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"Lad culture" in the group chat: Does involvement in a lad group chat influence attitudes towards sexual assault and women?

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Abstract

The prevalence of sexual assault has gained attention within the media over recent years, with this seemingly becoming normalised within society. All-male peer groups are proposed to be one social context in which men may receive support and encouragement from peers to perpetrate sexual aggression. In addition, environments such as fraternities, sports societies, and university 'lad culture' appear to consist of a rape-supportive culture. However, little is known regarding social contexts outside of university, for example in virtual spaces such as group chats. Therefore, the aim of the current study is to examine the relationship between peer group influence in lad group chats and attitudes towards sexual assault and women.

A systematic review of the literature published between 1990 and 2022 was conducted to explore the relationship between peer group influence and sexual assault. Data was synthesised qualitatively and findings of the literature review will be presented.

Methods of measuring attitudes towards sexual assault were then explored to ensure the most appropriate measure was used during the current research. The psychometric properties of the Illinois Rape Myth Acceptance Scale were examined and a critique of the measure has been presented to justify the use of a new, less validated and less well-known measure, the Illinois Rape Myth Acceptance Scale – Subtle version; this was deemed to be more appropriate to use for the present study based on the critique of its earlier counterpart.

A gap in the existing literature was identified based on the thesis chapters thus far. The primary researcher was interested in advancing knowledge of potential social factors related to sexual assault, specifically online group chats. Study 1 involved development of a questionnaire to assess extent of lad group chat involvement (male-only group chats) using Q-methodology. A cross-sectional design was then used in Study 2 to explore associations between involvement in lad group chats, attitudes towards sexual assault, women and self-

reported sexual assault perpetration. Results found that males in a lad group chat held greater acceptance of sexual assault than males who were not involved in a lad group chat and females. Males in a lad group chat also held more hostility and ambivalence towards women than males who were not in a lad group chat. Correlational analyses showed a significant positive relationship between acceptance of sexual assault, ambivalent attitudes towards women and sexual assault perpetration. The limitations and implications of the research have been discussed.

Table of contents

List of tables and figures

Table of Appendices

Chapter 1: Introduction to the Thesis

Sexual assault is a global problem which disproportionately impacts women. Despite this, sexual assault is underreported (Office for National Statistics, 2021). The era of the #MeToo movement highlighted the prevalence of sexual harassment and assault towards women and, therefore, sexual assault prevention efforts are more critical than ever. To ensure sexual assault prevention programmes are addressing factors relevant to sexual assault, it is important to identify factors that may increase likelihood of perpetration. It is well documented that individual factors, such as attitudes towards rape and sexual assault and adversarial attitudes towards women, may increase risk of sexual assault perpetration (Tharp et al., 2012). For example, a wealth of research has suggested rape-supportive attitudes may increase likelihood of perpetration within male student populations (Abbey et al., 2001; Bohner et al., 1998; Burgess, 2007; Gidcyz et al., 2011; Loh et al., 2005). This is plausible given Glasman and Albarracin (2006) have demonstrated that attitudes and beliefs are associated with behaviour to a certain degree. However, it is also important to consider the social and cultural norms that exacerbate these attitudes and beliefs towards sexual assault.

Researchers have argued that males may learn to be sexually aggressive or may hold rape-supportive beliefs due to social norms within male peer groups, and particularly certain all-male peer contexts such as fraternities (Bandura et al., 1961; Kingree & Thompson, 2013; Murnen & Kohlman, 2007). These social contexts may play a role in shaping individual attitudes and behaviours towards sexual assault. Nevertheless, existing studies have been limited as they have often explored this relationship within university and college samples. This is despite the #MeToo movement highlighting the prevalence of unwanted sexual behaviour towards women in everyday life, beyond higher education contexts. Moreover, it has been debated whether attitudes do correspond to actual behaviour (Schewe, 2007); it is possible that, whilst men may endorse rape-supportive beliefs, they may not have intent to

perpetrate sexual assault or act on those intentions. Regardless, it is important to understand the contexts in which rape-supportive attitudes may be perpetuated.

Generally, society tends to categorise people based on sex, with socially constructed expectations of gender being allocated to individuals. As such, masculinity and femininity are often framed as distinct categories, referred to as the gender binary (Lorber, 1994), and this binary is reinforced by gender order, namely the power relations between males and females (Connell, 1996). Butler (1994, p.191) has proposed that individuals construct their identity through a repetition of acts, which then recreates the social world around them. Consequently, gender is often embedded within institutions, with institutions often favouring masculine above feminine traits (Lorber, 1994).

Hegemonic masculinity is one of multiple forms of masculinity whereby "maleness" is perceived as superior to femininity and other forms of masculinity (Bridges et al., 2016). This type of masculinity refers to social practices that promote male dominance over females, emphasises power and authority, and a significant aspect includes proving heterosexuality through sexual experiences (Connell, 1987; Duckworth & Trautner, 2019). Three facets of hegemonic masculinity have been identified, namely "status", "toughness" and "antifemininity" (Thompson & Pleck, 1986). Those who embody hegemonic masculinity who receive the most rewards are those who are "economically successful, racially superior and visibly heterosexual" (Lorber, 1994, p.4). Therefore, hegemonic masculinity is often difficult to fully achieve. Instead, some subcultures have redefined what "being a man" means, based on their availability of resources and location. Despite this, the "normative" form of masculinity still subjugates alternative masculinities and the broader gender culture, and privileges associated with this type of masculinity remain mostly unchallenged.

Scholars have provided evidence to indicate gender order is often embedded into institutions. For example, schools provide a place for boys to explore gender norms, and

these environments often act as a context in which gender stereotypes and hetero-normative practices are perpetuated (Morris, 2012; Pascoe, 2011). Within male college students, adhering to particular masculine norms (e.g., power over men and heterosexual presentation) was found to be predictive of rape-myth acceptance (Le et al., 2020). Moreover, fraternities have been identified as one context in which hegemonic masculinity and traditional masculine norms are situated (McCready, 2019; Sanday, 1990). Males in fraternities have been shown to endorse more rape-supportive attitudes due to greater conformity to traditional masculinity and peer influence to perform gender roles (Seabrook et al., 2018).

Conformity to gender roles appears to continue beyond educational environments. Historically, military and defence organisations have been male-dominated, with masculine norms governing practices (Kronsell, 2005). For example, the military in the United States has been characterised by practices which uphold masculine values (Connell, 2017). Goldstein (2001) provided evidence for the association between specific gender stereotypes within defence and military institutions, as compared to other institutions, regardless of culture and time. Additionally, not accepting women as equals, hostility towards women, and negative masculinity has been found to be predictive of tolerating sexual harassment in the Army (Rosen & Martin, 1998). One common theme amongst soldiers within the Armed Forces in Congo (DRC) was that sexual violence against women often resulted from masculine heterosexuality, in that a male's "sexual needs" must be satisfied by a woman and, if deprived, males have the right to take force to obtain this (Baaz & Stern, 2009). Furthermore, Fox and Pease (2012) noted that masculinity was relevant to veterans when sense-making regarding trauma.

Similarly, it can be understood that masculine norms may be upheld amongst all-male sports teams and athletes, as has been indicated within research and through cases within the media. When conducting a gender analysis on 100 players known to have committed violence

against women within the National Football League, Welch (1997) found that running backs and receivers were overrepresented in offences of violence against women. These findings were explained in terms of "protest masculinity", one form of hegemonic masculinity. Specifically, it was suggested that these players endorsed a "live fast, die young" type of masculinity, in that their lifestyles were characterised by fast cars, excessive drinking and womanising more so than players within other positions. More recently, Fogel and Quinlan (2019) examined incidences of sexual hazing[1] in Canadian sport; they argued that this type of sexual coercion within sports teams occurs in part to establish hierarchies of masculinity within institutions. The existing literature base provides evidence to suggest subgroups of males adhere to masculine norms, often within institutions such as schools, colleges, fraternities, sports teams, the military and law enforcement (see Harway & Steele, 2015 for further review), and that this may subsequently influence individual attitudes towards sexual assault and propensity to commit sexual violence. Therefore, developing an understanding of the subgroups which may endorse such norms and which, as a result, may increase rape-supportive attitudes is vital to ensure sexual assault is targeted efficiently through prevention efforts.

