no direction stated due to lack of previous research. RMA is expected to have a higher rate of change in those exposed to the accurate normative feedback compared to false and control feedback conditions. An interaction is anticipated between feedback type and consistent feedback condition for RMA change, with change in sexism expected to alter this interaction once controlled for. A reduction in RMA is expected to correlate with the change in sexism across all conditions.

## **6.2 Method**

### **6.2.1 Design**

A 2 x 3 x 3 mixed design was used. The between participants independent variables were feedback accuracy (control/accurate/false) and feedback consistency (repeated/control). The within participants IV was time (0/4/8 weeks). The dependent variables were participant sexism scores as measured by the

Ambivalent Sexism Inventory (Glick & Fiske, 1996) and rape myth acceptance scores as measured by Updated Illinois Rape Myth Acceptance Scale (Payne et al., 1999; McMahon & Farmer, 2011).

### **6.2.2 Participants**

A power analysis was conducted to determine an appropriate sample size. G\*Power (Version 3.1.9.2; Faul, 1992 – 2014, Faul et al., 2007) software was used to calculate a minimum sample size for a design with five between factor variables and three within. With statistical power of .95, alpha at .05, and a Cohen's *F* statistics of .25, a minimum sample of 205 was required. To account for potential dropouts between parts, a "buffer" of 40% (Helmer et al., 2016) was added to the sample size, which was then rounded up to 300 participants. A mixed sampling approach was used. Initially, volunteer sampling was used posters advertising the study (see Appendix 15), including details on a prize draw for an iPad and Amazon vouchers, were placed across Bournemouth University's campus. As the baseline data from previous studies came from this population, participants from Bournemouth University were recruited for this research. The posters featured a QR code and shortened URL to access the study. From this sampling method, a total of 21 participants completed the first part of the survey. Once restrictions were put in place to prevent COVID-19 transmissions, the study was temporarily paused, and then changed to opportunity sampling recruiting from Bournemouth University undergraduate Psychology programs, this led to a smaller sample. From this population, 272 participants signed up to Part 1. From this, 13 were removed due to non-completion. One hundred and ninety-eight of the sample identified as female, with 59 male participants, 2 participants did not identify along the gender binary. Ninety-one participants were assigned to the control condition, with 87 and 81 participants viewing the accurate and false

feedback respectively. Of these, 84 continued to part 2, with 26 being the final sample size after completing all parts.

Due to dropouts and unreliable use of unique identifiers, 26 participants were successfully tracked across the three parts. Given the complexity of the design, this sample size is deemed too small for thorough analysis. Eighty-four participants (mean age = 20.57, *S.D.* = 4.11, range 18-50) were successfully matched across parts one and two and were deemed suitable for analysis. As the manipulation of consistent feedback was applied in part two of the intervention (and effects from this would not be realised until part 3), this variable was dropped from analysis.

### **6.2.3 Materials**

Glick and Fiske's (1996) Ambivalent Sexism Inventory (ASI) was used to measure and gain feedback. This is a reliable ( $\alpha > .73$ ) measure, and valid when compared to other methods of measuring prejudice/sexism (Glick & Fiske, 1996). The ASI has 22 items, 11 measuring Hostile Sexism, and 11 Benevolent Sexism. Participants read the statements (e.g., "Many women have a quality of purity that few men possess") and indicate their agreement on a scale of 0 (Disagree Strongly) to 5 (Agree Strongly). Some items are reversed coded, and a higher score indicates holding more sexist attitudes. The Updated Illinois Rape Myth Acceptance (UIRMA) scale (McMahon & Farmer, 2011) was used to measure changes in rape myth acceptance across the study parts. The UIRMA has reliability ( $\alpha = .87$ ; McMahon & Farmer, 2011), and was designed with a sample of student populations in mind. The UIRMA consists of 22 statements (e.g., "A lot times, girls who claim they were rapes have emotional problems"), which participants rate how much they agree on a scale of 1 (Strongly Agree) to 5 (Strongly Disagree). Higher scores on the UIRMA indicate less belief in rape

myths. Qualtrics hosted the survey. The data for peer norm feedback was collected from prior studies (from Chapter 2 and Chapter 4). All participants from the prior studies were recruited from Bournemouth University and represents a more specific peer group to the target sample (as opposed to a larger identity group such as all University students<sup>9</sup>). Participants aged over 50 years old were removed creating 292 ASI scores, and the data separated into ten percentage point bins, with the upper and lower limits as displayed below in Table 34.

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<sup>9</sup> Whilst same sex or gender norms can be more effective as a comparative group in a norm-based intervention, it is not a universal requirement when developing an effective peer norm intervention. If the comparison group is discrete and relevant enough to the individual. Given the baseline data collected is not gender balanced, with a skew towards female participants, the “in group” was the institution participants were enrolled at.



**Table 34***Range of ASI Scores for Percentage Calculations (as Input in the Survey).*

<b>Percentage range:</b>	<b>Lower score<sup>a</sup></b>	<b>Upper score<sup>a</sup></b>
<b>0-10%</b>	0.00	0.590909
<b>10-20%</b>	0.5909091	0.95
<b>20-30%</b>	0.951	1.136364
<b>30-40%</b>	1.1363641	1.363636
<b>40-50%</b>	1.3636361	1.636364
<b>50-60%</b>	1.6363641	1.818182
<b>60-70%</b>	1.8181821	2.09
<b>70-80%</b>	2.091	2.363636
<b>80-90%</b>	2.3636361	2.636364
<b>90-100%</b>	2.6363641	3.909091
<b>100%+</b>	3.9090911	5.00 <sup>a</sup>

<sup>a</sup>Two decimal places not used to highlight the boundaries used in experiment development.

*Note:* The lower score values for each increase in percentage range are calculated from the upper score of the previous tier, with an additional decimal value added at the end of 1. ASI overall scores are used, not separated into the hostile and benevolent sub-factors. Data collected from the Survey 2 data in Chapter 2 and the Victim Blaming research in Chapter 4 after excluding those aged above 50 years old ( $N = 292$ ).

#### **6.2.4 Ethical Considerations**

Ethically this research had multiple considerations due to the nature of the research. The deception factor for the participants in the inflated peer norm comparison condition could lead to a series of ethical issues. Primarily, the deception in itself. Typically in research, some deception may be involved to prevent participants behaving differently according to what the study is for. For

this peer norm intervention, the deception went beyond that by being an active aspect of the research. The inclusion was to determine if inflated scores were more effective than true scores, and whilst the inflation was limited (increased by 10 percentage points), their original score on the ASI (Glick & Fiske, 1996) was kept accurate. As only the peer comparison score was adjusted in the false feedback condition, and the adjustment was relatively small, it could be argued the deception was minimal. However, there were considerations in terms of long-term impact. As this research was not to assess long-term impact, rather provide support for the method of adjusting sexism and rape myth acceptance via a personalised normative feedback intervention, repeated long-term exposure to inaccurate peer norm feedback was not provided (only planned for 2 occasions across 8 weeks). Given online interventions have been shown to be limited in long-term effectiveness and may require top-up interventions to maintain impact from the original interventions (Dempsey et al., 2018), the potential long-term impact of the false feedback condition is minimal. Additionally, participants who completed the study were each sent specific debriefs for the comparison condition they were assigned to, with the false condition highlighting the comparison percentage was inflated by 10 percentage points and inaccurate. The ethics committee also suggested the score should highlight that the ASI (Glick & Fiske, 1996) is only indicative of sexism rather than a definitive measure, and the feedback was adjusted to account for this. Anonymity and privacy were factored into the study design, with separate surveys for participants to enter their contact details. The survey was designed to redirect participants according to their comparison condition to ensure consistency across all parts. This research was approved by the Bournemouth University Ethics Committee (approval ID: FST29014).

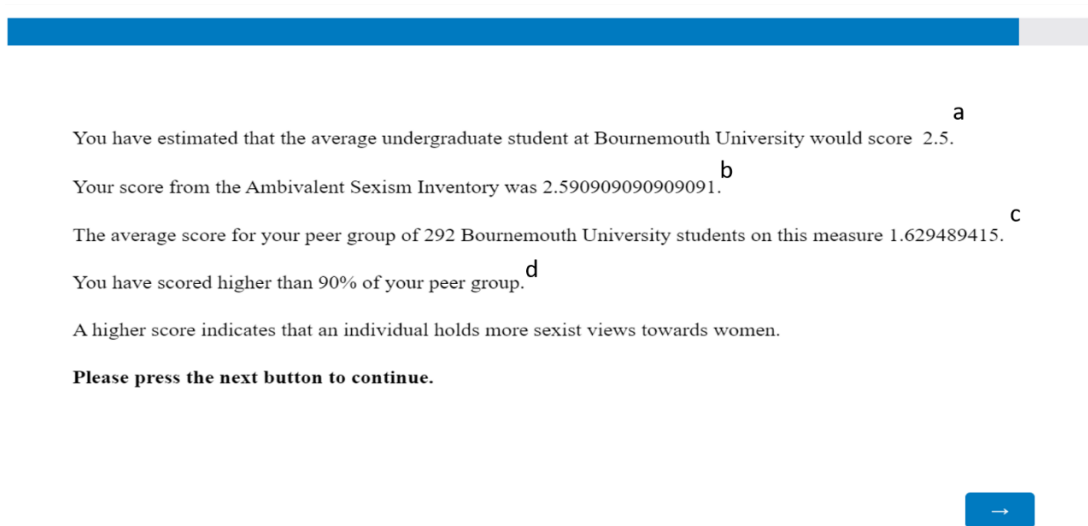
### 6.2.5 Procedure

Once participants had read the information sheet and provided informed consent and demographic information, they were asked how sexist they feel the average Bournemouth University student was on a scale of 0-5 (the min-max of the ASI (Glick & Fiske, 1996), and then completed the ASI and IURMA. The order of the questions within each scale were randomised, and the order of the scales were counterbalanced across participants. Cronbach alpha reliability analysis was conducted to determine reliability of the randomised orders. For the UIRMA (Payne et al., 1999; McMahon & Farmer, 2011), the alpha remained at an acceptable level ( $\alpha = .87$ ). The reliability was acceptable for the ASI ( $\alpha = .88$ ) and the hostile ( $\alpha = .90$ ) and benevolent ( $\alpha = .75$ ) subscales. All items on the ASI (and its sub-scales) significantly correlated with each other indicating internal validity of randomised presentation of the ASI items (see Appendix 16 for correlation matrices). Similar was found for the UIRMA, excluding Question 16 of the scale ("If the accused "rapist" doesn't have a weapon, you really can't call it rape". As the reliability measure does not change much when removing this question set from the scale ( $\alpha = .88$ ), it remained and was included in the analysis. Once the measures were complete, participants were either shown the feedback. The standard feedback form showed the participants estimation of how sexist a Bournemouth University student was, the actual average from the previous studies, their own score, and the comparative percentage (i.e., what percentage of their peers they scored higher than; see Figure 12 for an example of feedback shown). The source of the comparison data was included to legitimise the averages shown, and limit disbelief in the data (Granfield, 2002). No feedback was shown in the control group. For accurate feedback all the above information was listed. For the false feedback condition, participant baseline numbers were

inflated by 10 percentage points (i.e., if a participant scored above 10% of their peers, the feedback would state 20%).

## Figure 12

### *An Example Feedback Shown to Participants.*



<sup>a</sup> This is how sexist a participant estimated their peers to be.

<sup>b</sup> This is an overall average score from the ASI (Glick & Fiske, 1996).

<sup>c</sup> The average score from previous data.

<sup>d</sup> The percentage comparison point.

## 6.2.5 Analysis

The planned analysis is to use separate ANOVAs with sexism change as the dependent variable on one, and Rape Myth Acceptance (RMA) change on the other. For the RMA ANOVA, sexism change will be used as a covariate to determine if the sexism change contributed to the potential change in RMA when considering feedback condition.

## 6.3 Results

Due to dropouts 84 participants were successfully matched across parts one and two and was deemed suitable for analysis. As the manipulation of consistent

feedback was applied in part two of the intervention (and effects from this would not be realised until part 3), this variable was dropped from analysis.

### 6.3.1 Changes in Norm Perception.

A univariate between-subjects ANOVA was conducted on participants perceptions of how sexist they feel their peers are. The independent variables of intervention condition (accurate/false/control). Participants change in estimations of peer sexism from intervention parts 1 and 2 were the dependent variables (see Table 35 for all averages).

**Table 35**

*Mean (S.D.) of Changes Between Part 1 and Part 2 of the Peer Norm Intervention According to Feedback Condition.*

<b>Feedback Condition</b>	<b>ASI Change</b>	<b>HS Change</b>	<b>BS Change</b>	<b>UIRMA Change</b>	<b>Perception Change</b>
<b>Control</b>	-0.08(0.47)	-0.03(0.47)	-0.14(0.50)	0.71(5.52)	0.45(0.62)
<b>Accurate</b>	-0.11(0.55)	-0.15(0.62)	-0.06(0.62)	1.29(6.04)	0.09(1.03)
<b>False</b>	-0.33(0.36)	-0.45(0.53)	-0.21(0.45)	3.62(5.90)	-0.36(1.37)
<b>All</b>	-0.17(0.47)	-0.19(0.63)	-0.14(0.52)	1.77(5.82)	0.09(1.07)

The intervention condition that participants viewed had a significant impact on their perceptions of how sexist the average student and their University is,  $F(2, 80) = 4.46$ ,  $MSE = 4.67$ ,  $p = .015$ ,  $\eta_p^2 = .10$ . Bonferroni adjusted ( $\alpha = .016$ ) pairwise comparisons indicate those exposed to the false normative feedback had significantly higher levels of change compared to those in the control intervention ( $p = .011$ ). Given that on average, only those in the false intervention