One context that has received little attention within the literature, which may show parallels to the masculine norms perpetrated within male-dominated institutions, is virtual spaces such as group chats. This is despite the popularity of social media and mobile phone usage, and the anonymity that these spaces may provide to users (Jane, 2014). For example, one incident of problematic mobile phone usage was brought to media attention in 2018 due to concerning and inappropriate content shared between male peers within an online group chat. The Warwick university rape chat scandal circulated social media and the media when

[1] "acts of violence in which the aggressor abuses their power to obtain sexual gratification, without consent" (Favero et al., 2018, p.1835).

the group chat content of male university students was made public ("Inside the Warwick University rape chat scandal", 2019). Derogatory attitudes towards women and pro-rape attitudes were displayed within the group chat, alongside rape threats made regarding their fellow female students. This incident casted doubt on UK universities and how sexual misconduct, and problems such as those arising due to online group chats, is dealt with within them. Despite media and social media outrage towards this incident, little is known about the interactions between peers within, often unmonitored, group chats and whether these may influence individual attitudes towards sexual assault and women. Research within similar areas thus far has found that female YouTubers attract more negative comments than males, particularly if not conforming to gender roles e.g., displaying sexuality, discussing feminist topics (Döring & Mohensi, 2019) and that threatening rape has become the "modus operandi" for males wishing to critique females online (Jane, 2012, p.535), with hate speech and rape threats often being dismissed as "harmless locker-room talk" by the public (Citron, 2009, p.375). The adherence to hegemonic masculinity and misogyny demonstrated within online spaces could be argued to be due to the availability and accessibility of the internet along with the anonymity that the internet provides. This anonymity may create detached spectators with no lasting social ties, whilst offering the possibility of namelessness and deindividuation (Dreyfus, 2013; Wallace, 2008); the possibility that group chats may also provide this for users is plausible.

More recently, there has been a shift towards understanding the role of social factors in shaping attitudes towards sexual assault. The current thesis firstly aims to review existing literature to determine the role of peer group influence on individual attitudes towards sexual assault. A systematic search was conducted and a quality assessment framework was applied to relevant papers. The results of 17 papers will be summarised to increase an understanding of the role of peer influence on male attitudes towards sexual assault, sexual assault

perpetration, and intervening as a witness of sexual assault i.e., bystander intervention. Strengths and limitations of the systematic literature review will be outlined and recommendations for future research will be proposed, with gaps in the literature providing the basis for the current thesis' research.

Next, the widely used Illinois Rape Myth Acceptance Scale (IRMAS; Payne et al., 1999) will be critically examined to determine reliability and validity of this psychometric. The results of this analysis will help to determine the most effective measure to use to assess attitudes towards sexual assault within the present research. Although the IRMAS appears to be a psychometrically sound and widely used measure, it was concluded the terminology may be too explicit and outdated to capture present day endorsement of rape myths. Moreover, the present thesis is interested in exploring attitudes towards sexual assault rather than rape exclusively, therefore the use of a newly developed measure, the Illinois Rape Myth Acceptance Scale – Subtle version (IRMAS-S; Thelan & Meadows, 2021) is justified.

Finally, this thesis aimed to address the gap in existing literature by presenting empirical research exploring whether involvement in a lads' group chat is associated with acceptance of sexual assault (IRMAS-S), stereotypical attitudes towards women (the Ambivalent Sexism Inventory), and sexual assault perpetration (SES-SFP). Firstly, Q-Methodology was conducted to analyse male views on group chats and a questionnaire to measure extent of involvement in lad group chats was developed based on the analysis. A larger pool of participants then completed a battery of questionnaires and responses were analysed (N=156). Results indicated that involvement in a lads group chat was related to greater acceptance of sexual assault and stereotypical attitudes towards women, however not sexual assault perpetration. Nonetheless, greater acceptance of sexual assault and stereotypical attitudes towards women were positively correlated with self-reported sexual assault perpetration.

Based on the results of the systematic review, it was concluded that the norms held within male peer groups in student populations can influence endorsement of rape myths, likelihood of sexual assault perpetration and willingness to intervene in sexual assault as a bystander. Moreover, based on the empirical research it was concluded that the influence of male peer groups appears to extend beyond university contexts and into online spaces, with involvement in a lads group chat relating to greater acceptance of sexual assault and negative attitudes towards women. The findings have implications for sexual assault prevention efforts.

Chapter 2: Systematic Literature Review

Peer Group Influence on

Male Attitudes Towards Sexual Assault

Abstract

Sexual assault has considerable consequences for women. Whilst research has explored individual factors associated with men's likelihood of sexual assault, there has recently been a shift towards understanding social factors, such as the role peers play in shaping attitudes towards sexual assault. The current review sought to explore the relationship between peer influence in males and sexual assault. The review involved a systematic search of the literature related to the influence peers have in shaping male behaviour and attitudes towards sexual assault. The review included 17 studies published between 1990 and 2022, assessed in quality as medium to high. Data was synthesised qualitatively. The review found a relationship between men's perceptions of peer support for sexual assault and their own attitudes and behaviours towards sexual assault. The strengths and limitations of the review are discussed and recommendations are made for future research and practice.

Introduction

Sexual assault occurs at alarming rates; the Crime Survey for England and Wales (CSEW) estimated that approximately 700,000 people (aged 16-59) were victims of sexual assault in 2018 (Office of National Statistics, 2021). Sexual assault is particularly prevalent in universities, with male students being at increased risk of perpetrating sexual offences compared to males in the community (Hales & Gannon, 2020). Additionally, Revolt (2018) found that over two-thirds of female students in the UK have experienced sexual violence at university. The consequences associated with sexual assault victimisation have been well documented, including injury, sexually transmitted infections, increased risk of chronic health problems, increased substance misuse, and mental health difficulties (Allsworth et al., 2009; Eadie et al., 2008; McFarlane et al., 2005). Risk factors for sexual assault perpetration have been prominent in the literature and, based on these factors, sexual assault prevention

programmes have been developed. Sexual assault prevention initiatives have predominantly been male-focused, and have included psychoeducational approaches, increasing empathy, improving knowledge of male socialisation and its contribution towards sexual assault, and encouraging bystander behaviour (Wright et al., 2020). Despite this, sexual assault still prevails at high rates. Given the detrimental long-term effects sexual assault can have on victims, there remains a need to understand the factors that contribute towards the perpetration of sexual assault.

Sexual Assault

Sexual assault can be defined as any unwanted behaviour in the form of a sexual act that is attempted or completed against the will of the victim and without the victim's consent (National Institute of Justice, 2010). Physical, psychological or emotional violation may be inflicted upon the victim. Behaviours range from unwanted fondling to completed rape, and can include being forced or manipulated into witnessing sexual acts. Sexual assault has been suggested to exist on a continuum (Kelly, 1987) with perpetrator tactics including pressure, intimidation, coercion, impairment through drugs and alcohol, and threatened or actual physical force (Crown Prosecution Service, 2017; Metropolitan Police, n.d.). Abbey and colleagues (2012) found that over half of non-incarcerated men had used coercion or force to gain sex at some point during their lifetime, demonstrating that the issue of sexual assault extends to the general population. There have been no significant changes in rates of sexual violence victimisation in the UK since 2005 (Office for National Statistics, 2018). It is therefore vital we develop a greater understanding of what drives sexual assault behaviours to strengthen prevention strategies and reduce rates of victimisation.