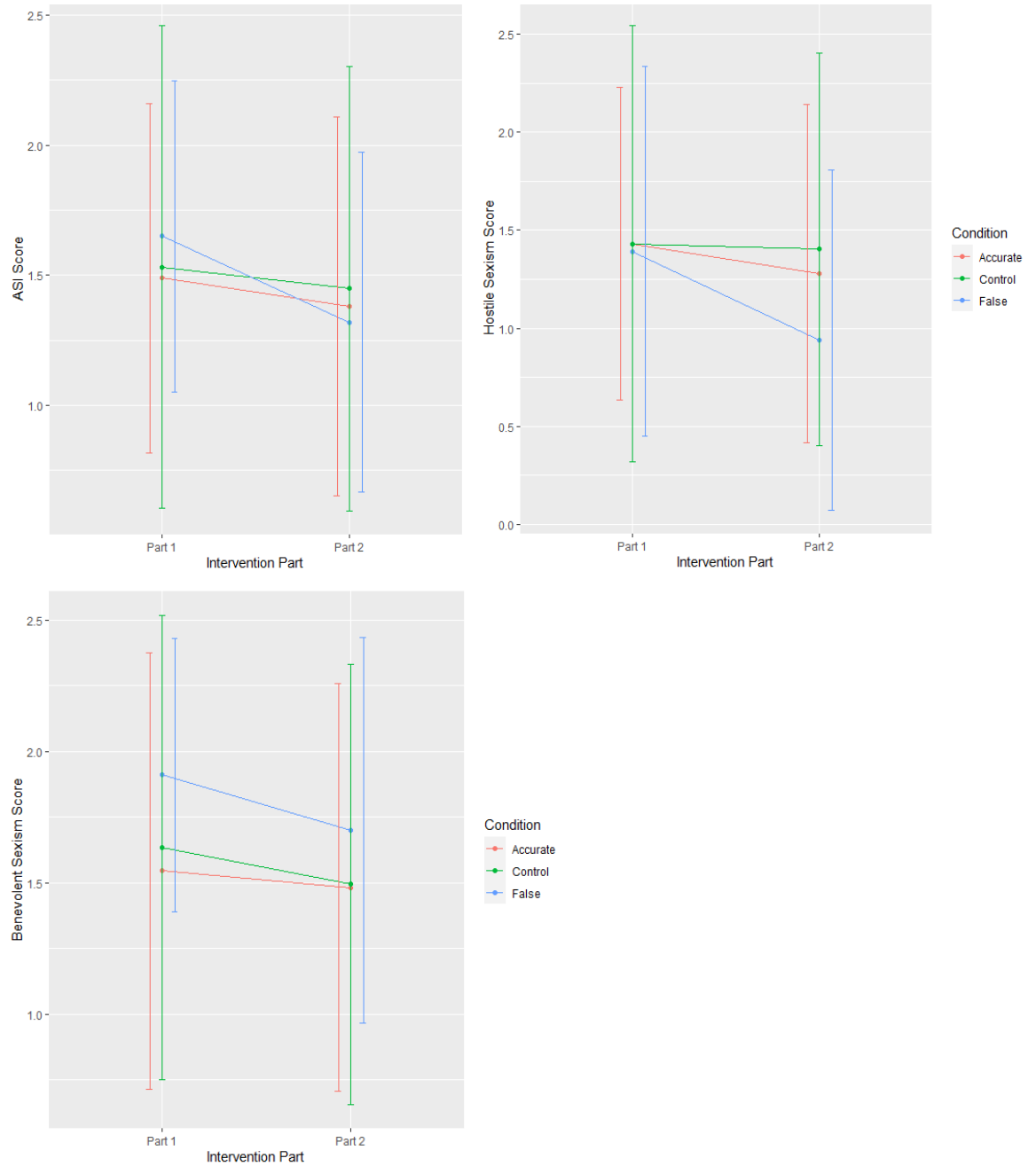
condition had a reduction closer to the true norm (accurate and control condition had perceptions increase), it can be inferred that the false feedback does statistically adjust perceived peer norms. The effect size is very low and given the sample it is an underpowered effect given the effect size found (post-hoc power analysis determined a power of .75).

### **6.3.2 Change in Sexism.**

To analyse the change in participants sexism as scored by the Ambivalent Sexism Inventory (Glick & Fiske, 1996), a 2(part) x 3(feedback condition) mixed ANOVA was conducted. Time had a significant effect on sexism scores,  $F(1, 81) = 11.51$ ,  $MSE = 1.24$ ,  $p < .001$ ,  $\eta_p^2 = .12$ . A reduction was found in overall ASI scores between parts one (estimated mean ( $\bar{e}\bar{x}$ ) = 1.58,  $S.E = .09$ ) and two ( $\bar{e}\bar{x} = 1.38$ ,  $S.E. = .08$ ) of the intervention (see Figure 13 for all sexism changes). The feedback condition did not impact ASI overall scores,  $F(2, 81) = .05$ ,  $MSE = .05$ ,  $\eta_p^2 < .01$ . This indicates that simply taking the scales can impact overall sexism scores. No interactive effects were present (see Table 36 for full results).

**Figure 13**

*Line Graphs Showing Changes in Overall Sexism (top left), Hostile Sexism (top right) and Benevolent Sexism (bottom) According to Feedback Type.*



**Table 36**

*Change in Sexism Scores as Measured by the ASI and Sub-Scales ANOVA Results.*

Source	<i>F</i>	<i>df</i>	<i>MSE</i>	<i>p</i>	$\eta_p^2$
<b>Ambivalent Sexism</b>					
<b>Part</b>	11.51	1, 81	1.24	<.001	0.12
<b>Condition</b>	0.05	2, 81	0.05	.954	<0.01
<b>Part*Condition</b>	2.36	2, 81	0.26	.101	0.06
<b>Hostile Sexism</b>					
<b>Part</b>	9.69	1, 81	1.81	.003	0.11
<b>Condition</b>	0.60	2, 81	0.97	.554	0.01
<b>Part*Condition</b>	3.64	2, 81	0.68	.031	0.08
<b>Benevolent Sexism</b>					
<b>Part</b>	5.64	1, 81	0.78	.020	0.07
<b>Condition</b>	1.17	2, 81	1.26	.317	0.03
<b>Part*Condition</b>	0.48	2, 81	0.07	.622	0.01

Breaking down the ASI into its sub-scales, and re-running the above mixed ANOVA with hostile sexism as the dependent variable (see Table 36), a significant effect on the intervention part was found,  $F(1, 81) = 9.69$ ,  $MSE = 1.81$ ,  $p = .003$ ,  $\eta_p^2 = .11$ , with a reduction in hostile sexism scores being found between parts one ( $\bar{e}x = 1.42$ ,  $S.E. = .11$ ) and part two ( $\bar{e}x = 1.21$ ,  $S.E. = .10$ ). The feedback condition had no main effect on change in Hostile Sexism scores,  $F(2, 81) = .60$ ,  $MSE = .97$ ,  $p = .554$ ,  $\eta_p^2 = .01$ . A significant interaction was found between part of the intervention and feedback condition,  $F(2, 81) = 3.64$ ,  $MSE = .68$ ,  $p = .031$ ,  $\eta_p^2 = .08$ . Three paired sample *t*-tests were conducted on each of



the feedback conditions to source the interaction (Bonferroni adjusted  $\alpha = .016$ ). As Figure 13 shows, these found that only those exposed to the false (exaggerated) feedback had a reduction in hostile sexism,  $t(25) = 4.33, p < .001, d = .85$ , between part one ( $\bar{e}x = 1.39, S.E. = .18$ ) and part two ( $\bar{e}x = .94, S.E. = .17$ ).

For the Benevolent Sexism sub-scale, once again participants showed a reduction in scores between parts one ( $\bar{e}x = 1.70, S.E. = .09$ ) and two ( $\bar{e}x = 1.56, S.E. = .09$ ) of the intervention,  $F(1, 81) = 5.64, MSE = .78, p = .020, \eta_p^2 = .07$ . Unlike hostile sexism, there were no main,  $F(2, 81) = 1.17, MSE = 1.26, p = .317, \eta_p^2 = .03$ , nor interactive effects,  $F(2, 81) = 0.48, MSE = 0.07, p = .622, \eta_p^2 = .01$ , with feedback condition.

### **6.3.3 Change in Rape Myth Acceptance.**

To measure if a sexism intervention can impact participants rape myth acceptance scores as measured by the UIRMA (Payne et al., 1999; McMahon & Farmer, 2011), the above ANOVAs were conducted with the ASI scores from each part replaced with the UIRMA scores. As with sexism, there was a significant change in UIRMA scores between intervention parts,  $F(1, 81) = 8.58, MSE = 143.81, p = .004, \eta_p^2 = .10$ , with a higher score in part two ( $\bar{e}x = 100.40, S.E. = .88$ ) compared to part one ( $\bar{e}x = 98.53, S.E. = .80$ ). A higher score on the UIRMA indicates greater rejection of rape myths (rather than greater agreement of rape myths). No main effect of condition nor interactive effects were found (see Table 37 for full results).

**Table 37**

*Effects of Condition and Intervention Part on Change in Rape Myth Acceptance Scores With (ANCOVA) and Without (ANOVA) Controlling for Sexism.*

Source	<i>F</i>	<i>df</i>	<i>MSE</i>	<i>p</i>	$\hat{\eta}_p^2$
<b>ANOVA</b>					
<b>Part</b>	8.58	1, 81	143.81	.004	0.10
<b>Condition</b>	0.75	2, 81	112.59	.478	0.02
<b>Part*Condition</b>	1.98	2, 81	33.13	.145	0.05
<b>ANCOVA (Controlling for Sexism)</b>					
<b>Part</b>	3.27	1, 80	49.78	.074	0.04
<b>Condition</b>	0.50	2, 80	76.13	.607	0.01
<b>Part*Condition</b>	0.88	2, 80	13.33	.420	0.02

When controlling for the change seen in ASI scores between parts one and two of the intervention (see Table 37), the significant main effect of part of the intervention disappears,  $F(1, 80) = 3.27$ ,  $MSE = 49.78$ ,  $p = .074$ ,  $\hat{\eta}_p^2 = .04$ . This suggests the change in Rape Myth Acceptance scores are a product of sexism change, rather than independent change.

#### **6.4 Discussion and Further Research**

This research aimed to determine if the method of online personalised normative feedback interventions for sexism (and indirectly rape myth acceptance) was feasible. Are rape myths present in students' definitions of rape and is rape myth acceptance able to be changed via a peer norm intervention for sexism. Overall, positive results were seen from the intervention. A reduction was seen in overall sexism (with this being from a reduction in hostile sexism rather

than benevolent) over two parts of the intervention (one feedback exposure). A reduction in RMA was also found, with this effect diminished when controlling for the change in overall sexism experienced by participants. An interesting finding from this is the reduction in specifically hostile sexism. Given that hostile sexism is more overt and identifiable (Dardenne et al., 2007), it could be participants address those aspects of their sexism rather than the more “hidden” benevolent sexism. This can apply to the RMA reduction. As stated in Chapter 1, Section 1.4, some of the rape myths can be related to sexist ideals (the idea that victims, typically women, lie). The reduction in RMA could be a by-product of the reduction in sexism, as predicted. Whilst initially these results have some indication for a successful intervention, the effect sizes were relatively low.

The primary limitation of the intervention was the design of the materials. As anonymity was a primary concern, full validation of items such as the unique identifier was not possible in Qualtrics without breaking anonymity. Given the initial data collection of 21 participants prior to coronavirus restrictions had the expected dropout rate between parts ( $n = 15$  completed all parts of the intervention) due to participants not completing the next part, the validation of the unique identifier was not deemed necessary. Upon pivoting sampling strategy in the wake of the coronavirus restrictions, this led to a large sample (seemingly) being collected for part one. However, the tracking between parts failed. Participants who did not use the same unique identifier across parts had to be removed from analysis, and whilst it appeared many people were completing parts two and three of the intervention, the inability to track these participants across parts unfortunately lead to an underpowered study, even when eliminating part three and the condition change. However, the results do indicate this intervention may work, therefore further research should continue using this

design (with some validation tweaks) to determine full effectiveness at an appropriately powered analysis.

One of the benefits of this intervention is the engagement in the intervention compared to other formats (Miller & Prentice, 2016). The personalised feedback and comparison points to a peer group enabled a more direct form of intervention. Whilst this research may have its faults, more comparison data can be used from this study to develop more discrete comparison groups. Due to the low male sample from previous works, I did not specify gender within the intervention, and instead focused on higher education institution enrolment as the in-group. As I now have access to a larger sample of men's ASI data, we can use this to develop a more personalised group comparison. The same can be said of RMA, in the design stage of this research I did not have access to RMA scores from the institution. In addition to the association between sexism and RMA from previous research (Rollero & Tartaglia, 2019; Suarez & Gadalla, 2010) indicating the sexism intervention should yield an indirect change in RMA, which is supported from the current results, further work can be done on a direct RMA peer norm intervention.

The effect seen from falsely representing participants peer comparison sexism scores on hostile sexism could be explained by the IMB (Fisher & Fisher, 1992). The model stipulates for change to occur individuals must be motivated to change. Those who are exposed to the accurate feedback may not feel a motivation to change as overall, their scores are low/aligned with the peer norm comparison group. Whereas those who's comparison scores were inflated may feel a higher level of motivation to reduce their sexism to reduce their comparison percentage. This may also explain why the effect was seen with hostile sexism rather than benevolent. This type of sexism is easier to identify (Dardenne et al.,

2003), and could therefore be easier to internally address. There is the possibility that unlike other interventions that use norms, there is little behavioural outcomes that can currently be measured. It could be that the adjustment in attitudes, whilst theoretically should lead to behaviour change are isolated as found in Bewick et al. (2008). The false feedback was not a drastic variation from the accurate feedback (i.e., only 10% increase in the comparison points), this could have increased the motivation to change according to the IMB (Fisher & Fisher, 1992), but was not unbelievable enough to nullify the effects of a peer norm intervention as discussed by Miller and Prentice (2016).

As an intervention, the current design is a feasible way to induce change in student populations. It is a cost-effective way to administer an intervention, with no competition for resources associated with both Social Norm Marketing and Focus Group Discussion interventions. There is no need for large posters advertising the norm, nor facilitators to engage the discussion. However, as with any personalised normative feedback approach to intervention, the practicalities as running it as a full campaign can be cumbersome. The requirement for baseline data which is collected from appropriate participants could prove difficult in communities which are historically difficult to engage in research, and engagement with an intervention as a whole may also lead to a decrease in effectiveness. Whilst as a purely online intervention, it could collect baseline data from certain groups up to a minimum sample size, which will then trigger the full intervention being run on future participants, this then excludes the initial participants from receiving the intervention. Whilst the practical applications of this research would exclude the deceptive element of the intervention, the ground work for enough data to have appropriate impact could warrant more general feedback (such as social norms marketing) to be more efficient in time-lines.

As an experimental format of intervention, it has been found those exposed to false (exaggerated) peer norm comparisons experienced the reductions in the targeted attitudes. This was an unexpected finding, given the theory behind peer norm interventions relies on the data being accurate (Miller & Prentice, 2016). The manipulation was small (comparison points elevated by 10 percentage points), and further research should investigate the limits of this exaggeration before becoming ineffective. Further work should utilise longer-term intervention periods. Whilst this further increases the risk of dropouts and disengagement from the research, appropriate planning should combat these issues. Follow up surveys should be utilised in the participants to measure longer term impacts like Neighbors et al. (2011) who measured after three and six months. The follow up measures may also indicate if a “top-up” intervention is required.

## **Chapter 7: Discussion**

This thesis aimed to establish relationships and effects of online sexism on phenomena found with offline sexism, specifically stereotype threat and victim blaming. Additionally, the development of an intervention was proposed. In this chapter, these seemingly unrelated pieces of research will be weaved together and summarised, with connected implications and consequences highlighted.

### **7.1 Research Summary**

To determine the perception of online sexism, Chapter 2 consists of two survey-based studies. Both the surveys found overall tolerance of online sexism online to be low, with the second surveys finding a higher tolerance of misandry compared to misogyny. This tolerance was dependent on the participants' gender identity, with a lower tolerance for tweets targeting their own gender. Whilst this is unsurprising that people would have a higher intolerance for sexism targeting themselves, there were correlations present between measurements of sexism and tolerance of tweets. Whilst this does not imply causation, as it could be higher sexist views leads to greater tolerance of sexism, or a greater tolerance of sexism leads to higher sexist views, the findings do lend support to existing theories, primarily Prejudice Norm Theory (Ford & Ferguson, 2004). Indeed, when applying Prejudice Norm Theory to sexism, it can be argued it does not require a causation source as it inherently becomes a self-sustaining cycle of normalisation (i.e., tolerance) of sexist events and subsequent increase in sexist attitudes. There are additional theories, such as Intergroup Conflict Theory (Priest & Wilhem, 1974) and implicit biases also explaining the findings of a lower tolerance of sexism. A further interesting finding was the theme of accuracy. Participants did not seem to mind sexist content if they deemed the content correct. Naturally, the identification of "correct" in gender issue discussions is subjective and biased

to begin with. Spending any time in the “manosphere” would enable a user to find opinions that are, in my opinion, outright lies, however, to those who hold those views, are “correct”, and therefore cannot be sexist, as absolute truths hold no bias.

One “truth” to those who are sexist is women being inherently poorer at mathematics compared to men. Chapter 3 investigated whether Stereotype Threat can be triggered via online sexist media. Whilst there was no effect of the type of media (stereotypical of gender-mathematics stereotype/neutral/counter-stereotypical) shown in terms of whether participants answered mathematical questions correctly, interestingly, counter-stereotypical content did increase pass rate regardless of gender. This is an interesting finding, whilst counter-stereotypical content could create an implicit stereotype threat in men, it could also have created a performance pressure in women. Women who are told they can outperform men may experience a performance anxiety with the conflicting previous knowledge of stereotype threat. Of course, the law of parsimony can yield an explanation from Chapter 2. Some participants reported simply ignoring this type of online content due to expecting this type of content when online. It could be those sampled have developed this expectation of viewing sexist content and therefore ignore it, however this does not explain the increase in pass rate in both men and women after viewing positive messaging of women in STEM. There could be a combination effect of the above, wherein participants ignore negative messaging, but experience performance anxiety (Beilock et al., 2006) after exposure to such positive content. Whilst the research conducted within the Chapter did not achieve the predicted results of replicating known phenomenon Stereotype Threat from offline presentation of stereotypical content to online presentation, this could be due to the stereotype not being applicable



over the online delivery. Chapter 4 aimed to expand on this line of research, by investigating the impact of online sexism on blame attribution in sexual assault and rape scenarios.

For investigating the role of cyber sexism on victim blame attribution, I attempted to replicate an effect found by Fox et al. (2015). They found after interacting with sexist tweets participants displayed more sexist attitudes. This research aimed to establish if this potential increase in sexist attitudes affected blame attribution in sexual assault attribution. Participants had to browse a Twitter feed, or either retweet or create a Tweet using a sexist hashtag. They then completed a booklet with 12 crime scenarios, where they were asked to establish victim blame, perpetrator blame, and how likely they felt the perpetrator was falsely accused. Additional variables were added such as the gender dynamics within the crime, with some participants rating female perpetrator – male victim dynamics, and others the male perpetrator – female victim scenarios. Participants ambivalence towards women and men were measured depending on what gender dynamic scenarios they were presented with. Whilst the impact of viewing sexist media does not appear to impact participants blame attributions, the type of crime they were rating, participant gender and the gender dynamic of the scenarios did affect the attributions. Women blame female victims of robbery much more than the other crime types (murder, acquaintance rape and stranger rape), but blamed male victims of murder compared to stranger and acquaintance rape scenarios. There were also relationships with sexism scores and blame attribution, with many effects diminishing once controlling for sexism. The most interesting aspect was the differences found with male victims. Male perpetrators were assigned a similar level of blame across all crimes, whereas female perpetrators of stranger rape were assigned significantly more blame compared

to the other crimes. Additionally, after accounting for participant sexism, crimes with male victims were rated to be more likely to be a false accusation of the perpetrator compared to scenarios with female victims. This could be related to rape myths such as fighting back and whether an erection was achieved (Bullock & Beckson, 2011; McLean, 2013). This continuation of rape myths, as well as the false accusation rate of acquaintance rape across both gender dynamic conditions, could be influenced by how participants are defining rape.

Chapter 5 explicitly asked students how they define rape. In addition to this, we measured whether participants had been victims of rape/attempted rape, and if and what support services provided by their university they were aware of. The results from this Chapter are concerning. Overall, the awareness of services provided by the University were very low (11.50%), with those being previous victims of rape previously having a higher awareness of services available to them. Of the people who reported being aware of services, a significant portion listed University-specific services over external local/national services. When considering definitions of rape, the qualitative responses were coded, and frequency of certain aspects counted. A significant proportion of students cited lack of consent as part of their definitions. This aligns with the legal definition of rape in UK law (Sexual Offences Act, 2003). A large but non-significant portion (24.20%) of respondents required use of force in their definitions of rape. As discussed within the Chapter 5 (Section 5.3), this does not align with recent work on rape scripts within the same institution, where force was mentioned more frequently than found here (Stirling et al., 2020). This indicates whilst people are not likely to specify force when defining rape, when describing a rape scenario, they are more likely to cite force. This implication is discussed within the Chapter 5, but it is important to highlight that rape myths may not necessarily be present

in defining rape, but they are when describing a rape scenario. This could be due to the awareness of how much evidence is needed to prosecute rape cases, therefore the participants in the script scenario may have created a script where it is unambiguous if consent was present. Further research should attempt to merge these two methods together into a fully within-subjects design. It would be interesting to see if participants alter their scripts of a rape scenario after defining rape, or if it is vice versa and their definitions of a rape change after developing a rape script. If participants are utilising rape myths and norms in their scripts, a norm-based intervention could change this difference between scripts and definitions.

The final piece of research of this thesis culminates in a feasibility study for a peer norm-based intervention for both sexism and rape myth acceptance. The aim of this Chapter was to determine if a peer-norm comparison can reduce sexism, which may in turn reduce RMA. The plan for this research was ambitious, with multiple variables present within the research, taking more of an experimental approach to peer norm-based interventions. The addition of the false (exaggerated) feedback was to provide further evidence on whether the norms need to be believable to enact change, or if unbelievable, nullifies the impact of peer norms (Miller & Prentice, 2016). The findings indicate the exaggerated feedback was believable to participants and provided the motivation to change as explained by Fisher and Fisher (1992) Despite coronavirus and difficulties with dropout rates, some promising findings were found, but primarily with the false feedback condition.

As noted in the introduction, a research gap into psychological explanations and impacts of online sexism were lacking. The thesis aimed to develop the understanding of online sexism and subsequent effects. Certain

theoretical explanations of offline sexism and its impact were replicated in online contexts, such as considering others to be “worse” than the true norm (as covered in Peer Norm theories), and more likely to distribute and enjoy online sexist humour (Chapter 2) and be more sexist in general (Chapter 6). However, support was not found when attempting to replicate the triggering of Stereotype Threat via online content. As explained in Chapter 3, this could be due to the sample being primarily students enrolled on science courses, therefore having a reduced amount of concern about their mathematic ability. Exposure to online sexism was not found to increase sexist behaviours when it comes to victim blaming in sexual violence cases, partially contradicting Prejudice Norm Theory (Ford & Ferguson, 2002). We can now suggest the online worlds lack of context is an issue when determining how to react to online sexism (Chapter 2), with the interpretation as humour also diminishing severity of offense from qualitative responses. The thesis lends support to the Peer Norm approach to social behaviour and intervention applications through finding a Peer Norm based intervention for sexism (and consequently rape myth acceptance) to be promising. In summary, we are now aware of how sexist online content is interpreted by viewers, and subsequent impacts of viewing this sexist material. Whilst short-term impacts were not found from exposure to sexist online content, existing sexist attitudes did have an effect on important issues such as blame attribution in sexual violence cases. We found when controlling for sexism change after a norm-based intervention, the reduction in endorsement of rape myths was diminished. This finding lends support for causality, with sexism being a source of rape myth acceptance. These findings are promising for further research and development of a cost-effective personalised intervention protocol. However also creates some

ethical questions surrounding both the motivation behind an intervention and the methods used to intervene.

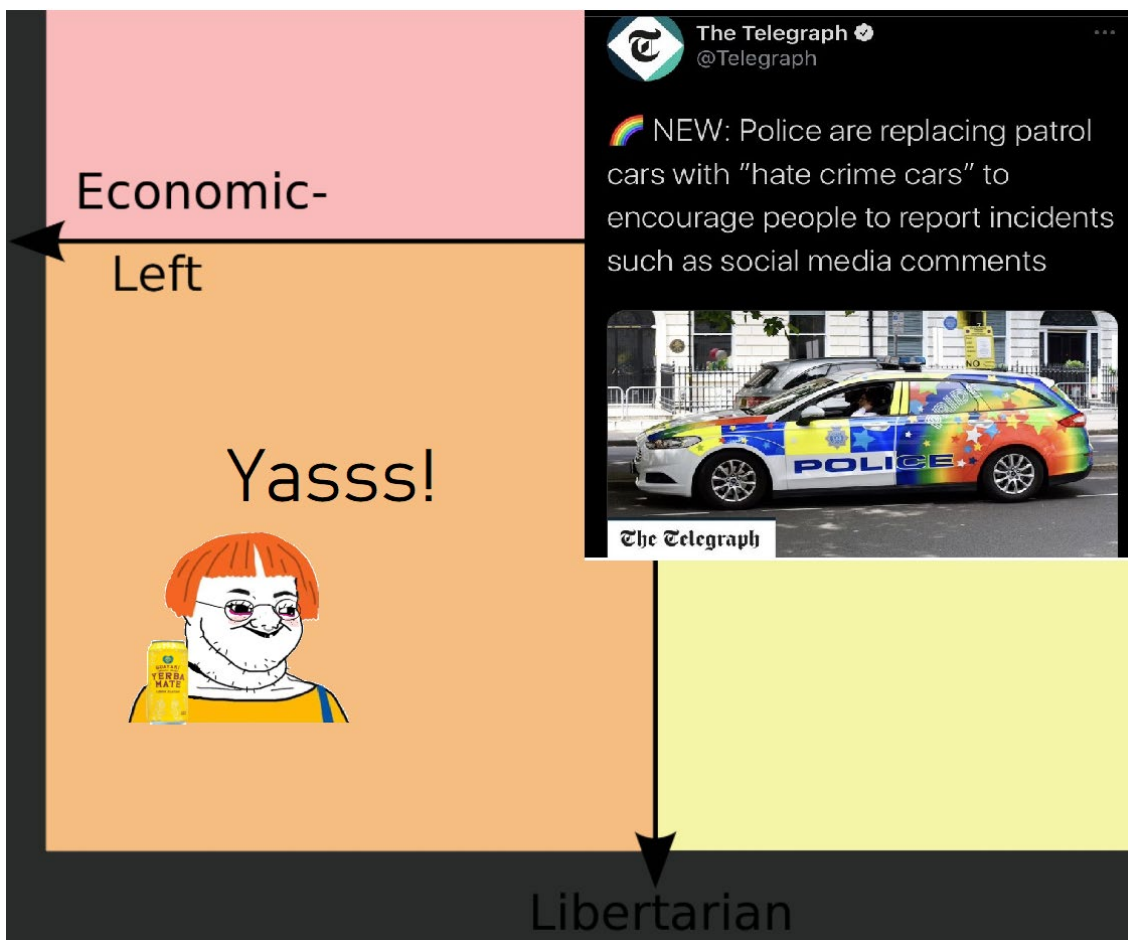
A primary concern is whether sexism is “preference inconsistent”. Whilst many can argue holding negative and derogatory views based on the sex or gender of a person is an inherent negative trait, this may not be consistent. Recently there has been a rise in anti-women attitudes and behaviours, particularly online (Jane, 2014a; Jane, 2014b). Whilst these individuals may not regard themselves as sexist outright, many of their beliefs could be perceived as sexist.

People who would prefer to be labelled as anti-feminist (read: sexist) may have this inaccurate view on what mainstream feminisms goals are, or they make the mistake of conflating one radical group of feminists as representative of the whole. An example of this can be seen in the use of the “Social Justice Warrior” (SJW) memes found on sites such as 4Chan and Reddit. Massanari and Chess (2018) conducted a discourse analysis on 26 meme images concerning SJWs and found a tendency to the “monstrous feminine”. The monstrous feminine is a trope wherein a female character becomes a monster as a function of her womanhood, for example, having long dark leg hair. Massanari and Chess (2018) that the SJW memes are inherently misogynistic based on the portrayal of SJW bodies, thoughts, and emotions, and finally the inclusion of the monstrous nature of the memes. These memes are widespread, with the language being used outside of image-based formats. Whilst the analysis of image based sexist content is valuable as a resource, the Massanari and Chess (2018) paper is not without its limitations. The search criteria used to find the memes was quite limited, where key search terms were “SJW” and “Social Justice Warrior”. This could lead to a limited sample as content creators are not likely to title their posts with the name

of the meme, and there are examples of the “SJW” meme, matching the monstrous feminine caricature found by Massanari and Chess (2018) which does not feature the search terms used in the research (see Figure 14 for an example). Despite the limited search criteria, the findings still apply to found memes, meaning it could be more widespread than the original paper found.

### Figure 14

*Example of a Meme Titled “Police reform done, thank you!”.*



*Note:* This image was sampled from the Political Compass Memes subreddit. Note the similarity of the figure in the lower left section of the image to the descriptions of the monstrous feminine in Massanari and Chess (2018). From “Police reform done, thank you!” by maszturbalint321 (2021).

As Prejudice Norm Theory (Ford & Ferguson, 2004) states that exposure to a prejudice as a norm can in turn normalise/accentuate the norm within the individual, those who spend time in classical alt-right (indeed, Political Compass Memes, the Figure 14 source, as a subreddit has been suspected of being a dog whistling/alt-right subreddit for a couple of years; lurebat, 2020) or “manosphere” (“online forums dedicated to issues relating to man and masculinity”, McGlashan, n.d.) communities online may develop an sexist stance as a function of belonging to these groups. However, for a norm-based intervention to work, there must be a willingness/want for change, and it could be those who visit these sites are not willing to change as they feel that their views are correct. The Red Pill (or other “Pill” based philosophies) take their name from the popular 1999 film *The Matrix*, wherein the lead character must take the “red pill” to escape the virtually-constructed reality. The character has the choice to take either the blue pill (wherein he remains in the virtual reality), or the red pill (to escape and “see how deep the rabbit-hole goes” (Wachowski & Wachowski, 1999). This action of taking the “red pill” and then seeing the truth would indicate that those who contribute to these online communities may not be willing to change their misogyny as that would, to them, seem like taking the blue pill from *The Matrix* and living in (from their perspective) ignorance of how the world works.