Individual Risk Factors

Correlates of sexual assault have been extensively researched providing evidence to

suggest numerous factors that may increase the likelihood of perpetration. These include participation in more casual sexual encounters, alcohol consumption, hostility towards women, entitlement to sex, and misperceiving sexual intent (Abbey et al., 2001; Bouffard, 2010; Malamuth et al., 1991; Malamuth et al., 1995; Mellins et al., 2017; Parkhill & Abbey, 2008; Zawacki et al., 2003). Frequently, the role of "rape-supportive attitudes" has been focused upon in the literature (Yapp & Quayle, 2018). Such attitudes may facilitate the justification of sexual assault and serve to exonerate the perpetrator, whilst minimising claims of sexual assault or victim blaming. One concept commonly referred to in research is rape-myths; "prejudicial, stereotyped or false beliefs" (Burt, 1980, p.217) that are generally held about incidences of sexual assault, the perpetrator or the victim. Much like rape-supportive attitudes, rape-myths trivialize or justify incidences of sexual assault and male sexual aggression (Lonsway & Fitzgerald, 1994). Rape-myths include beliefs such as ‘when a woman says no they really mean yes’ and ‘if a woman dresses provocatively she is asking to be raped’. According to the Fawcett Society (2017), 38% of men and 34% of women in the UK endorse such beliefs. Moreover, rape-myths are held amongst college students (Aronowitz, Lambert & Davidoff, 2012), as are they in populations of convicted rapists and are used to justify their actions (Scully & Maralla, 1984). Research has demonstrated males are more likely to be accepting of rape-myths compared with females (Canto et al., 2014; Powers et al., 2015), possibly because rape-myths are strongly connected to pervasive beliefs such as stereotyping of sex roles (Burt, 1980, p.229). Consequently, research has focused on the effect of sexist attitudes on rape-myths and has indicated sexism fosters the endorsement of rape-myths in males (Angelone et al., 2021; Rollero & Tartaglia, 2019).

Sexism has become embedded within our daily lives (Ronai, Zsembik & Feagin, 2013), with online movements such as the Everyday Sexism Project (Bates, 2013) documenting the pervasiveness of sexism against women. Sexual harassment against women

has become trivialised through humour and is increasingly normalised within the media (Montemurro, 2003) as well as online spaces, serving to subjugate women (Bemiller & Schneider, 2010). This trivialisation arguably creates a rape-supportive culture (Lockyer & Savigny, 2020). As society becomes more accepting of rape-supportive attitudes, there are likely to be more negative consequences for victims of sexual assault. This is because rape-myth acceptance (RMA) encourages a culture of victim-blaming, impacting upon perceptions of the victim and increasing stigma (Blumberg & Lester, 1991). Subsequently, this may reduce the likelihood of sexual assaults being reported. Indeed, the Office for National Statistics (2017) have reported that around 5 in 6 victims of sexual assault (83%) do not report their experiences to the police (Flatley, 2018). Reasons for victims underreporting include stigma, perceptions that they will not be believed or that some instances are not serious enough, and fear of reprisal (Bachman & Taylor, 1994; Felson & Pare, 2005; Fisher, et al., 2003). Some of the literature would appear to support the possibility that victims will not be believed, given certain rape myths have been found to be endorsed by some police officers more so than students of law and psychology, specifically myths of "she (the victim) lied" (Sleath & Bull, 2015).

Furthermore, research has demonstrated a positive relationship between RMA and sexual assault perpetration (Abbey et al., 2001; Loh et al., 2005) which is problematic. In non-incarcerated men, RMA of perpetrators was positively related to post-assault justifications (Wegner et al., 2015). Additionally, Gidycz and colleagues (2011) demonstrated adversarial sexual beliefs[2] are higher in sexually coercive males than in non-coercive males. RMA has also been associated with self-reported likelihood of perpetrating sexual assault (Bohner et al., 1998) and sexual aggression (Burgess, 2007). It is therefore important to

[2] Being of the view that one gender (usually males) must be dominant in intimate relationships and whereby manipulative strategies may be used to remain on top (Burt, 1980).

understand factors that contribute to rape-supportive attitudes given this may increase the likelihood of men perpetrating sexual assault and may have a negative impact upon victims leading to underreporting.

Prevention Efforts

Earlier approaches to sexual assault prevention were aimed at women, teaching women to take precautions, confrontation training, self-defence strategies, increasing women's awareness of sexual assault and their ability to respond to risky situations (Hanson & Gidycz, 1993; Women Against Rape, 1980). However, as men are most often responsible for perpetrating sexual assault, targeted programmes were developed with the aim of decreasing *men's* potential to engage in sexual assault behaviours (Yeater & O'Donohue, 1999). Based on the existing literature, sexual assault programmes have often focused on changing men's attitudes towards sexual assault (Lonsway & Fitzgerald, 1995). These programmes have generally aimed to address inaccurate beliefs about rape (e.g., rape-myths) and increase victim empathy (Berg, 1993; Egidio & Robertson, 1981). Additionally, mixed-gender programmes have been developed (Frazier, Valtinson & Candell, 1994; Holcomb et al., 1993) accounting for approximately 64% of sexual assault prevention programmes (Morrison et al., 2004). However, concerns about mixed-gender programmes have been raised as these programmes are believed to inadvertently decrease the likelihood of men and women openly sharing attitudes (Berkowitz, 1994). Moreover, outcome studies evaluating the extent to which these interventions effectively decrease rates of sexual assault are lacking. Recent prevention efforts have included the development of bystander intervention strategies. Bystander training teaches individuals skills to assist in recognising social situations or behaviours which may support norms of sexual violence, enhancing awareness, whilst educating individuals on how to safely and effectively intervene and alter social norms to reduce the possibility of future sexual violence (Coker et al., 2016). Further discussion of

these interventions has been presented in subsequent sections (p.27; chapter 3).

Social Risk Factors

As research has shown, attitudes are a key factor in shaping sexual violence against women, hence, attitudes that normalize and justify violence against women must be addressed through interventions. Nevertheless, Flood and Pease (2009) have suggested that the social processes perpetuating these attitudes, and subsequent sexual violence towards women, must also be addressed. One social factor that may be reinforcing such attitudes is male peer groups, due to the influence that peer attitudes may have on male perpetration of sexual assault. Among male university students for example, rape proclivity[3] increased when males were told their peer group had higher levels of rape-myth acceptance (Bohner, Siebler & Schmelcher, 2006). Additionally, Thompson and colleagues (2013) found perceived peer support for sexual coercion differentiated men who had perpetrated sexual assault from men who had not. Furthermore, researchers have found male peer support for sexual assault is significantly related to increased perpetration (Boeringer et al., 1991; DeKeseredy & Kelly, 1995; Schwartz & DeKeseredy, 2000). Peer support may include circumstances such as having close ties to abusive peers or receiving informational support from peers.

It has been suggested that some male peer groups foster a rape-supportive subculture which encourages and excuses sexually assaultive behaviour (Schwartz & DeKeseredy, 1993). Sports teams, societies and fraternities within universities have all been found to encourage pro-rape practices, with a wealth of evidence suggesting a link between membership to these groups and rape acceptance (Crosset, Benedict & McDonald, 1995; Moynihan & Banyard, 2008). A meta-analysis conducted by Murnen and Kohlman (2007) has supported this relationship and found that student membership to sports societies and fraternities indicated likelihood of rape-supportive attitudes and self-reported sexual assault

[3] The self-reported likelihood of perpetrating sexual assault (Malamuth, 1981)

behaviours. Men in these groups have been found to uphold rape-supportive beliefs significantly more than those in control groups (Boeringer, 1999).