It can be argued that those who have ‘taken the red pill’ will be inherently resistant to any intervention for sexism, however users and individuals who are yet to become immersed in the culture of these forums may be willing to change their attitudes and behaviours. As discussed in the introduction (Chapter 1, Section 1.3), people may seek out these forums and communities to affirm their attitudes. Those who are still in the early stages of this confirmation may be more

susceptible to a peer norm-based intervention, as they may be “preference inconsistent” in their attitudes (Miller & Prentice, 2016).

The aim of the intervention is to reduce both sexism and RMA, the consequences would be far reaching and beneficial to society. However, the results from the feasibility study indicate the intervention only works when recipients are lied to. The false feedback condition amplifies the comparison percentage and leads the participants to believe they are “worse” than more of their peer group than is accurate. This leads into ethical philosophical theories about morality and consequences. The utilitarianism approach to moral philosophy would argue the end result (decrease in sexism and rape myths) justifies the moral issue of deceiving participants to this extent and can be argued as a “for the greater good” sacrifice of moral duty. Other approaches to ethics, such as deontology, suggests no matter the benefit, the results are inherently corrupted by immoral actions at the start of the intervention. Indeed, most psychological research utilises a deontological approach, to prevent traumatic experiences for the benefit of the “greater good”. Previous “famous” pieces of research take the consequentialist approach, such as Milgram’s (1963) obedience research and the Stanford Prison Experiment (Haney et al., 1973), with the findings being treated as a foundation to our understanding of human psychology today. However, these procedures would not be executed in the same way today under the deontological approach, thus contributing to the replication crisis (for a discussion of such crises in social psychology, see Earp & Trafimow, 2015). Whilst utilitarianism would argue the initial immoral action is outweighed by the moral consequences; ultimately it can be difficult to decide the moral implications if false comparisons to peer groups can influence attitudes and behaviours.



Ultimately the question raised from the intervention is whether ethically it is moral to intervene on such matters. Whilst interventions to prevent sexual assault are clearly within institutional remit, sexism is another matter. Under current UK law, misogyny or misogynistic-motivated crimes are not categorised as a hate crime unlike race or LGBTQA+ motivated crimes. Whilst there was legislation proposed to make misogynistically motivated crimes an official hate crime (UK Parliament, 2021), it does not cover having sexist attitudes, and was subsequently dropped as a priority by the Prime Minister (BBC News, 2021). Like racist views, it is not illegal to hold these views, only act on them. Whilst reducing sexism should theoretically lead to a reduction in sexist behaviours (Ajzen, 1991), as they are not currently a crime it can be difficult to argue the necessity of such interventions. This ties into what was found in Chapter 2. Many participants reported the importance of freedom of speech and considered the sexist tweet tolerable under the assumption preserving freedom of speech takes precedence over reducing instances of sexism posted publicly online. If preservation of freedom of speech supersedes intervention of sexism, then interventions of sexism is not only fruitless, but inherently immoral to begin with. However, this argument is inherently flawed when considering the behavioural implication of sexism, such as increased rape proclivity (Abrams et al., 2003) and rape myth acceptance (tied to higher victim blaming and rape proclivity, Bohner et al., 1998).

## **7.2 Future Directions**

Naturally the peer norm intervention should be replicated over a longer period, with further validation of unique identifiers. The potential for widespread applications of such an intervention assuming results are stable from the feasibility study are extremely valuable. A cost-effective, resource-light method

of intervention, which can target an unlimited amount of people simultaneously has the potential for high impact, real-world applications.

Future research should also investigate whether an individual's preference consistency as discussed in Miller and Prentice (2016, and Chapter 7, Section 7.1). Controlling for this individual aspect could determine the limits of social norm approaches to interventions. According to theory behind social norm processes, those who are preference inconsistent but norm consistent (e.g., their attitudes/behaviours are not wanted, but they do conform to the perceived norms, Miller & Prentice, 2016). An ability to reliably measure this and control for this would enable a development of an intervention with more effectiveness and scope.

Future work should utilise full mixed methodologies to understand the effects seen throughout the thesis, like Chapter 2. Whilst the survey conducted had response issues in terms of short responses, and in person interviews with a female researcher on the topic of sexism and sexual assault may cause experimenter effects, the integration of quantitative and qualitative avenues of research would enable a much deeper understanding of how online sexism can impact sexual violence as a whole. The lack of mixed-methodologies as a consistent method throughout the thesis can be viewed as a limitation of the thesis. Upon reflection of the thesis, whilst the aim of most research was to determine if phenomena associated with offline sexism could be replicated with online sexism, lending itself to a purely quantitative design, a more in-depth methodology could yield explanations for the findings throughout the thesis.

One follow-up piece of research planned with mixed methodologies is the Chapter 4 study. Participants should be invited to an interview after the

quantitative segment (sequential explanatory design, Creswell & Plano Clark, 2011). This should develop the research area by establishing participants motivations behind their blame attributions. As discussed, (Chapter 4, Section 4.4), the role of rape myths with male victims could have played a large role in blame attribution and determining likelihood of a false accusation. A mixed-methodology would enable researchers to establish the connection between rape myth acceptance and blame attribution in terms of logic used by participants. Whilst as a postgraduate researcher there is limited time to design, implement and analyse such a wealth of data, Chapter 4 did lay a foundation of interesting effects when it comes to victim gender roles and sexism. This work can be expanded on, especially in respect to developing an intervention focussing on sexism and rape myth acceptance.

This research could also be expanded to include media representations of rape. As discussed in Chapter 4, the types of media jurors are exposed to could influence their deliberations within cases. Research should investigate the role of misinformation and framing around rape cases, including the comment sections present on the articles to provide a social norm element to the influence.

Whilst there are ethical limitations in terms of exposing sexist content regularly (given the theoretical changes in attitudes such as within Prejudice Norm Theory, Ford & Ferguson, 2004), thus encouraging cross-sectional research design over longitudinal, some work can be done on existing communities. Selection of known sexist communities, for example those in the “manosphere” (McGlashan, n.d.), and analysis over time could track development of attitudes within these communities without the ethical dilemma. Specific factors to investigate could include the amount of commenting (engagement) with sexist content, the reinforcement of the community of this

content (i.e., upvote/downvote ratios), regularity of posting within the community, and the severity of sexism present (for example threats of sexual violence) could all be measured to develop a predictive model of radicalisation of online communities.

Continuing the cyber sexism specific research, more work could be conducted on physiological responses to posting sexist content as themselves/avatars, compared to anonymised posting. This could develop support for theories of online behaviours such as the Online Disinhibition Effect and the Social Identity Model of Deindividuation (SIDE, McKenna et al., 2002). This is of relevance given the recent global pandemic, causing communications to be moved to the online sphere.

The overall thesis has sampling and data collection limitations which can be integrated into the above future research directions to improve the research. Whilst the thesis was funded to develop an intervention which specifically reduces sexual violence within higher education (therefore student populations were selected to be sampled), most research could be expanded into the general population to determine the generalisability of the findings presented. The exclusive use of student populations (from a singular institution) was warranted at time of sampling, either due to resource/time limitations or as the research acts as a pilot and so sampled from a more limited pool. In hindsight further exploration into other populations (both further institutions/general population) would have provided in-depth insight into the issues of sexism and sexual violence. Indeed, Chapter 5 had a follow up study planned which would replicate the survey into other universities within the UK. However, this did not occur due to timings of large surveys within other institutions. The findings from this thesis could also be found in the general population, and so should be expanded into a wider sample.

Another limitation is the lack of demographic information collected throughout the thesis in the form of ethnicity, sexuality and class data. This also impacted the generalisability of the findings. At the time of study design, where the primary concern was the role of participants' gender, other demographic information (excluding age) was excluded. This data would have informed if the sample was representative of the population and could have determined whether these factors impact the findings. Future work should integrate both more in-depth demographic information, and sample from the general population.

### **7.3 Conclusions**

Whilst the initial aim of this thesis during development was to identify and create an intervention to enable better safety when using online dating services, the lack of research found when investigating the role of sexism lead to the current piece of work. The attempt to replicate known social psychological phenomenon in Stereotype Threat, and the further impact of cyber sexism both on offensiveness and tolerance of it, and the short-term effects from exposure to such content has contributed to the field greatly.

In terms of practical recommendations from the research presented in this thesis, there are some potential applications. Firstly, given the reaction to online sexism (Chapter 2), the importance of free speech as a theme, and how cyber-ostracisation may not be effective, social media platforms could develop algorithms to vary user's media diets. Social media companies, based on user interests and the type of content they engage with, provide users with similar content they may enjoy. This type of algorithm can also be used to identify whether users are creating their own echo-chambers and show users content to vary the points being presented within their feeds. This could prevent the impacts of viewing singular points, whilst also preventing infringement on free speech

(which could drive groups into more extreme communities). Users who, for example, post/view sexist content, could also be shown a social norm marketing campaign via sponsored/advertising posts to provide peer norm information to limit potential impact from normative influences. However, a social norm marketing campaign may be difficult to enact on certain platforms where user demographics are not gathered as standard. Further policy changes, such as screening jurors for rape myth acceptance in sexual violence cases could also adjust the low conviction rate seen in such cases. This in turn could increase the amount of cases which progress to court, as the case would be more likely to conclude in a conviction.

To conclude, whilst this thesis has investigated the role of cyber sexism and its impact in terms of previously established phenomena, it has just scratched the surface of this under-researched area within Psychology. The development of an intervention which is feasible provides a promising area for further investigation. From the current thesis, we can infer that whilst undergraduate populations may not be affected by online sexist content in the short-term, potentially due to wilfully ignoring it, classic older phenomena can be replicated in terms of victim blame attribution. A primary application of the thesis is the social norm approach to an intervention for sexism and rape myth acceptance, and the role this plays in student definitions of rape. This could have beyond theoretical implications in terms of adjusting how people feel and behave about sexual violence, potentially increasing reports to relevant services, and access to support services for victims of sexual violence.

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## **Appendices**

### **Appendix 1. Survey 1 Tweet Summaries**

Tweet 1: women aren't meant to do certain things

Tweet 2: a woman pepper sprayed me and ruined a romantic moment

Tweet 3: women that tweet about being high are not feminine

## Appendix 2: Questions from Survey 1

1. How likely would you be to retweet the above tweet?

1 = Not at all likely

2 = Very unlikely

3 = Unlikely

4 = Likely

5 = Very likely

2. How likely would you be to like this tweet?

1 = Not at all likely

2 = Very unlikely

3 = Unlikely

4 = Likely

5 = Very likely

3. How likely would you be to reply to this tweet?

1 = Not at all likely

2 = Very unlikely

3 = Unlikely

4 = Likely

5 = Very likely

4. If you did reply to this tweet would it be to...

1 = To challenge the comment

2 = To express support for the comment

5. How likely would you be to make this type of comment yourself if you were face to face with other people?

1 = Not at all likely

2 = Very unlikely

3 = Unlikely

4 = Likely

5 = Very likely

6. Do you consider this post to be offensive?

1 = Not at all offensive

2 = Slightly offensive

3 = Somewhat offensive

4 = Very offensive

5 = Extremely offensive

7. How offensive do you think a typical male student at Bournemouth University would find this post?

1 = Not at all offensive

2 = Slightly offensive

3 = Somewhat offensive

4 = Very offensive

5 = Extremely offensive

8. How offensive do you think a typical female student at Bournemouth University would find this post?

1 = Not at all offensive

2 = Slightly offensive

3 = Somewhat offensive

4 = Very offensive

5 = Extremely offensive

9. Imagine that a potential employer sees this tweet. How likely do you think it is that they would make a negative judgement about the person who posted it?

1 = Not at all likely

2 = Very unlikely

3 = Unlikely

4 = Likely

5 = Very likely



### **Appendix 3: Survey 2 Tweet Summaries (all)**

#### **Male-Targeted Tweets:**

Tweet 1: men are still going to be awful this year

Tweet 2: men aren't important

Tweet 3: men are meant to be strong, not smart. Men can't make decisions

Tweet 4: men are rodents, no if and or buts

Tweet 5: a mother told her child that men are useless. This is good parenting

#### **Female-Targeted Tweets:**

Tweet 1: focus on keeping your body in good shape. Women shouldn't discuss sports

Tweet 2: the patriarchy is due to women not wanting a good career and men being better at leadership roles

Tweet 3: all women have mental health problems without men nearby

Tweet 4: are men better at pleasing men? Men are better than women at everything

Tweet 5: I dislike it when women send confusing messages. Do they want to have sex with me or not?

## Appendix 4: Questions from Survey 2

1. Do you think it is appropriate to make a comment of this kind? Why do you think this?

Answer is an open-ended text entry.

2. Does this tweet personally offend you?

Answer on a 5-point Likert Scale from “Definitely not” (1) to “Definitely yes” (5).

3. Please explain your response.

Answer is an open-ended text entry.

4. How comfortable would you feel retweeting this from your own Twitter account?

Answer on a 5-point Likert Scale from “Extremely uncomfortable” (1) to “Extremely comfortable” (5).

5. How comfortable would you feel saying this face-to-face to a group?

Answer on a 5-point Likert Scale from “Extremely uncomfortable” (1) to “Extremely comfortable” (5).

6. Why do you feel this?

Answer is an open-ended text entry.

7. How humorous do you find this tweet?

Answer on a 5-point Likert Scale from “Not at all” (1) to “a great deal” (5).

8. Why do you think this?

Answer is an open-ended text entry.

9. How likely do you think men would be to retweet this?

Answer on a 5-point Likert Scale from “Extremely unlikely” (1) to “Extremely likely” (5).

10. How likely do you think women would be to retweet this?

Answer on a 5-point Likert Scale from “Extremely unlikely” (1) to “Extremely likely” (5).

11. How offensive do you think the general population might find this tweet?

Answer on a 5-point Likert Scale from “Not at all” (1) to “a great deal” (5).

## Appendix 5: Summary of Drop-Outs Survey Two

Question	Male-Targeted Tweet	Female- Targeted Tweet
Q1	<b>20</b>	<b>43</b>
Q2	0	29
Q3	<b>32</b>	<b>51</b>
Q4	10	32
Q5	12	34
Q6	<b>40</b>	<b>59</b>
Q7	15	35
Q8	<b>50</b>	<b>66</b>
Q9	16	35
Q10	16	35
Q11	18	35

*Note: Bolded rows are drop-outs from qualitative responses.*

## **Appendix 6: Stereotype Threat Study 1 Tweets**

### **Gender-Mathematic Stereotype Tweets**

Tweet 1: This proves that women suck at math.