Conversely, some studies have found no support for the relationship between memberships to sports teams or societies and sexual assault. Instead, members of such groups were no more likely to accept rape-myths than non-members were (Moynihan & Banyard, 2008; Schwartz & Nogrady, 1996). Nonetheless, some researchers have acknowledged that the (perceived) beliefs of the peer group can override individual perspectives on sexual assault. For example, peer norms have been found to be more pertinent than own attitudes in college males' decisions to intervene in sexual assault (Brown & Messman-Moore, 2010). According to the research, it would seem peer group attitudes may be adopted regardless of individual beliefs. Subsequently, this may contribute to individual's developing rape-supportive attitudes, increased likelihood of sexual assault perpetration, and the likelihood of intervening in incidences of sexual assault as a bystander.

Male Peer Support Theory

The literature from social learning theories have concluded that association with peer groups reinforce attitudes and behaviours appropriate to the group, despite illegitimacy of such attitudes and behaviours (Akers, 1973). Consequently, Male Peer Support theory (MPS) (Schwartz & DeKeseredy, 1997) was derived to explain high rates of sexual assault on college campuses. The theory accounts for a range of social and individual factors influencing sexual assault and has recently been termed one of the "most commonly used theories of masculinity and violence" (Morris & Ratajczak, 2019, p. 1980). Schwartz and DeKeseredy (1997) highlighted that, whilst some male peer groups provide positive support for members, some provide support for members to engage in violence against women, namely fraternities and sports teams. DeKeseredy (1988) claimed young men who were stressed or hurt by their encounters with women (e.g., if their advances were rejected) would

seek out advice and support from male peers, however, some peer groups would encourage aggressive responses, including sexual assault, to retain patriarchal domination. These peer groups were proposed to condition adverse ideologies which generally appropriated sexual assault perpetration (DeKeseredy, 1990).

According to MPS theory, group members are instructed on how to act and behave through group norms (Fabiano et al., 2003). If members are to "fit in" with the group then they are to adopt the norms of the group to receive approval and support from peers (Schwartz & DeKeseredy, 1997). Hence, group members may learn to treat women as sexual conquests and like-minded males from groups characterized by superiority in membership status will conform to "group-think" mentality (Sanday, 1990). Members who do not conform may be ostracized and subject to social consequences, thus reinforcing hypermasculinity and conformity to group norms. It is theorized that, by drawing on peer networks supporting hypermasculinity and male-on-female violence, this serves to "normalize" sexual assault and reinforces the behaviour. Such groups would encourage peers to "exercise their male rights" serving to justify sexual assault (DeKeseredy, 1988). Schwartz and DeKeseredy (1993) have since provided a modified version of MPS theory to include additional factors. They suggested that individuals that had been subjected to familial patriarchy and were members of a peer group higher in alcohol consumption, with an absence of consequences for perpetration, and receiving strong support from their peers, will be more likely to perpetrate sexual assault. Therefore, the support males receive from their peers is significant in the likelihood of perpetrating male-on-female sexual violence (Humphrey & Kahn, 2000).

Moreover, bystanders (i.e., third-party witnesses) have been found to give weight to peer attitudes when making their decisions on whether to intervene in incidences of sexual assault (Brown & Messman-Moore, 2010). Consequently, bystander interventions have been developed to reduce sexual assault, specifically on university campuses (Labhardt et al.,

2017; Latane & Darley, 1970). These interventions encourage bystanders to intervene before, during or after an incident of sexual assault (McMahon et al., 2014) and have been developed to encourage prosocial bystander behaviours (Banyard, Moynihan & Plante, 2007; Green Dot, 2016). Thus far, these programmes have been found to be effective for increasing confidence to intervene, bystander intentions, and bystander behaviours on university campuses (Evans et al., 2019; Mujal et al., 2021; Peterson et al., 2018), hence such interventions may be a valuable resource for reducing perpetration of sexual assault. Programmes that assist men in critically unpacking social norms and which empower them to challenge norms about sexual behaviour in peer group contexts may be most effective, as would programmes that help women to critically evaluate gender norms and expectations (Orchowski et al., 2020). Prevalence rates of sexual assault, however, have remained largely unchanged. It is therefore essential to continue developing an understanding of the factors relating to sexual assault, in particular the role of peer norms. Subsequently, intervention programmes can be further developed and evaluated, to ensure they are underpinned by the most up-to-date sexual assault research.

The Current Review

The aim of this systematic review is to examine the influence peer groups have on male attitudes towards sexual assault. Specifically, this review will address the following objectives:

- To explore whether peer influence is related to men's attitudes towards sexual assault.
- To explore whether peer influence is related to men's likelihood of sexual assault perpetration.
- To explore whether peer influence is related to men's likelihood of bystander intervention.

Method

Preliminary searches were undertaken on 15th March 2020 to identify existing systematic reviews relating to peer influence and sexual assault, and to assess the originality of the current review. Searches were employed across the following databases: the Cochrane Database of Systematic Reviews, the Campbell Library of Systematic Reviews, the Centre of Reviews and Dissemination, Google Scholar and PsycArticles. The preliminary search yielded one potentially relevant review regarding the effects of bystander programmes on the prevention of sexual assault. However, on exploration, the bystander programme did not include peer support therefore, the review did not directly relate to the variable of interest, peer influence. No existing reviews were identified that directly related to associations between peer influence and sexual assault.

An initial scoping exercise was performed to inform the potential scope of the current review. The search supported the feasibility of conducting a systematic review on peer influence and sexual assault, yielding literature that appeared neither too narrow nor too broad. This scoping exercise also helped to define the parameters of the review and facilitated the development of inclusion and exclusion criteria.

Inclusion/exclusion criteria

The search parameters included papers written in English due to time and financial constraints. Early studies on sexual assault were undertaken in the early nineties (McKinney, 1990), therefore the year 1990 was specified to capture relevant research. The year 2022 was selected as the endpoint to include the most up-to-date research in the area. The Sample, Phenomenon of Interest, Design, Evaluation, and Research type (SPIDER) framework was selected for the purposes of the current review, offering a systematic strategy of searching for mixed-method and qualitative studies (Cooke et al., 2012). Although alternative search strategy tools were considered, such as the PICO (Population, Intervention, Comparison,

Outcome), these were not deemed to be suitable for the current reviews' aims. Although the PICO has been found to provide a greater number of hits than the SPIDER (Methley et al., 2014), it focuses on elements such as intervention type or comparison group, which is more relevant to quantitative/experimental research. In contrast, research within the area of sexual assault and peer influence largely appeared to be cross-sectional or qualitative when conducting preliminary searches. Given the SPIDER framework facilitates non-quantitative research questions (Cooke et al., 2012) and focuses on the phenomenon of interest, design and research type as opposed to intervention or comparison group, it seemed more suitable to apply in the current review. Moreover, the SPIDER tool has been shown to have greater specificity compared to the PICO and PICOS (Methley et al., 2014). This framework outlined the inclusion and exclusion criteria which was then used to identify relevant articles to include in the review. Titles, abstracts and, where required, full articles were manually searched, and the inclusion/exclusion criteria was applied (Table 1).

Table 1.

SPIDER framework - Inclusion/Exclusion Criteria

SPIDER	Inclusion Criteria	Exclusion Criteria
Sample	Males. Above the age of middle adolescence (17+) Any Nationality/Ethnicity	Below middle adolescent age (under 17) Females (unless study also reports male outcomes separately)
Phenomenon of Interest	Peer influence	Factors unrelated to peer influence
Design	Observational studies and cross-sectional studies i.e., survey studies, focus groups, interviews, intervention studies	Randomised Control Trials Case series studies

Evaluation	Outcome measures of sexual assault; sexual harassment; rape; sexual violence. Self-reported attitudes or behaviours towards sexual assault; observed bystander intervention behaviour; self-reported bystander intervention intentions; perpetration rates of sexual assault.	Measurement of attitudes towards other phenomenon i.e., sexual health; gender identity; alcohol use.
Research Type	Empirical papers. Qualitative; Quantitative; Mixed-methods.	Reviews Commentaries Editorials Opinion papers Book chapters editorials Psychometric measure development
Additional Factors	Year of publication: 1990 to 2022 Language of publication: English	

The rationale for the inclusion/exclusion criteria, as specified using the SPIDER framework, is as follows:

Sample

The focus of the current review was on male attitudes, therefore the sample specified for inclusion were males above the age of middle adolescence (17 years and above). The age of middle adolescence was chosen as the cut-off point for exclusion due to the average age of individuals first engaging in sexual intercourse being 16-17 in the UK (Highland Underage Sex Protocol [HUSP], 2011). Additionally, the age of consent in most countries is 16. This was important to take into consideration due to the review's interest in sexual assault against adults specifically, whereas including participants which may have been under the age of 17 offered the opportunity of identifying behaviour that would constitute a sexual offence against a child.

Peer groups play an important role for adolescents, and adolescents are often preoccupied with achieving a sense of belonging and connections (Kroger, 2000), hence it

may seem unjustified to exclude males under the age of 17 in the current review. Nevertheless, early to mid-adolescents are often susceptible to peer pressure and the associated negative consequences (McCoy et al., 2017) whereas by late adolescence (18-25 years), individuals are expected to experience more diverse social situations due to the transition from secondary school to work or university; they face possibilities of new group membership (Simmons & Blyth, 1987); and they tend to show advanced cognitive thinking styles, including thinking flexibly about the self and others (Tanti et al., 2011). It was important to the researcher to explore peer influence and sexual assault at a time when individuals may be less susceptible to the expected influence of peers that occurs during development. Instead, it was justified to exclude samples under the age of 17, focusing on males during the process of individuation, as they would therefore be exhibiting greater autonomy from caregivers and developing impartial peer relationships (Rubin et al., 2006; Tanti et al., 2011). All studies included in the review were required to have collected data from a sample of males above the age of 17. Studies with samples of female participants were only included where the study reported male and female outcomes separately.

Phenomenon of interest

Exposure to peer influence was a key focus of the review. Peer influence could be measured through self-reported perceptions of peer influence or actual peer influence, comparisons of participant attitudes with peer attitudes, manipulation of peer influence conditions, or observations of peer influence. Peer influence could also be determined through membership to an all-male group or society, for example fraternities, as these contexts have been identified as a strong reference group for peer influence (Borsari & Carey, 2003).

Design

To assess the role of peer influence on male attitudes towards sexual assault the attitudes of peers, or participant behaviour in the presence of peers, needed to be compared with the participant's own attitudes, or participant behaviours when not in the presence of peers. Studies designed to examine this area of research have tended to be observational or cross-sectional. Although experimental research, such as randomised controlled trials (RCT), are the gold standard of research design (Khan et al., 2001), the current review was not for the purposes of evaluating the effectiveness of a clinical intervention, therefore RCT's were not deemed to be appropriate. Observational studies were selected for inclusion as these are the designs usually associated with this area of research. Observational studies can include those in which natural exposure among participants is investigated to explore the effect of the exposure on outcome measures. This includes descriptive and cross-sectional studies, such as survey studies, which examine the relationship between variables of interest (i.e., peer influence and sexual assault) within a population of interest (i.e., males) at a particular point in time.

Evaluation

For the purposes of the review, the term ‘sexual assault’ has been used as this captures all forms of sexual or indecent assault including rape, which is defined by intentional penetration without consent. Terms such as rape, sexual violence, and sexual aggression are often used interchangeably within the literature and tend to hold powerful or violent connotations. As the current review is interested in all unwanted sexualised behaviour, not just physical or violent acts of sexual assault, a more liberal definition of sexual assault was relevant. Sexual assault is therefore defined as "an act of physical, psychological or emotional violation in the form of a sexual act, inflicted on someone without their consent" (Rape Crisis England & Wales, 2020). Studies were included if they had used an outcome measure of

attitudes towards sexual assault, or if they measured behaviours related to sexual assault, specifically likelihood of sexual assault perpetration and bystander intervention. Intervening as a bystander against sexual assault was included in the current review as bystander behaviour has been proposed to predict a person's future behaviour (Labhardt, Holdsworth, Brown & Howat, 2017).

Research Type

Due to the majority of literature within this area being correlational or qualitative, studies that included quantitative, qualitative or mixed-methods research were included. Non-empirical papers such as book chapters, editorials, commentaries, or reviews were excluded, as were papers focusing on the development and validation of psychometric assessments, or evaluation studies of sexual assault prevention programmes where this did not involve a peer group element.

Search Terms

A systematic literature search was conducted to identify studies to be included within the current review. Searches were undertaken on 19th July 2020, 18th February 2021 and 22nd January 2022 across the following electronic databases: OVID PsycInfo (1967-2022), OVID Embase (1974-2022), SCOPUS (1990-2022), Web of Science (1990-2022), ProQuest Social Sciences Database (1990-2022). These databases were the most relevant to the current review based on the initial scoping exercise and on investigation of relevant sources on similar research within this area. Terms relevant to the review question were identified, along with synonyms. These terms were then mapped to subject headings across databases, producing a list of keywords which specifically matched the objectives of the review. This resulted in the selection of key search terms. The process of mapping terms to subject headings before generating a list of keywords allowed for consistency when searching across several

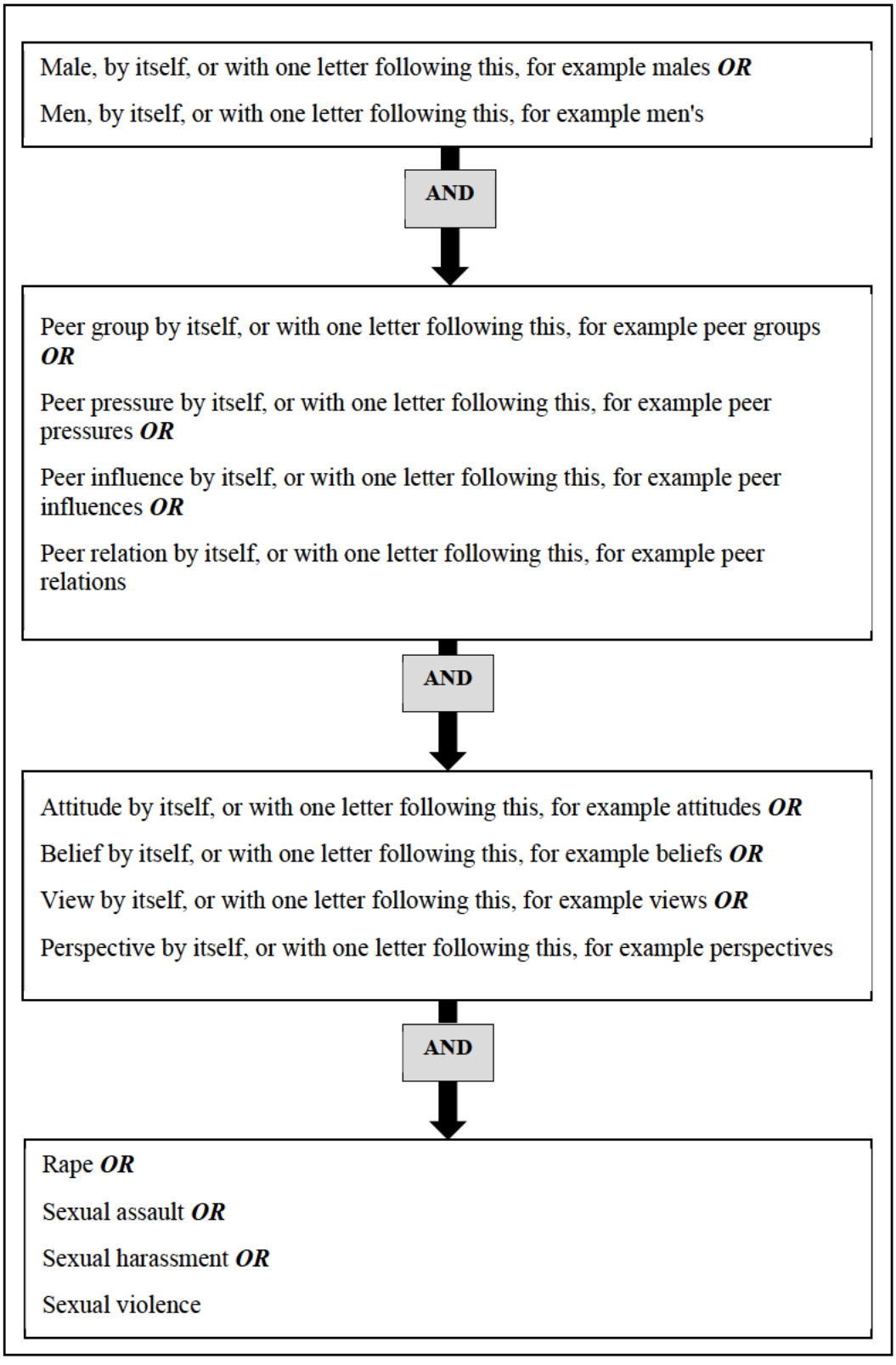
databases, providing a systematic approach to the review. To establish studies specific to peer influence on male attitudes towards sexual assault, keywords associated with 'males' were used, as were keywords associated with 'peer influence', 'attitudes', and 'sexual assault'. The hierarchy of search terms applied across databases have been provided in Figure 1.