Tweet 2: OECD Fact: Boys outperform girls in math in most countries, while girls outperform boys in reading in most countries. (link to image)

Tweet 3: People who advocate open doors for migrants have big hearts and no math skills. Surprise, they're mostly women.

Tweet 4: Inconvenient facts about male/female math scores. Trigger warning: (link to image)

### **Gender-Mathematic Counter-Stereotype Tweets**

Tweet 1: If you're female & you want to persue STEM, do it. You go girl. We need more women in science & math.

Don't let anyone tell you you can't.

Tweet 2: Yes, women are - obviously - good at math! (in retweet to WomenYouShouldKnow@WomenYSK)

Tweet 3: More women than men study #STEM subjects at university: ow.ly.UYn5e #oneminutemonday

Tweet 4: More women than men complete postgraduate STEM degrees in NSW ow.ly/11dp304PnwW

### **Neutral Replacement Tweets (substituted in placement of the above Tweets in the Neutral Condition)**

Tweet 1: [retweet of a BBC News tweet about air travel]

Tweet 2: I don't care which toilet you use, so long as you don't make a mess for the rest of us.

Tweet 3: TIL you can't pawn your dentures in Las Vegas! Can't even sell them on eBay!

Tweet 4: OMG can't believe that just happened #drama

### **Neutral Tweets Present in all Conditions**

Tweet 1: just tried avocado on toast-wasnt bad

Tweet 2: career advice: double check contact info on your CV #gmailnotmgail

Tweet 3: regardless of weather, a British person will always find something to complain about #toohotnowtoowet

Tweet 4: [Retweeted with] sums up my morning nicely: VeryBritishProblems. @SoVeryBritish, Having a meeting to discuss what happened in the last meeting and what to prepare for the next meeting

Tweet 5: turn my head for one second and my cat's drinking my tea. It belongs to the cat now #WhoOwnsWho #CatsAreEvil

Tweet 6: Hearing about the episode lengths of S7 of #GameofThrones is getting me more and more excited #WhatIsHypeMayNeverDie

## Appendix 7: Mathematical Test (with sources) for Stereotype Threat Studies

### 1 and 2, with Correct Answers in Bold.

1. Which of the following is **NOT** the sum of two prime numbers?<sup>10</sup>

- A** 5                      **B** 7                      **C** 9                      **D** 11

2. How many centimetres are there in 3.7 metres?<sup>11</sup>

- A** 0.037                **B** 0.37                **C** 37                    **D** 370

3. Which of these numbers is one more than a multiple of 5?<sup>12</sup>

- A** 15                      **B** 19                      **C** 26                      **D** 30

4. Which of these numbers is 6 less than -1.4?<sup>12</sup>

- A** -8.4                    **B** -7.4                    **C** -2.0                    **D** 4.6

5. Simplify  $x + x + y \times y$ <sup>12</sup>

- A**  $x^2 + y^2$             **B**  $2x + 2y$             **C**  $2x + y^2$             **D**  $2xy^2$

6. Which value is closest to  $\frac{2}{3}$ ?<sup>13</sup>

- A** 0.6                      **B** 0.66                      **C** **0.667**                      **D** 0.67

7. Solve  $3x - 6 = 21$ <sup>14</sup>

- A**  $x = 6$                     **B**  $x = 7$                     **C**  $x = 8$                     **D**  $x = 9$

8. Which of the following is closest to zero?<sup>15</sup>

- A**  $3 + 5 + 2$     **B**  **$3 + 5 - 2$**     **C**  $3 + (5 \times 2)$     **D**  $3 - (5 \times 2)$

---

<sup>10</sup> Sourced & simplified from: UK intermediate mathematical challenge April 2016 paper

<sup>11</sup> Source from: AQA GCSE mathematics specification 8300/1F

<sup>12</sup> Sourced and adapted into multiple choice from: AQA GCSE mathematics specification 8300/2F

<sup>13</sup> Sourced from: AQA GCSE mathematics specification 8300/3F

<sup>14</sup> Sourced, adapted to multiple choice & simplified from: AQA GCSE mathematics 43602H (Nov 2015)

<sup>15</sup> Sourced & simplified from UK junior mathematical challenge April 2016 paper

9. What number is twenty-one less than sixty thousand?<sup>15</sup>

- A 59 979**    **B 59 981**    **C 57 900**    **D 40 001**

10. In January 1854, an eight-year-old boy dropped a newly-hatched eel into a well in Sweden (apparently to keep the water free of insects). The eel finally died in August 2014.

How old was the eel when it died?<sup>15</sup>

- A 140**    **B 150**    **C 160**    **D 170**

11. Gill is now 28 years old and is a teacher of Mathematics at a school which has 600 pupils.

There are 30 more girls than boys at the school.

How many girls are there at Gill's school?<sup>15</sup>

- A 270**    **B 300**    **C 315**    **D 330**

12. One of the three symbols, +, -, x is inserted somewhere between the digits of 2016 to give a new number. For example,  $20 - 16$  gives 4.

How many of the following numbers can be obtained this way?<sup>15</sup>

195    207    320

- A 0**    **B 1**    **C 2**    **D 3**

13. There are 25 passengers on a bus. The bus stops at a station. 13 passengers get off the bus. 20 passengers get on the bus. The bus is full when there are 58 passengers on it. How many more passengers can the bus take?<sup>16</sup>

- A 25**    **B 26**    **C 27**    **D 28**

---

<sup>16</sup> Sourced & adapted from: Pearson Edexcel GCSE Mathematics A Paper 1 Foundation tier (1MA0/1F) Nov. 2015



14. What is the value of  $\frac{1}{25} + 0.25$ ?<sup>15</sup>

**A 0.29**

**B 0.3**

**C 0.35**

**D 0.50**

15. A distance of 8 km is approximately 5 miles.

Which of the following is closest to 1.2 km?<sup>15</sup>

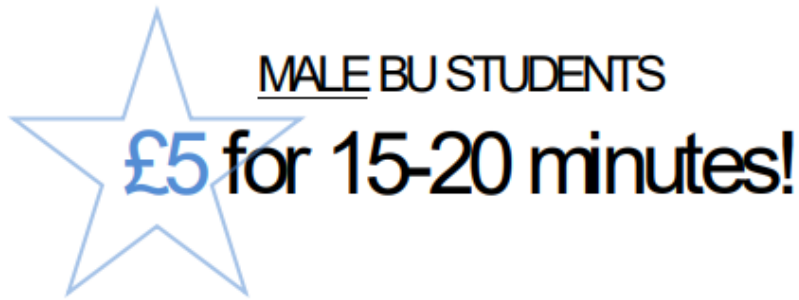
**A 0.75**

**B 1 mile**

**C 1.2 miles**

**D 1.6 miles**

Appendix 8: Poster for Stereotype Threat Study 1



STUDY INVESTIGATING THE USE OF SOCIAL  
MEDIA ON COGNITIVE PERFORMANCE

View a twitter feed then complete a questionnaire

IF INTERESTED CONTACT RACHEL SKINNER

[rskinner@bournemouth.ac.uk](mailto:rskinner@bournemouth.ac.uk)

<a href="mailto:rskinner@bournemouth.ac.uk">rskinner@bournemouth.ac.uk</a>
<a href="mailto:rskinner@bournemouth.ac.uk">rskinner@bournemouth.ac.uk</a>
<a href="mailto:rskinner@bournemouth.ac.uk">rskinner@bournemouth.ac.uk</a>
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<a href="mailto:rskinner@bournemouth.ac.uk">rskinner@bournemouth.ac.uk</a>
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<a href="mailto:rskinner@bournemouth.ac.uk">rskinner@bournemouth.ac.uk</a>
<a href="mailto:rskinner@bournemouth.ac.uk">rskinner@bournemouth.ac.uk</a>
<a href="mailto:rskinner@bournemouth.ac.uk">rskinner@bournemouth.ac.uk</a>

## **Appendix 9: Stereotype Threat Study 2 Additional Stereotypic Tweets**

Tweet 1: Too bad God didn't give women equal ability in science and math or you might have made an actual point.

Blahahaha

Tweet 2: girls just want ONE thing and it's to never have to do math ever again

Tweet 3: Men aren't trash, women are just stupid

Tweet 4: Fact: Pretty girls are not good in solving Math problems.

Tweet 5: women are hot but unfortunately they are dumb

Tweet 6: women are idiots

**Appendix 10: Victim Blame Tweets (for misogyny condition, all pronouns reversed for misandry condition)**

Tweet 1: I saw a girl wearing a “Feminist” hoodie. I decided to just let her keep thinking that, as a white female, she’s oppressed by men. Good luck, Becky.

Tweet 2: I don’t wanna hear about all this feminist bullshit. Unless your mouth is around my cock you should just keep it closed.

Tweet 3: #agoodwoman knows how to shut the fuck up

Tweet 4: How many feminists does it take to change a lightbulb? None, feminists can’t change anything #lol #feminismsucks

Tweet 5: Get you a girl who will make you a sandwich even when they are running late for work #wifeymaterial

Tweet 6: #rulesforgirls when we say we wanna watch football, that means no cleaning, no talking, no form or interaction. We will Chris Brown you.

### **Appendix 11: Crime Scenarios in Order Presented (Woman as Victim).**

You will now be asked to assign blame to parties involved in criminal scenarios. You will be asked to assign blame on a scale of 0 to 10 (i.e. if you think the perpetrator is at fault, you could rate them a 7 out of 10). Your ratings do not have to add up to 10 if you do not wish (i.e. if you think both parties are at fault, you can assign 10 to both parties if you wish). You will also be asked to rate the probability that the crime is a false allegation from the victim/police.

**CONTENT WARNING: due to the sexual and violent nature of the scenarios you are about to view, please alert the researcher if you either need a short break, do not wish to evaluate a specific scenario, or wish to withdraw from the study altogether. You may withdraw halfway through scenarios if you wish.**

## SCENARIO 1.

Jessica recently received her first student loan instalment and has been taking advantage of her student discount while online shopping. A few days after ordering some new trainers, Jessica received an email showing a payment receipt for some wireless headphones that she had not ordered. The email appeared to be authentic with an official logo and layout, however there were several spelling mistakes within the email and the email address looked unusual. The email instructed Jessica to click on a hyperlink that would allow her to cancel the order. Jessica followed this link and input some personal information including her Apple ID password and bank details. Several days later Jessica checked her bank balance and found that a transaction of over £3,000 had been taken from her account. Jessica was unaware that the email she received was fake and was actually sent by Kevin, a cybercriminal. Kevin sends these types of emails to hundreds of individuals and uses the personal information to steal large amounts of money anonymously.

How much do you blame the victim of the scenario (0 – 10)?

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How much do you blame the perpetrator of the scenario (0 – 10)?

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How likely do you think it is that the perpetrator has been falsely accused (0 – 100%)?

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## SCENARIO 2.

After a night out at the pub with her friends, Kate began the 20 minute walk back to her apartment. Her friends offered to call her taxi but Kate insisted that she wanted to walk and set off alone. 5 minutes into the walk Kate was approached by a man who began complimenting her and questioning her about her night. Feeling uneasy she nodded her thanks for the compliment and quickly crossed to the other side of the road. The man continued to follow her and began to get agitated as she ignored his verbal advances. Now 10 minutes from home, Kate decided to cut through an alley in an attempt to get away from the man and get home faster. The man ran into the alley behind her and pulled a knife out of his jacket. While holding the knife to her throat he forced sexual intercourse and immediately upon completion fled the scene.

How much do you blame the victim of the scenario (0 – 10)?

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How much do you blame the perpetrator of the scenario (0 – 10)?

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How likely do you think it is that the perpetrator has been falsely accused (0 – 100%)?

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### SCENARIO 3.

After having matched on Tinder, Janet and Ben have spent two weeks exchanging messages and pictures over text. They decided it was time to meet in person and Janet suggests they meet at a local restaurant after work one Thursday evening. They spend several hours sharing food and drinks and talking. Janet, enjoying Ben's company and not yet wanting the evening to end asks Ben if he would like to come back to her apartment for a coffee, and he agrees. Once at her apartment, Ben leans in for a kiss and Janet is receptive. As things progress, Janet pulls away and expresses that she is not comfortable with anything more than kissing on the first date. Ben continues to kiss Janet and begins to remove her clothes. Janet remarks that she is unsure about Ben removing her trousers but finds that he is unresponsive. Janet becomes tense and stops reciprocating Ben's actions, as he proceeds to have sexual intercourse with her.

How much do you blame the victim of the scenario (0 – 10)?

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How much do you blame the perpetrator of the scenario (0 – 10)?

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How likely do you think it is that the perpetrator has been falsely accused (0 – 100%)?

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#### SCENARIO 4.

Jamie decided to surprise his wife, Rachel, by arriving home a couple of hours early from a business trip. However, when he arrived at his house he noticed an unfamiliar car parked outside. Upon entering the house, he notices a man's jacket and shoes by the front door. Angrily, Jamie runs up the stairs and heads towards the master bedroom. The bedroom door is open, and before he steps into the room he can already see his wife having sex with another man. Before the pair can react, Jamie grabs the man by the neck and throws him off his wife. He then grabs the lamp sitting on the bedside table and swings it down hard on his wife's head, smashing her skull.

How much do you blame the victim of the scenario (0 – 10)?

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How much do you blame the perpetrator of the scenario (0 – 10)?

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How likely do you think it is that the perpetrator has been falsely accused (0 – 100%)?

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## SCENARIO 5.

After a series of rapes on a local university campus, campus police advised students to avoid walking alone along the dark path between the library and student village, as this is where all of the rapes had occurred. Campus police told women that the path was not safe until lights could be installed and operated. 30 minutes before the library closed, Helen realised her boyfriend would be calling her dorm room in 10 minutes. This was her only chance to talk with him this week and Helen did not want to miss his call. Although she was fully aware of the previous rapes and warnings from police, she decided that the only way she could arrive back at her dorm in time would be to take the path. Halfway to her dorm, Helen is pulled off the path and into the bushes where she is forced to have sexual intercourse with a man wielding no weapon but strong enough to keep his hand over her mouth.

How much do you blame the victim of the scenario (0 – 10)?

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How much do you blame the perpetrator of the scenario (0 – 10)?

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How likely do you think it is that the perpetrator has been falsely accused (0 – 100%)?

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## SCENARIO 6.

When her parents went out of town 17-year-old Sarah decided to throw a house party. Her friend from school, John was in attendance, and the two spent most of the night talking, laughing and dancing together. After several drinks, both Sarah and John were heavily intoxicated. The party had grown increasingly loud and John asked Sarah if they could go somewhere quiet to talk. She lead him upstairs so they could continue their conversation in the privacy of her bedroom. Once upstairs, John closed the bedroom door and began kissing Sarah. She laughed, pushed him away and told him she did not think of him in that way. John, hurt by her dismissal began to protest that he believed she did in fact have feelings for him, as she had been flirting with him all night. Sarah, no longer listening to what John was saying, lay down on her bed and informed John that she drank too much as she was no longer feeling well. John lay down on the bed next to her and again began kissing her while trying to remove her clothes. Sarah lay unresponsive on the bed as John proceeded to have sex with her. Afterwards, John passes out in her bed next to her and upon waking, neither have a clear recollection of what transpired the night before.

How much do you blame the victim of the scenario (0 – 10)?

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How much do you blame the perpetrator of the scenario (0 – 10)?

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How likely do you think it is that the perpetrator has been falsely accused (0 – 100%)?

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## SCENARIO 7.

Melissa, a local business owner, made the decision to not install CCTV or security in her shop due to the expense. One day, she decided to close her store early in order to attend the birthday party of a close friend. Shortly before close, a suspicious looking man entered the shop, spent a few minutes looking around and quickly left the store after Melissa asked him if he needed any help. Melissa closed the store and as she left, noticed the same man peering into the windows of other shops on the street. She felt uneasy about the man, but did not want to be late to her friend's party and decided to forget about it. The next day, she arrived at her store to find that it had been broken into and robbed. The thief had stolen over £1000 in merchandise and caused £5000 in damages.

How much do you blame the victim of the scenario (0 – 10)?

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How much do you blame the perpetrator of the scenario (0 – 10)?

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How likely do you think it is that the perpetrator has been falsely accused (0 – 100%)?

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## SCENARIO 8.

Chris decided to go out with his friends for a few drinks. As he had an early start in the morning he decided he would take the car, and not drink too much. However, once he meets up with his friends, and the drinks begin to flow, Chris and all his friends get intoxicated. As the night draws to a close, Chris decides he will still be okay to drive the short 10 minutes home. However, whilst driving home he fails to pay attention to the pelican crossing, and hits Laura with his car. Laura, a mother of 3, had gone for a quiet drink after work with some of her colleagues. As it was cold outside she was wearing a thick black coat, making her difficult to see in the dark. Laura died on impact.

How much do you blame the victim of the scenario (0 – 10)?

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How much do you blame the perpetrator of the scenario (0 – 10)?

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How likely do you think it is that the perpetrator has been falsely accused (0 – 100%)?

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## SCENARIO 9.

After spending months looking for her dream holiday, Laura booked 2 weeks in the Dominican Republic for her and her boyfriend. On the day they were leaving Laura posted the following status on Facebook “I can’t wait for 2 weeks of sunshine in the Caribbean! Not looking forward to coming back to a cold and empty house!” She followed by posting a picture of her and her boyfriend at the airport. Jack is friends with Laura on Facebook, they used to go to school together but they have not spoken in over 10 years. Jack saw the social media post and knows where Laura is currently living. A few days into Laura’s holiday Jack broke into the back door of her house and stole up to £4000 worth items.

How much do you blame the victim of the scenario (0 – 10)?

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How much do you blame the perpetrator of the scenario (0 – 10)?

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How likely do you think it is that the perpetrator has been falsely accused (0 – 100%)?

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## SCENARIO 10.

Every Wednesday, Sally's husband, Dean, goes out with his friends for a night of drinking. Every week, he stumbles in the door at approximately 2 a.m. and gets into bed with Sally, removing his clothes, and still smelling of smoke and alcohol, and has sexual intercourse with his wife. Sally, not keen on the smell of smoke or alcohol has slowly come to despise these nights and on this particular Wednesday night, she decides that she has had enough. This time, when Dean comes home, he gets into bed, and approaches Sally, she pushes him off and tells him she doesn't want to have sex. Dean is unresponsive to Sally's verbal and physical protests and uses his physical strength and body weight to have sex with her.

How much do you blame the victim of the scenario (0 – 10)?

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How much do you blame the perpetrator of the scenario (0 – 10)?

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How likely do you think it is that the perpetrator has been falsely accused (0 – 100%)?

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## SCENARIO 11.

Ted and Charlie were out celebrating Ted's 21st birthday. After several drinks at their local bar, Charlie suggested that they pay a visit to Connie - a local prostitute. Without invitation, they arrived at her door where she informed them that she was not working that evening. Charlie insisted that since it was Ted's birthday she allow them in for a drink or to do a quick line of coke. Connie let the two men into her apartment and joined them in sharing the cocaine, upon which time she asked them to leave. Ted and Charlie said they would leave as soon as she gave Ted his "birthday lay". Connie refused, but Charlie pushed her onto the sofa, stripped off her clothes, and despite her verbal and physical protests, forced her to have sexual intercourse. Ted then took his turn, but at this point Connie put up no resistance and simply told them both to get out as soon as Ted had finished. Charlie tossed 50 pounds (twice the amount Connie charged Charlie on his last visit with her) onto the table and they both left the apartment.

How much do you blame the victim of the scenario (0 – 10)?

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How much do you blame the perpetrator of the scenario (0 – 10)?

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How likely do you think it is that the perpetrator has been falsely accused (0 – 100%)?

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## SCENARIO 12.

Kelly, now 25, first tried heroin when she was 18. Since then, she has become addicted, and now spends £30 a day on heroin in order to support her habit. However, Kelly is unable to hold down a stable job and therefore she has problems finding enough money to maintain her drug taking. She made her usual arrangement with her drug dealer 'J' even though she knew she did not have the money to pay him. Once with him, she tries to grab the drugs and run, however, 'J' reacts too quickly and pulls out a knife. 'J' stabs Kelly in the abdomen and takes his drugs back.

How much do you blame the victim of the scenario (0 – 10)?

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How much do you blame the perpetrator of the scenario (0 – 10)?

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How likely do you think it is that the perpetrator has been falsely accused (0 – 100%)?

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## **Appendix 12: Crime Scenarios in Order Presented (Man as Victim).**

You will now be asked to assign blame to parties involved in criminal scenarios. You will be asked to assign blame on a scale of 0 to 10 (i.e. if you think the perpetrator is at fault, you could rate them a 7 out of 10). Your ratings do not have to add up to 10 if you do not wish (i.e. if you think both parties are at fault, you can assign 10 to both parties if you wish). You will also be asked to rate the probability that the crime is a false allegation from the victim/police.

**CONTENT WARNING: due to the sexual and violent nature of the scenarios you are about to view, please alert the researcher if you either need a short break, do not wish to evaluate a specific scenario, or wish to withdraw from the study altogether. You may withdraw halfway through scenarios if you wish.**

## SCENARIO 1.

Kevin recently received his first student loan instalment and has been taking advantage of his student discount while online shopping. A few days after ordering some new trainers, Kevin received an email showing a payment receipt for some wireless headphones that he had not ordered. The email appeared to be authentic with an official logo and layout, however there were several spelling mistakes within the email and the email address looked unusual. The email instructed Kevin to click on a hyperlink that would allow him to cancel the order. Kevin followed this link and input some personal information including his Apple ID password and bank details. Several days later Kevin checked his bank balance and found that a transaction of over £3,000 had been taken from his account. Kevin was unaware that the email he received was fake and was actually sent by Jessica, a cybercriminal. Jessica sends these types of emails to hundreds of individuals and uses the personal information to steal large amounts of money anonymously.

How much do you blame the victim of the scenario (0 – 10)?

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How much do you blame the perpetrator of the scenario (0 – 10)?

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How likely do you think it is that the perpetrator has been falsely accused (0 – 100%)?

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## SCENARIO 2.

After a night out at the pub with his friends, Kyle began the 20 minute walk back to his apartment. His friends offered to call him taxi but Kyle insisted that he wanted to walk and set off alone. 5 minutes into the walk Kyle was approached by a woman who began complimenting him and questioning him about his night. Feeling uneasy he nodded his thanks for the compliment and quickly crossed to the other side of the road. The woman continued to follow him and began to get agitated as he ignored her verbal advances. Now 10 minutes from home, Kyle decided to cut through an alley in an attempt to get away from the woman and get home faster. The woman ran into the alley behind him and pulled a knife out of her jacket. While holding the knife to his throat she forced sexual intercourse and immediately upon completion fled the scene.

How much do you blame the victim of the scenario (0 – 10)?

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How much do you blame the perpetrator of the scenario (0 – 10)?

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How likely do you think it is that the perpetrator has been falsely accused (0 – 100%)?

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### SCENARIO 3.

After having matched on Tinder, Ben and Janet have spent two weeks exchanging messages and pictures over text. They decided it was time to meet in person and Ben suggests they meet at a local restaurant after work one Thursday evening. They spend several hours sharing food and drinks and talking. Ben, enjoying Janet's company and not yet wanting the evening to end asks Janet if she would like to come back to his apartment for a coffee, and she agrees. Once at his apartment, Janet leans in for a kiss and Ben is receptive. As things progress, Ben pulls away and expresses that he is not comfortable with anything more than kissing on the first date. Janet continues to kiss Ben and begins to remove his clothes. Ben remarks that he is unsure about Janet removing his trousers but finds that she is unresponsive. Ben becomes tense and stops reciprocating Janet's actions, as she proceeds to have sexual intercourse with him.

How much do you blame the victim of the scenario (0 – 10)?

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How much do you blame the perpetrator of the scenario (0 – 10)?

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How likely do you think it is that the perpetrator has been falsely accused (0 – 100%)?

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#### **SCENARIO 4.**

Rachel decided to surprise her husband, Jamie, by arriving home a couple of hours early from a business trip. However, when she arrived at her house she noticed an unfamiliar car parked outside. Upon entering the house, she notices a woman's jacket and shoes by the front door. Angrily, Rachel runs up the stairs and heads towards the master bedroom. The bedroom door is open, and before she steps into the room she can already see her husband having sex with another woman. Before the pair can react, Rachel grabs the woman by the neck and throws her off her husband. She then grabs the lamp sitting on the bedside table and swings it down hard on her husband's head, smashing his skull.

How much do you blame the victim of the scenario (0 – 10)?

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How much do you blame the perpetrator of the scenario (0 – 10)?

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How likely do you think it is that the perpetrator has been falsely accused (0 – 100%)?

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## SCENARIO 5.

After a series of rapes on a local university campus, campus police advised students to avoid walking alone along the dark path between the library and student village, as this is where all of the rapes had occurred. Campus police told men that the path was not safe until lights could be installed and operated. 30 minutes before the library closed, Henry realised his girlfriend would be calling his dorm room in 10 minutes. This was his only chance to talk with her this week and Henry did not want to miss her call. Although he was fully aware of the previous rapes and warnings from police, he decided that the only way he could arrive back at his dorm in time would be to take the path. Halfway to his dorm, Henry is pulled off the path and into the bushes where he is forced to have sexual intercourse with a woman wielding no weapon but strong enough to keep her hand over his mouth.

How much do you blame the victim of the scenario (0 – 10)?

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How much do you blame the perpetrator of the scenario (0 – 10)?

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How likely do you think it is that the perpetrator has been falsely accused (0 – 100%)?

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## SCENARIO 6.

When his parents went out of town 17-year-old John decided to throw a house party. His friend from school, Sarah was in attendance, and the two spent most of the night talking, laughing and dancing together. After several drinks, both Sarah and John were heavily intoxicated. The party had grown increasingly loud and Sarah asked John if they could go somewhere quiet to talk. He lead her upstairs so they could continue their conversation in the privacy of his bedroom. Once upstairs, Sarah closed the bedroom door and began kissing John. He laughed, pushed her away and told her he did not think of her in that way. Sarah, hurt by his dismissal began to protest that she believed he did in fact have feelings for her, as he had been flirting with her all night. John, no longer listening to what Sarah was saying, lay down on his bed and informed Sarah that he drank too much as he was no longer feeling well. Sarah lay down on the bed next to him and again began kissing him while trying to remove his clothes. John lay unresponsive on the bed as Sarah proceeded to have sex with him. Afterwards, Sarah passes out in his bed next to him and upon waking, neither have a clear recollection of what transpired the night before.

How much do you blame the victim of the scenario (0 – 10)?

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How much do you blame the perpetrator of the scenario (0 – 10)?

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How likely do you think it is that the perpetrator has been falsely accused (0 – 100%)?

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## SCENARIO 7.

Michael, a local business owner, made the decision to not install CCTV or security in his shop due to the expense. One day, he decided to close his store early in order to attend the birthday party of a close friend. Shortly before close, a suspicious looking woman entered the shop, spent a few minutes looking around and quickly left the store after Michael asked her if she needed any help. Michael closed the store and as he left, noticed the same woman peering into the windows of other shops on the street. He felt uneasy about the woman, but did not want to be late to his friend's party and decided to forget about it. The next day, he arrived at his store to find that it had been broken into and robbed. The thief had stolen over £1000 in merchandise and caused £5000 in damages.

How much do you blame the victim of the scenario (0 – 10)?

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How much do you blame the perpetrator of the scenario (0 – 10)?

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How likely do you think it is that the perpetrator has been falsely accused (0 – 100%)?

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## SCENARIO 8.

Laura decided to go out with her friends for a few drinks. As she had an early start in the morning she decided she would take the car, and not drink too much. However, once she meets up with her friends, and the drinks begin to flow, Laura and all her friends get intoxicated. As the night draws to a close, Laura decides she will still be okay to drive the short 10 minutes home. However, whilst driving home she fails to pay attention to the pelican crossing, and hits Chris with her car. Chris, a father of 3, had gone for a quiet drink after work with some of his colleagues. As it was cold outside he was wearing a thick black coat, making him difficult to see in the dark. Chris died on impact.

How much do you blame the victim of the scenario (0 – 10)?

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How much do you blame the perpetrator of the scenario (0 – 10)?

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How likely do you think it is that the perpetrator has been falsely accused (0 – 100%)?

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## SCENARIO 9.

After spending months looking for his dream holiday, Jack booked 2 weeks in the Dominican Republic for him and his girlfriend. On the day they were leaving Jack posted the following status on Facebook “I can’t wait for 2 weeks of sunshine in the Caribbean! Not looking forward to coming back to a cold and empty house!” He followed by posting a picture of him and his girlfriend at the airport. Laura is friends with Jack on Facebook, they used to go to school together but they have not spoken in over 10 years. Laura saw the social media post and knows where Jack is currently living. A few days into Jack’s holiday Laura broke into the back door of his house and stole up to £4000 worth items.

How much do you blame the victim of the scenario (0 – 10)?

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How much do you blame the perpetrator of the scenario (0 – 10)?

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How likely do you think it is that the perpetrator has been falsely accused (0 – 100%)?

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## SCENARIO 10.

Every Wednesday, Dean's wife, Sally, goes out with her friends for a night of drinking. Every week, she stumbles in the door at approximately 2 a.m. and gets into bed with Dean, removing her clothes, and still smelling of smoke and alcohol, and has sexual intercourse with her husband. Dean, not keen on the smell of smoke or alcohol has slowly come to despise these nights and on this particular Wednesday night, he decides that he has had enough. This time, when Sally comes home, she gets into bed, and approaches Dean, he pushes her off and tells her he doesn't want to have sex. Sally is unresponsive to Dean's verbal and physical protests and uses her physical strength and body weight to have sex with him.