The search terms were applied across databases, yielding 707 results (see appendix 1). After removing duplicate articles, 250 papers remained. On initial sifting through the titles and abstracts of the articles, 208 papers were excluded, reducing the pool to 42 papers. Reasons articles were excluded at this stage included: focused on female populations only; did not differentiate between outcomes of male and female participants; did not measure peer influence; measured victimisation, not perpetration; focused on Intimate Partner Violence or date rape behaviours specifically; sample were younger than 17 years old; did not measure any aspect of sexual assault; measured intervention outcomes but not on peer influence; they were research protocols or review articles.

For the remaining 42 articles identified through the database search, full texts were obtained via the University of Birmingham e-library or Google Scholar. The full texts were then reviewed. The inclusion criteria (appendix 2) were applied to the remaining 42 studies using the SPIDER framework. This resulted in 25 articles that were identified as appropriate to include in the current review. Details of the articles that were assessed as being potentially relevant during the initial sifting phases, but were excluded based on not meeting the inclusion criteria once applied to the full article, can be found in appendix 3. Additionally, reference lists of the remaining 25 papers were searched, as was the reference list of another review which was identified during the second database search (Steele et al., 2020). One additional paper was identified through the reference list search, meaning a total of 26 articles were relevant for inclusion in the current review once the SPIDER framework had been applied. Appendix 4 provides details of the articles meeting the inclusion criteria.

Figure 1.

Hierarchy of search terms for databases



Quality assessment

It is beneficial to perform quality assessments when conducting systematic reviews to enhance the credibility of the review and the results found (Sanderson, Tatt, & Higgins, 2007). By screening papers using a quality assessment tool, this enables the researcher to determine whether studies are adequate for answering the research question, and the extent to which the study is free from methodological biases (Littell, Corcoran & Pillai, 2008). Although there are many quality assessment tools available in the health and social sciences (N = 193), there remains no consensus regarding a quality assessment tool that is fully sufficient to assess study quality for inclusion in systematic reviews (Alderson et al., 2004; Wells & Littell, 2009). Despite the centrality of survey designs in psychology (Ponto, 2005), there are a lack of tools available to assess study quality in survey research. Due to the absence of relevant tools, researchers have had to adapt tools from other research methods or disciplines, or have developed their own tools (Protogerou & Hagger, 2019).

For the purposes of the current review, quality assessment tools for quantitative research were identified from other research designs in psychology. One of these tools was the 'Quality appraisal checklist – quantitative studies reporting correlations and associations' (National Institute for Health and Care Excellence, 2012) and another was the 'Appraisal tool for Cross-Sectional Studies' (AXIS tool) (Downes et al., 2016). These two tools were chosen as they both had sections relevant to the specific design of the selected studies. However, as some sections of each tool were irrelevant, the two were combined and adapted to meet the purposes of the current review.

The adapted tool (Appendix 5) incorporated a number of the quality criteria that have been identified by Downes and colleagues (2016) as being frequently used in appraisal tools to assess the quality of quantitative studies. These tools focus mainly on the methods and results of the study to decide whether the findings are credible and reliable (Downes et al.,

2016). The adapted tool for the current review used 22 questions to scrutinise and score the quality of seven sections: (1) aims, (2) population and sample, (3) data collection methods and selection of variables (4) reporting of results, (5) data analysis, (6) discussion, and (7) other (ethics and conflicts of interests). The questions were scored on a rating scale of 0 (not met), 1 (partially met) or 2 (met). A total of 44 points could be assigned for the 22 criteria. Based on the scores assigned, the tool classified studies into three categories of quality: low (0-21), medium (22-32), and high (33-44). Items could receive scorings of NA (not applicable) if the criteria could not be applied to the research design of the study, or NR (not reported) if the information was not reported within the article and so was unknown. Where items received scores of NR, the researcher attempted to contact the authors of the article to obtain this information.

As the current review also included qualitative research, a separate quality assessment tool was necessary to assess the quality of studies with a qualitative design. The tool selected to assess qualitative studies was the Critical Appraisal Skills Programme's (CASP) 10 questions for qualitative research (Long et al., 2020). This tool has been widely used within health-related research and has been endorsed by the Cochrane Qualitative and Implementation Methods Group for synthesis of qualitative evidence (Long et al., 2020).

For the current review, the tool was adapted to include one additional question regarding limitations. The adapted tool (appendix 6) used 10 questions to score the quality of eight sections: (1) are the results valid, (2) research design, (3) data collection, (4) reflexivity, (5) ethics, (6) data analysis, (7) findings, and (8) value of the research. Similar to the quantitative appraisal tool, a rating of 0 (not met), 1 (partially met) or 2 (met) was applied to each study. Overall scores were calculated with a total of 20 points which could be assigned for the 10 criteria. Studies were then categorised into one of three classifications of quality based on their total scores: low (0-10), medium (11-15), and high (16-20). Ratings of CT

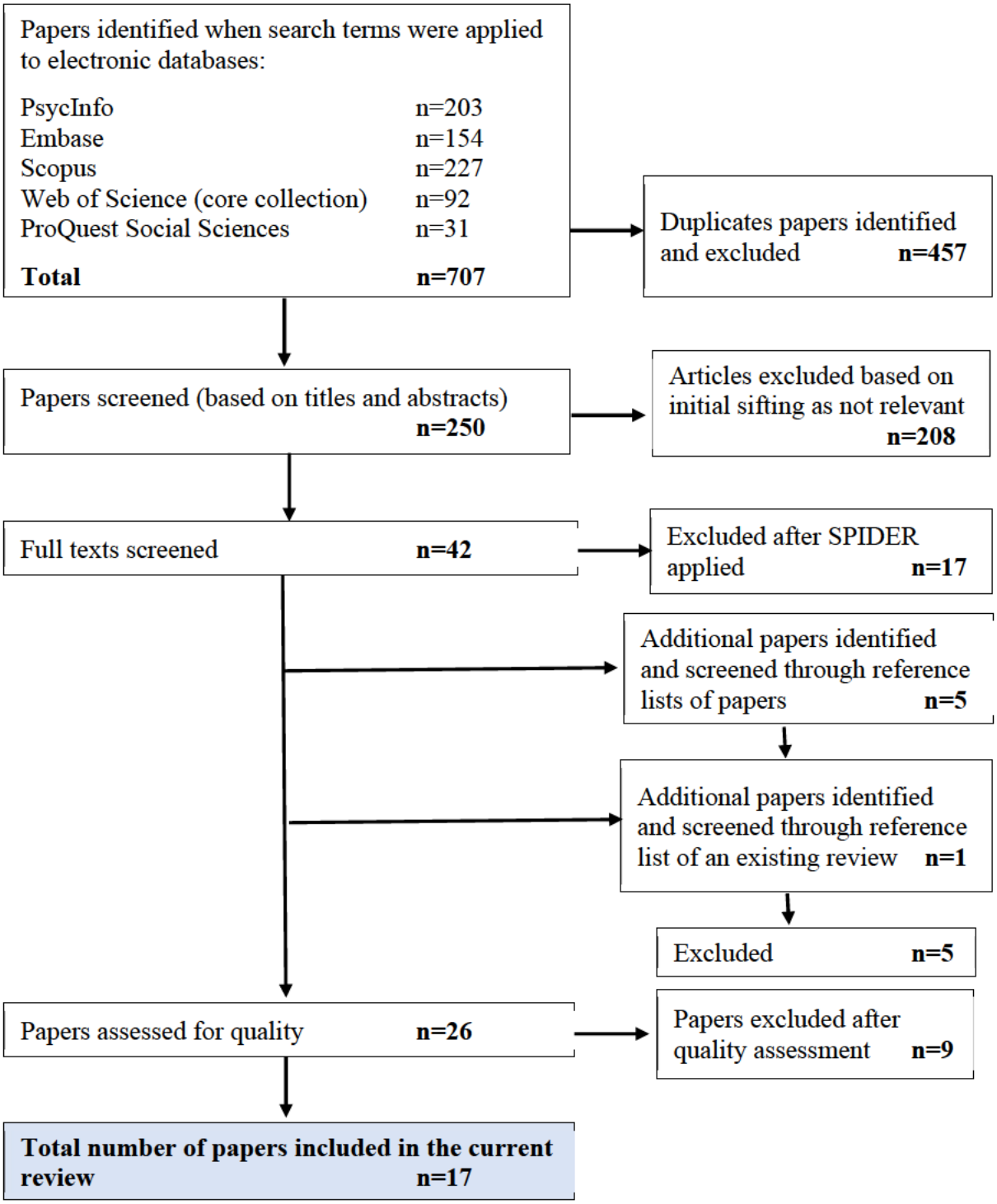
(can't tell) could also be applied where information was not known from the article. Where items received a score of CT, the researcher attempted to contact the authors of the article to obtain this information.

The quality of the 26 studies, identified as suitable for inclusion according to the SPIDER framework, were assessed (Appendix 7). The author assessed all the identified studies. Additionally, 10% (n=3) of the articles were independently assessed by both the author and a secondary assessor to ensure consistency. The secondary assessor was qualified to post-graduate level with a background in psychology. Inter-rater reliability of the quality assessment tool yielded a Cohen's kappa of 0.8 for the overall rating. According to Landis and Koch's (1977) classification of kappa results, scores greater than 0.61 are deemed to be 'substantial' while scores greater than 0.81 are deemed to be 'almost perfect' or 'perfect'.

Areas of the quality assessment framework most likely to be rated as 'not met', and therefore classified as low quality, included the data collection method and sample sections. Eleven studies had an overall quality assessment of 'high' (nine quantitative studies, two qualitative studies). Thirteen studies received a quality assessment of 'medium' (twelve quantitative, one qualitative). Two studies received a quality assessment of 'low' (one quantitative, one qualitative). For the purposes of the current review, any study with a 'low' classification was excluded. Moreover, studies with a 'medium' classification that had an overall quality assessment score that was less than 70% of the total score available on the quality assessment tool were excluded. For quantitative studies, papers with a total quality score of less than 31 were excluded. For qualitative studies, papers with a total quality score of less than 14 were excluded, regardless of whether they had met the 'medium' quality rating threshold. This resulted in seventeen studies which were identified for inclusion and examined within the current review. Fifteen of these were quantitative studies and two of these were qualitative studies. Figure 2 presents a flow chart containing details of the data

Figure 2.

Data selection process across databases



Data Extraction

A pre-defined form was used to extract data from the studies using a standardised approach (Appendix 8). The author designed the extraction form to (1) extract relevant information in line with the current review's objectives (2) record assessment measures used, (3) detail limitations of each study, and (4) note the quality of studies. The following information was recorded:

- Overall aims of the study;
- The sample studied including size, gender, ethnicity, age and selection;
- Context including the setting of the study, and how peer attitudes/behaviours were defined;
- Methods, including data collection, measures, internal reliability, and the process;
- The statistical analysis used, response rates, attrition rates;
- Outcome(s), including whether peer influence was related to attitudes/behaviours of sexual assault, or bystander behaviour, number of perpetrators if known and conclusions drawn;
- Evaluation, including the role of the researcher, whether conclusions drawn were representative, implications and limitations;
- Summary of quality including journal rating, number of citations and quality framework score.

Two attempts were made to contact the authors of studies to clarify information that was not clear or not known during the quality assessment stage however, where no response was received, no further contact was made due to time constraints. Where information was 'not known', this was marked next to the relevant item on the data extraction form.

Results

Data was synthesised from papers meeting the inclusion criteria, and assessed as medium or high quality, where the study received a quality score above 70% of the total quality score available. Table 2 summarises the sample, design, measures, analysis and findings from the 17 eligible studies. There was heterogeneity between studies in terms of the design, phenomenon of interest and evaluation. Although the phenomenon of interest across studies could be classified as 'peer influence', the way in which this was defined and measured varied. Some studies referred to a 'close friend' whereas others referred to the 'average college male'; others referred to 'high school friends' whereas others included 'fraternity membership.' For the current review, the phenomenon of interest 'peer influence' was used to encompass the influence of peer group norms regardless of the differences between how this was measured across studies.

Similarly, the evaluation of 'sexual assault' was selected for the purposes of the current review to encompass various outcomes of sexual assault (SA). Some studies included measures of attitudes towards SA, some referred to perpetration of SA whereas others included bystander intervention. Consequently, the findings of studies were not frequently and directly comparable and, as a result, the data could not be synthesised quantitatively. The data was therefore synthesised and examined qualitatively. A more narrative approach was required to allow for the heterogeneity in the data, however, it is noted that this approach can present difficulties in highlighting commonality between studies (Lucas, Baird, Arai, Law & Roberts, 2007).

Sample

The size of the samples ranged from 15 (Kaya, Le, Brady & Iwamoto, 2019) to 572 (Thompson, Kingeree, Zinzow & Swartout, 2015), with samples of less than 200 in six studies, two of which were qualitative (Kaya et al., 2019; Piccigallo, Lilley & Miller, 2012).

Across all studies, the size of the total relevant sample was 4,648 (*M*=273, *SD*=149). The ages of participants were between 18 and 53 (*M* age = 19.9[4]). The sample was entirely male. There were no studies meeting the inclusion criteria which consisted of mixed-gender samples.