How much do you blame the victim of the scenario (0 – 10)?

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How much do you blame the perpetrator of the scenario (0 – 10)?

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How likely do you think it is that the perpetrator has been falsely accused (0 – 100%)?

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## SCENARIO 11.

Tara and Charlotte were out celebrating Tara's 21st birthday. After several drinks at their local bar, Charlotte suggested that they pay a visit to Conrad - a local prostitute. Without invitation, they arrived at his door where he informed them that he was not working that evening. Charlotte insisted that since it was Tara's birthday he allow them in for a drink or to do a quick line of coke. Conrad let the two women into his apartment and joined them in sharing the cocaine, upon which time he asked them to leave. Tara and Charlotte said they would leave as soon as he gave Tara her "birthday lay". Conrad refused, but Charlotte pushed him onto the sofa, stripped off his clothes, and despite his verbal and physical protests, forced him to have sexual intercourse. Tara then took her turn, but at this point Conrad put up no resistance and simply told them both to get out as soon as Tara had finished. Charlotte tossed 50 pounds (twice the amount Conrad charged Charlotte on her last visit with him) onto the table and they both left the apartment.

How much do you blame the victim of the scenario (0 – 10)?

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How much do you blame the perpetrator of the scenario (0 – 10)?

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How likely do you think it is that the perpetrator has been falsely accused (0 – 100%)?

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## **SCENARIO 12.**

Carl, now 25, first tried heroin when he was 18. Since then, he has become addicted, and now spends £30 a day on heroin in order to support his habit. However, Carl is unable to hold down a stable job and therefore he has problems finding enough money to maintain his drug taking. He made his usual arrangement with his drug dealer 'J' even though he knew he did not have the money to pay her. Once with her, he tries to grab the drugs and run, however, 'J' reacts too quickly and pulls out a knife. 'J' stabs Carl in the abdomen and takes her drugs back.

How much do you blame the victim of the scenario (0 – 100%)?

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How much do you blame the perpetrator of the scenario (0 – 100%)?

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How likely do you think it is that the perpetrator has been falsely accused (0 – 100%)?

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**PLEASE ALERT THE RESEARCHER WHEN YOU HAVE  
FINISHED THIS SECTION**

### Appendix 13: Victim Blame Twitter Interactivity ASI Change ANCOVAs

*ANCOVA Results for Twitter Interactivity and Social Media Use as Covariates for Sexism Changes.*

<b>Variables</b>	<b><i>F</i></b>	<b><i>df</i></b>	<b><i>MSE</i></b>	<b><i>p</i></b>	<b><math>\eta_p^2</math></b>
<b>ASI</b>					
<b>Interactivity</b>	0.17	2, 75	0.03	.856	<.01
<b>Social Media Frequency</b>	0.47	1, 75	0.07	.494	.01
<b>Social Media Time</b>	0.11	1, 75	0.02	.747	<.01
<b>HSS</b>					
<b>Interactivity</b>	0.11	2, 75	0.03	.901	<.01
<b>Social Media Frequency</b>	0.27	1, 75	0.08	.603	<.01
<b>Social Media Time</b>	0.30	1, 75	0.08	.589	<.01
<b>BSS</b>					
<b>Interactivity</b>	0.20	2, 75	0.04	.823	.01
<b>Social Media Frequency</b>	0.40	1, 75	0.07	.530	.01
<b>Social Media Time</b>	0.01	1, 75	<0.01	.942	<.01

*ANCOVA Results for Victim Gender and Social Media Use as Covariates for Sexism Changes.*

<b>Variables</b>	<b>F</b>	<b>df</b>	<b>MSE</b>	<b>p</b>	<b><math>\eta^2_p</math></b>
<b>ASI</b>					
<b>Victim Gender</b>	0.91	1, 59	0.12	.345	.02
<b>Social Media Frequency</b>	3.67	1, 59	0.47	.060	.058
<b>Social Media Time</b>	0.08	1, 59	0.01	.781	<.01
<b>HSS</b>					
<b>Victim Gender</b>	1.43	1, 59	0.27	.237	.02
<b>Social Media Frequency</b>	5.02	1, 59	0.93	.029	.08
<b>Social Media Time</b>	0.78	1, 59	0.15	.380	.01
<b>BSS</b>					
<b>Victim Gender</b>	0.15	1, 59	0.03	.703	<.01
<b>Social Media Frequency</b>	0.87	1, 59	0.17	.354	.02
<b>Social Media Time</b>	0.17	1, 59	0.03	.678	<.01



## Appendix 13: Rape Occurrence Survey Poster



Complete a 10 minute survey for  
a chance to win **£100** cash  
prize!



Enter the survey by following the QR code above.

**WARNING:** The following survey concerns issues such as rape and sexual assault. If you are not comfortable submitting answers for that topic, you do not need to enter the survey.

Please note if you wish to enter the prize draw you need to follow the link to another survey at the end of the above survey. This is to ensure anonymity of your responses to the original survey.

Any enquiries about the survey can be sent to: [rskinner@bournemouth.ac.uk](mailto:rskinner@bournemouth.ac.uk)

Valid until the 5<sup>th</sup> of February 2018

## Appendix 14: Rape Occurrence Questionnaire

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### Start of Block: Information and consent

You are being asked to take part in a survey on the topic of sexual assault. Please take the time to read the information below to decide if you wish to take part. If you do decide to do so then you will be given the option to enter into a prize draw to win £100 cash. **Please note this survey is only open to students currently registered at Bournemouth University.**

**Study title** Understanding sexual assault at Bournemouth University

**Background** This research study is being conducted by members of the Department of Psychology (Rachel Skinner, Peter Hills, John McAlaney, & Terri Cole) at Bournemouth University. It aims to determine awareness of rape/attempted rape, participants understanding of the crime, and also occurrences of the crime at Bournemouth University. By conducting this research, we hope to develop a better understanding of how prevalent this offence is and what is people's understanding of sexual assault. From this we can use the data to determine if potential interventions are effective at reducing occurrences. This research is being funded internally by Bournemouth University.

**Why have I been chosen?** All Bournemouth University students have been invited to take part on this research study.

**Do I have to take part?** It is up to you to decide whether or not to take part. If you do decide to take part, you will be asked to proceed to the next page of this online survey, where you will be asked to give your agreement to take part in this research. You can withdraw at any time, up to the point of clicking on the 'Submit' button at the end of the survey, without it affecting any benefits that you are entitled to in any way. You do not have to give a reason. Deciding to take part or not will not impact upon/adversely affect your

education or studies at BU (or that of others). Please note that once you have submitted your questionnaire, we are unable to remove your anonymised response from the study. **What would taking part involve?** If you decide to take part in this study you will be asked to complete a survey. This survey will involve providing some details on your age and gender. Please note that no information will be recorded that could or will be used to identify you. You will then be asked to answer some questions regarding sexual assault. Afterwards, you will be asked for your university email address (i1234567/s1234567) so you can enter the prize draw, the email address will be kept separate from your survey responses to ensure anonymity of your responses to the main survey. However this is entirely voluntary. The survey takes approximately 15 minutes to complete. **What are the advantages and possible disadvantages or risks of taking part?** Whilst there are no immediate benefits for those people participating in the project, it is hoped that this work will improve understanding of what people know about sexual assault, how often sexual assault occurs, and therefore effectiveness in the intervention aimed to reduce occurrences. **How will my information be kept?** All the information we collect about you during the course of the research will be kept strictly in accordance with the Data Protection Act 1998. You will not be able to be identified in any reports or publications without your specific consent. All personal data relating to this study will be held for 5 years from the date of publication of the research. BU will hold the information we collect about you in hard copy in a secure location and on a BU password protected secure network where held electronically. Except where it has been anonymised, we will restrict access to your personal data to those individuals who have a legitimate reason to access it for the purpose or purposes for which it is held by us. The information collected about you may be used in

an anonymous form to support other research projects in the future and access to it in this form will not be restricted. It will not be possible for you to be identified from this data

**Consent** By completing the online survey you are consenting to take part in this study.

**What type of information will be sought from me and why is the collection of this information relevant for achieving the research project's objectives?** As outlined above you will be asked for your opinion on the topic of sexual assault. This information will help us meet our research objective of developing a better understanding of these issues.

**Contact for further information** If you have any queries about this research please contact Dr Peter Hills by email on [phills@bournemouth.ac.uk](mailto:phills@bournemouth.ac.uk) or by post to: Dr Peter Hills Department of Psychology Faculty of Science and Technology Bournemouth University BH12 9BB

**In case of complaints** If you have any concerns about this research please contact Professor Tiantian Zhang, Deputy Dean for Research & Professional Practice for the Faculty of Science & Technology by email to [researchgovernance@bournemouth.ac.uk](mailto:researchgovernance@bournemouth.ac.uk)

**Thank you for taking the time to read this information sheet, and please do not hesitate to contact the researcher if you have any queries.**

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**WARNING: The following questions will be on a sensitive topic. You will not be required to answer certain questions due to the sensitive nature. If you do not have to respond, this will be stated in the question/you will be given the option of "prefer not to say".**

The topic is sexual assault, if you would rather not answer any questions about this topic, you can withdraw now, by answering "No" to the following question. If during the survey you become uncomfortable and **wish to withdraw entirely from the survey, you can close the browser window.** Your answers to that point may be included in the research.

Do you wish to take part in the survey?

Yes

No

*Skip To: End of Survey If WARNING: The following questions will be on a sensitive topic. You will not be required to answer... = No*

End of Block: Information and consent

---

Start of Block: demographics

Q5 With what gender do you identify?

---

Q6 What is your age?

---

End of Block: demographics

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Start of Block: definition

Q15 What do you think the definition of rape/attempted is? Note that this does not have to be UK legal definition of rape.

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End of Block: definition

---

Start of Block: personal experiences

Q7 Have you ever been the victim of rape/attempted rape? You do not have to respond to this if you do not want to.

- Yes
  - No
  - Prefer not to say
-

Q8 Bournemouth University offers support to students who are victims of sexual assault. Are you aware of any of these services, and if so, which are you aware of?

- I am unaware of any services
- Yes, I am aware (specify services)

---

End of Block: personal experiences

---

Start of Block: acquaintance experiences

Q9 Do you personally know someone who has ever been the victim of rape/attempted rape? You do not have to respond to this if you do not want to.

- Yes
- No
- Prefer not to say

---

Q10 Bournemouth University offers support to students who are victims of sexual assault. Do you know if the person/people from the previous question are aware of any of these services, and if so, which are they aware of?

- They are unaware of any services
  - Yes, they are aware (specify services)
- 

End of Block: acquaintance experiences

---

Start of Block: support

Q11 If you have experienced, or know someone who has experienced sexual assault, the following services are available at the University for you (feel free to screenshot this list should you/someone need it in the future): [Counselling service](#) [Chaplaincy](#) If you or someone you know would like to report an assault to the police, please call 101 (non-emergency number). **In an emergency please call 999.** There are also national services available should you or someone you know need them: [Dorset Rape Crisis Support Centre](#) [Sexual Assault Referral Centre \(SARC\)](#) [Victim Support Dorset](#) [Samaritans Bournemouth](#) You can also go to your friends, family, or GP if you need support.

End of Block: support

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Start of Block: Prize Draw



Q16

Thank you for completing the survey.

Contact for further information If you have any queries about this research please contact Dr John McAlaney by email on [jmcalaney@bournemouth.ac.uk](mailto:jmcalaney@bournemouth.ac.uk) or by post to: Dr John McAlaney Department of Psychology Faculty of Science and Technology Bournemouth University BH12 9BB

Complaints If you have any concerns about this research please contact Professor Tiantian Zhang, Deputy Dean for Research & Professional Practice for the Faculty of Science & Technology by email to [researchgovernance@bournemouth.ac.uk](mailto:researchgovernance@bournemouth.ac.uk)

If you are a first/second year Psychology undergraduate and wish you receive participation credits for this survey, please follow the link below. If you wish to be entered into the prize draw for £100, please follow the link below. This is to ensure anonymity of your responses as you will have to enter your email address to be entered into the draw.

[https://bournemouthpsych.eu.qualtrics.com/jfe/form/SV\\_0odU6rvWogkJePH](https://bournemouthpsych.eu.qualtrics.com/jfe/form/SV_0odU6rvWogkJePH)

If you do not wish to be entered into the prize draw, you may close the browser window.

End of Block: Prize Draw

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## Appendix 15: Peer Norms Poster



Peer Norm Feedback Surveys  
Department of Psychology  
Researcher: Rachel Skinner  
Supervisor: Peter Arabaci Hills  
Ethics ID: FST29014  
Active dates: 03/02/2020 – 31/07/2020

### Participants Required

#### Changing Attitudes with Peer Norm Feedback.

##### Who do we need?

Any current undergraduate student enrolled at a UK University who is over the age of 18.

##### What is involved?

The study is done in 3 separate parts, all taking place 4 weeks after you have completed the previous part. After reading through the information sheet and providing consent, you will be asked a series of questions regarding gender and peer norm attitudes towards gender. You will then be asked to view some information, and then go to a separate survey to input your email address (so we can contact you with the next part of the survey).

Each survey is expected to take approximately 10-15 minutes each to complete (30-40 minutes overall).

As compensation for your time and effort, after the third and final part of the survey, you will be entered into a prize draw to win one of the following prizes: a new iPad (10.2"; 32GB), one of 2 £50 Amazon vouchers; one of 2 £25 Amazon vouchers, or one of 3 £10 Amazon vouchers. BU Psychology undergraduates will be awarded 0.25 SONA credits for each part they complete.

##### How do I get involved?

If you wish to participate, please either scan the QR code to be taken to the first survey, enter the URL, or email Rachel Skinner ([rskinner@bournemouth.ac.uk](mailto:rskinner@bournemouth.ac.uk)) for a link to the survey or enquiries.



<https://tinyurl.com/AttitudeStudy2020>

## Appendix 16: Peer Norm ASI & UIRMA Validation Tables

*Pearsons Correlation Matrix (r values) for Overall Ambivalent Sexism Inventory Scores. Bolded Entries are Non-Significant*

	ASI	B1	H2	B3	H4	H5	B6	H7	B8	B9	H10	H11	B12	B13	H14	H15	H16	B17	H18	B19	B20	H21	B22
ASI	1	.56	.69	.24	.65	.70	.57	.60	.51	.53	.63	.67	.51	.42	.66	.70	.65	.34	.43	.38	.46	.57	.36
B1	.56	1	.32	.14	.31	.26	.35	.16	.38	.28	.18	.27	.35	.32	.30	.39	.17	.33	<b>.09</b>	.25	.36	.15	.31
H2	.69	.32	1	<b>&lt;.01</b>	.52	.49	.35	.52	.27	.21	.51	.56	.25	.12	.48	.48	.58	<b>.10</b>	.27	.17	.32	.57	<b>.07</b>
B3	.24	.14	<b>&lt;.01</b>	1	<b>.07</b>	<b>.06</b>	.15	<b>.06</b>	.13	.13	<b>-.01</b>	<b>.01</b>	.17	.28	<b>.11</b>	<b>.10</b>	<b>-.06</b>	<b>-.01</b>	<b>.09</b>	<b>-.02</b>	<b>.10</b>	<b>.09</b>	<b>.12</b>
H4	.65	.31	.52	<b>.07</b>	1	.57	.30	.41	.26	.25	.52	.47	.23	.14	.53	.50	.52	<b>.11</b>	.26	<b>.04</b>	.19	.44	<b>.08</b>
H5	.70	.26	.49	<b>.06</b>	.57	1	.32	.43	.25	.32	.57	.54	.20	.21	.58	.49	.60	<b>.09</b>	.27	.16	.31	.42	.17
B6	.57	.35	.35	.15	.30	.32	1	.35	.25	.27	.30	.30	.28	.34	.38	.38	.33	<b>.11</b>	<b>.11</b>	.13	.29	.35	.14
H7	.60	.16	.52	<b>.06</b>	.41	.43	.35	1	.13	.15	.40	.48	.15	.17	.41	.48	.44	<b>.10</b>	.30	<b>.05</b>	.17	.59	<b>.08</b>
B8	.51	.38	.27	.13	.25	.25	.25	.13	1	.34	.18	.28	.25	.16	.20	.26	.21	.23	<b>.11</b>	.41	.20	<b>.11</b>	.41
B9	.53	.28	.21	.12	.25	.32	.27	.15	.34	1	.28	.27	.39	.20	.26	.30	.26	.32	.14	.27	.22	.13	.16
H10	.63	.18	.51	<b>-.01</b>	.52	.57	.30	.40	.18	.28	1	.44	.21	.13	.47	.43	.58	.13	.26	<b>.11</b>	.21	.43	<b>.08</b>
H11	.67	.27	.56	<b>.01</b>	.47	.55	.30	.48	.28	.27	.44	1	.25	.17	.42	.58	.53	.16	.28	.22	.26	.38	.12
B12	.51	.35	.25	.17	.23	.20	.28	.15	.25	.39	.21	.25	1	.29	.20	.31	.16	.25	.22	.20	.22	.15	<b>.11</b>
B13	.42	.32	.12	.28	.14	.21	.34	.17	.16	.20	.13	.17	.29	1	.22	.15	<b>.06</b>	<b>-.01</b>	.19	<b>.12</b>	.22	.21	<b>.10</b>
H14	.66	.30	.48	<b>.11</b>	.53	.58	.38	.41	.20	.26	.47	.42	.20	.22	1	.48	.50	<b>0.08</b>	.28	.18	.31	.34	.15
H15	.70	.39	.48	<b>.10</b>	.50	.49	.38	.48	.26	.30	.43	.58	.31	.15	.48	1	.49	.23	.27	.15	.30	.41	.18
H16	.65	.17	.58	<b>-.06</b>	.51	.60	.33	.44	.21	.26	.58	.53	.16	<b>.06</b>	.50	.49	1	<b>.10</b>	.27	.18	.20	.47	.15
B17	.34	.33	<b>.10</b>	<b>-.01</b>	<b>.11</b>	<b>.09</b>	<b>.11</b>	<b>.10</b>	.23	.32	.13	.16	.25	<b>-.01</b>	<b>.08</b>	.23	<b>.10</b>	1	<b>&lt;.01</b>	.20	.19	<b>.01</b>	.22
H18	.43	<b>.09</b>	.27	<b>.09</b>	.25	.27	<b>.11</b>	.30	<b>.11</b>	.14	.26	.28	.22	.19	.28	.27	.27	<b>&lt;.01</b>	1	<b>.07</b>	<b>.08</b>	.29	<b>.09</b>
B19	.37	.25	.17	<b>-.02</b>	<b>.04</b>	.16	.13	<b>.05</b>	.41	.27	<b>.11</b>	.22	.20	<b>.12</b>	.18	.15	.18	.20	<b>.07</b>	1	.12	<b>-.01</b>	.46
B20	.46	.36	.32	<b>.10</b>	.19	.31	.29	.14	.20	.22	.21	.26	.22	.22	.31	.30	.20	.19	<b>.08</b>	.12	1	.18	.16
H21	.57	.15	.57	<b>.09</b>	.44	.42	.35	.59	<b>.11</b>	.13	.43	.38	.15	.21	.34	.41	.47	<b>.01</b>	.29	<b>-.01</b>	.18**	1	<b>-.03</b>

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	<b>ASI</b>	<b>B1</b>	<b>H2</b>	<b>B3</b>	<b>H4</b>	<b>H5</b>	<b>B6</b>	<b>H7</b>	<b>B8</b>	<b>B9</b>	<b>H10</b>	<b>H11</b>	<b>B12</b>	<b>B13</b>	<b>H14</b>	<b>H15</b>	<b>H16</b>	<b>B17</b>	<b>H18</b>	<b>B19</b>	<b>B20</b>	<b>H21</b>	<b>B22</b>
<b>B22</b>	.36	.31	.07	.12	.08	.17	.14	.08	.41	.16	.08	.12	.11	.10	.15	.18	.15	.22	.09	.46	.16	-.03	1

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*Pearsons Correlation Matrix (r values) for Hostile Sexism Scores. All Correlations were Significant at  $p < .050$*

	<b>HS</b>	<b>H2</b>	<b>H4</b>	<b>H5</b>	<b>H7</b>	<b>H10</b>	<b>H11</b>	<b>H14</b>	<b>H15</b>	<b>H16</b>	<b>H18</b>	<b>H21</b>
<b>HS</b>	1	.77	.73	.77	.71	.72	.72	.70	.71	.77	.49	.69
<b>H2</b>	.77	1	.52	.49	.52	.51	.56	.48	.48	.58	.27	.57
<b>H4</b>	.73	.52	1	.57	.41	.52	.47	.53	.50	.52	.26	.44
<b>H5</b>	.77	.49	.57	1	.43	.57	.55	.58	.48	.60	.27	.42
<b>H7</b>	.71	.52	.41	.43	1	.40	.48	.41	.48	.44	.30	.59
<b>H10</b>	.72	.51	.52	.57	.40	1	.44	.47	.43	.58	.26	.43
<b>H11</b>	.72	.56	.47	.55	.48	.44	1	.42	.58	.53	.27	.38
<b>H14</b>	.70	.48	.53	.58	.41	.47	.42	1	.48	.50	.27	.34
<b>H15</b>	.71	.48	.50	.48	.48	.43	.58	.48	1	.49	.27	.40
<b>H16</b>	.77	.58	.52	.60	.44	.58	.53	.50	.49	1	.27	.47
<b>H18</b>	.49	.27	.26	.27	.30	.26	.27	.27	.27	.27	1	.29
<b>H21</b>	.69	.57	.44	.42	.59	.43	.38	.34	.40	.47	.29	1

*Pearsons Correlation Matrix (r values) for Benevolent Sexism Scores. All Correlations were Significant at  $p < .050$*

	<b>BS</b>	<b>B1</b>	<b>B3</b>	<b>B6</b>	<b>B8</b>	<b>B9</b>	<b>B12</b>	<b>B13</b>	<b>B17</b>	<b>B19</b>	<b>B20</b>	<b>B22</b>
<b>BS</b>	1	.66	.37	.55	.62	.61	.61	.53	.47	.52	.48	.52
<b>B1</b>	.66	1	.14	.35	.38	.28	.35	.32	.33	.25	.35	.31
<b>B3</b>	.37	.14	1	.15	.13	.13	.17	.28	<b>-.01</b>	<b>-.02</b>	<b>.10</b>	<b>.12</b>
<b>B6</b>	.55	.35	.15	1	.25	.27	.28	.34	<b>.11</b>	.13	.29	.14
<b>B8</b>	.62	.38	.13	.25	1	.34	.25	.16	.23	.41	.20	.41
<b>B9</b>	.61	.28	.13	.27	.34	1	.39	.20	.32	.27	.22	.16
<b>B12</b>	.61	.35	.17	.28	.25	.39	1	.29	.25	.20	.22	<b>.11</b>
<b>B13</b>	.53	.32	.28	.34	.16	.20	.29	1	<b>-.01</b>	<b>.12</b>	.22	<b>.10</b>
<b>B17</b>	.47	.33	<b>-.01</b>	<b>.11</b>	.23	.32	.25	<b>-.01</b>	1	.20	.19	.22
<b>B19</b>	.52	.25	<b>-.02</b>	.13	.41	.27	.20	<b>.12</b>	.20	1	.12	.46
<b>B20</b>	.48	.35	<b>.10</b>	.29	.20	.22	.22	.22	.19	.12	1	.16
<b>B22</b>	.52	.31	<b>.12</b>	.14	.41	.16	<b>.11</b>	<b>.10</b>	.22	.46	.16	1

*Pearsons Correlation Matrix (r values) for Updated Illinois Rape Myth Acceptance Scale. Bolded values are non-significant.*

	<b>RMA</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>	<b>11</b>	<b>12</b>	<b>13</b>	<b>14</b>	<b>15</b>	<b>16</b>	<b>17</b>	<b>18</b>	<b>19</b>	<b>20</b>	<b>21</b>	<b>22</b>
<b>RMA</b>	1	.50	.59	.50	.65	.52	.68	.53	.64	.56	.48	.37	.37	.38	.48	.40	<b>.07</b>	.48	.70	.70	.72	.60	.61
<b>1</b>	.50	1	.37	.33	.35	.37	.38	.21	.29	.23	.21	.16	<b>.06</b>	.23	.37	.36	.16	.21	.30	.28	.27	.16	.28
<b>2</b>	.59	.37	1	.27	.54	.31	.38	.22	.24	.25	.22	<b>.09</b>	.14	.35	.31	.24	<b>-.04</b>	.26	.38	.38	.48	.33	.35
<b>3</b>	.50	.33	.27	1	.38	.41	.37	.17	.30	.21	.15	<b>.09</b>	.17	.14	.39	.39	<b>-0.03</b>	.18	.34	.26	.36	.29	.31
<b>4</b>	.65	.35	.54	.38	1	.34	.50	.24	.43	.24	.32	<b>.10</b>	<b>.08</b>	.17	.23	.22	<b>.03</b>	.28	.42	.42	.46	.32	.41
<b>5</b>	.52	.37	.31	.41	.34	1	.36	.24	.31	.22	.29	.23	.14	.15	.39	.35	<b>.01</b>	<b>.12</b>	.30	.21	.35	.28	.24
<b>6</b>	.68	.38	.38	.37	.50	.36	1	.26	.41	.27	.26	.24	.23	.15	.38	.22	<b>.07</b>	.38	.43	.39	.46	.35	.38
<b>7</b>	.53	.21	.22	.17	.24	.24	.26	1	.40	.56	.26	<b>.08</b>	<b>.01</b>	.23	.23	.16	<b>-.01</b>	.21	.19	.27	.23	.18	.24
<b>8</b>	.64	.29	.24	.30	.43	.31	.41	.40	1	.37	.35	.24	.18	.31	.25	.22	<b>.09</b>	.19	.34	.37	.39	.33	.26
<b>9</b>	.56	.23	.25	.21	.24	.22	.27	.56	.37	1	.23	<b>.06</b>	.17	.26	.28	.16	<b>&lt;-.01</b>	.27	.27	.28	.27	.25	.21
<b>10</b>	.48	.21	.22	.15	.32	.29	.26	.26	.35	.23	1	.35	.28	.16	.13	<b>.06</b>	<b>.07</b>	<b>.04</b>	.25	.22	.19	.19	.20
<b>11</b>	.37	.16	<b>.09</b>	<b>.09</b>	<b>.10</b>	.23	.24	<b>.08</b>	.24	<b>.06</b>	.35	1	.54	<b>.05</b>	<b>.12</b>	<b>.08</b>	<b>.07</b>	<b>.08</b>	.21	.26	.16	.14	.13
<b>12</b>	.37	<b>.06</b>	.14	.17	<b>.08</b>	.14	.23	<b>.01</b>	.18	.17	.28	.54	1	.13	.15	<b>.08</b>	<b>.03</b>	.18	.20	.26	.14	.16	<b>.06</b>
<b>13</b>	.38	.23	.35	.14	.17	.15	.15	.23	.31	.26	.16	<b>.05</b>	.13	1	.25	.20	<b>.11</b>	.27	.13	.13	.18	.20	<b>.09</b>
<b>14</b>	.48	.37	.31	.39	.23	.39	.38	.23	.25	.28	.13	<b>.12</b>	.15	.25	1	.55	<b>.08</b>	.27	.29	.19	.31	.23	.22
<b>15</b>	.40	.36	.24	.39	.22	.35	.22	.16	.22	.16	<b>.06</b>	<b>.08</b>	<b>.08</b>	.20	.55	1	.21	.16	.27	.13	.35	.24	.22
<b>16</b>	<b>.07</b>	.16	<b>-.04</b>	<b>-.03</b>	<b>.03</b>	<b>.01</b>	<b>.07</b>	<b>-.01</b>	<b>.09</b>	<b>&lt;-.01</b>	<b>.07</b>	<b>.07</b>	<b>.03</b>	<b>.11</b>	<b>.08</b>	.21	1	<b>-.01</b>	<b>.03</b>	<b>-.03</b>	<b>.01</b>	<b>.02</b>	<b>-.02</b>
<b>17</b>	.48	.21	.26	.18	.28	<b>.12</b>	.38	.21	.19	.27	<b>.04</b>	<b>.08</b>	.18	.27	.27	.16	<b>-.01</b>	1	.34	.31	.38	.20	.25
<b>18</b>	.70	.30	.38	.34	.42	.30	.43	.19	.34	.27	.25	.21	.20	.13	.29	.27	<b>.03</b>	.34	1	.64	.69	.48	.50
<b>19</b>	.70	.28	.38	.26	.42	.21	.39	.27	.37	.28	.22	.26	.26	.13	.19	.13	<b>-.03</b>	.31	.64	1	.63	.50	.56
<b>20</b>	.72	.27	.48	.36	.46	.35	.46	.23	.39	.27	.19	.16	.14	.18	.31	.35	<b>.01</b>	.38	.69	.63	1	.49	.54
<b>21</b>	.60	.16	.33	.29	.32	.28	.35	.18	.33	.25	.19	.14	.16	.20	.23	.24	<b>.02</b>	.20	.48	.50	.49	1	.38
<b>22</b>	.61	.28	.35	.31	.41	.24	.38	.24	.26	.21	.20	.13	<b>.06</b>	<b>.09</b>	.22	.22	<b>-.02</b>	.25	.50	.56	.54	.38	1