The study location and ethnicity of the sample was similar across studies. Sixteen studies were undertaken in the US (Abbey & McAuslan, 2004; Abbey, McAuslan, Zawacki, Clinton & Buck, 2001; Brown & Messman-Moore, 2010; Dardis, Murphy, Bill & Gidycz, 2016; Edwards & Vogel, 2015; Goodson, Franklin & Bouffard, 2020; Kaczkowski, Brennan & Swartout, 2017; Kingree & Thompson, 2013; Leone & Parrott, 2019; Mikorski & Szymanski, 2017; Pallotti, 2020; Seabrook, Ward & Giaccardi, 2018; Swartout, 2013; Thompson et al., 2015; Kaya et al., 2019; Piccigallo et al., 2012), whereas one study was undertaken in Spain (Duran, Megias & Moya, 2018). This is an indication that American researchers are more active in undertaking research in this area compared to other countries.

Ethnic categories were inconsistent across studies, therefore the overall ethnicity of participants in the review was difficult to gauge. In most studies, however, participants were predominantly Caucasian (Abbey et al., 2001; Brown & Messman-Moore, 2010; Dardis et al., 2016; Edwards & Vogel, 2015; Goodson et al., 2020; Kaczkowski et al., 2017; Kingree & Thompson, 2013; Mikorski & Szymanski, 2017; Pallotti, 2020; Seabrook et al., 2018; Swartout, 2013; Thompson et al., 2015; Kaya et al., 2019; Piccigallo et al., 2012). The approximate ethnic composition of the total sample in the review appeared to be 62% White, 13.2% Black, 11.5% Asian/Mediterranean, 2.8% Hispanic/Latino, and 10.4% other ethnicities, as calculated by determining the mean for studies reporting ethnicity using the same terminology.

Samples were recruited from sources such as two commuter universities (Abbey &

[4] , based on the 15 papers which published the average age of the sample

McAuslan, 2004; Abbey et al., 2001), seven public universities (Brown and Messman-Moore, 2010; Goodson et al., 2020; Kaczkowski et al., 2017; Kingree & Thompson, 2013; Mikorski & Szymanski, 2017; Seabrook et al., 2018; Swartout, 2013), and one private university (Pallotti, 2020. It is noteworthy that 100% of the samples were recruited from a population of students at university or college. Six studies used voluntary sampling (Abbey & McAuslan, 2004; Abbey et al., 2001; Duran et al., 2018; Kingree & Thompson, 2013; Leone & Parrott; Thompson et al., 2015), six used convenience sampling (Brown & Messman-Moore, 2010; Dardis et al., 2016; Edwards & Vogel, 2015; Goodson, Franklin & Bouffard, 2020; Kaczkowski et al., 2017; Mikorski & Szymanski, 2017), two used random sampling (Seabrook et al., 2018; Swartout, 2013), two used criterion-based sampling (Kaya et al., 2019; Piccigallo et al., 2012) and one used a mixture of snowball, random and convenience sampling (Pallotti, 2020).

In thirteen of the studies, participants were provided with compensation; six provided participants with course credit (Brown & Messman-Moore, 2010; Edwards & Vogel, 2015; Goodson et al., 2020; Kaczkowski et al., 2017; Leone & Parrott, 2019; Mikorski & Szymanski, 2017), four a choice of money or course credit (Abbey & McAuslan, 2004; Abbey et al., 2001; Dardis et al., 2016; Kaya et al., 2019), two compensated with money (Kingree & Thompson, 2013; Thompson et al., 2015) and one provided a gift card (Seabrook et al., 2018). Offering compensation has been recognised as a ‘double-edged sword’, with pervasive effects in terms of participation rates and representativeness of samples (Sharp et al., 2006).

Table 2.

Summary of reviewed studies' population, design and major findings

Reference (Country)	Characteristics of final sample	Design	Measurement of peer influence	Measurement of sexual assault outcome	Attrition rate	Analysis and findings	Quality score
Abbey & McAuslan, 2004 (United States)	197 male college students at a large commuter university (*M* age = 22.90, *SD* = 6.21)	Longitudinal study. Surveys completed at two time points, 1 year apart.	6 questions assessed perceived friends' approval of forced sex. 5-point Likert scale. Internal consistency not reported.	Modified 12-item version of SES assessed SA perpetration (Koss et al., 1987). At T1, incidences from age 14 were assessed (α = .83). At T2, incidences since T1 were assessed.	57.4% between T1 and T2.	MANCOVA with social desirability as the covariate found perceived peer approval of forced sex was not a significant predictor of SA perpetration.	38/44 (H)
Abbey, McAuslan, Zawacki, Clinton & Buck, 2001 (United States)	343 male undergraduate students at a large commuter university (*M* age = 21)	Participants asked to describe a social interaction with a woman that involved sexual assault or their worst date. Surveys completed in person.	2 questions assessed peer support for sexual assault perpetration. 5-point Likert scale (α = .80)	Modified 12-item SES assessed SA perpetration (Koss et al., 1987) since age 14 (α = .83).	Not reported.	MANCOVA with social desirability as the covariate found that peer approval of forced sex was significantly higher for perpetrators than non-perpetrators, though this was not significant in a Stepwise Discriminant Function Analysis.	35/44 (H)
Brown & Messman-Moore, 2010 (United States)	395 male students recruited from introductory psychology classes at a medium public university (*M* age = 19.34, *SD*	Surveys completed in person.	Questionnaire assessed peer attitudes regarding sexual assault (α = .68)	3-items assessed beliefs about SA. 7-point Likert scale (α = .53). 12-item Rape Myth Acceptance (RMA) subscale from the ATRVS assessed attitudes towards SA (Buddie et al., 2003). 7-	Not reported.	Zero-order correlations found that greater perceived peer support for sexual aggression was significantly related to lower willingness to intervene against sexual aggression. Personal attitudes supporting sexual aggression contributed almost no variance when social desirability and perceived peer attitudes were taken into account. Only perceived peer	32/44 (M)

	= 1.53)			point Likert scale (α = .85). Questionnaire assessed what participants would do if they witnessed peers committing SA. Assessed likelihood of intervening. 7-point Likert scale (α = .83).		attitudes emerged as a significant predictor of willingness to intervene. RMA was significantly related to both personal and peer attitudes supporting sexual aggression.	
Dardis, Murphy, Bill & Gidycz, 2016 (United States)	200 male undergraduate students (100 dyads) from the psychology participants pool at a large midwestern university (*M* age not reported, 73.6% of sample 18-19 years old)	Dyadic design. Surveys completed in person along with a close peer.	Instructed to bring a friend with them. Friends had known each other *M* = 3.39 years. Both completed sexual assault outcome measures for self, friend and average college male.	22-item Illinois RMA Scale assessed attitudes towards SA. (Payne, Lonsway & Fitzgerald, 1999). 5-point Likert scale (α = .90 for self-report, .90 for report of friend). SES – SFP (Koss et al., 2007) assessed men's SA perpetration since age 14 (α = .95 for self-report, .98 for report of friend).	90.1%	Actor-Partner Independence Models (APIM) found that increases in men's RMA was associated with perceptions that their friends hold such attitudes. The relationship between own attitudes and their friend's actual attitudes was modest. Men's perceptions of their friend's attitudes was not strongly predicted by their friend's actual attitudes. Men who perpetrated SA perceived that their friends had increased RMA. Perpetrators were not significantly more likely to have friends who were also perpetrators. Perpetrators were less accurate in their perceptions of their friend's perpetration and were nearly 3 times as likely to incorrectly perceive their friends to be perpetrators than were non-perpetrators.	33/44 (H)
Duran, Megias &	134 male college students	Surveys completed in	Received feedback on	Presented with 5 scenarios depicting rape	Not	Hierarchal regressions found that rape proclivity was higher among men who	34/44

Moya, 2018 (Spain)	at a southern university (*M* age = 21.50, *SD* = 4.66)	person. Feedback received on the supposed sexist responses of a peer group. Presented with vignettes.	the supposed sexist responses of peer group (high vs. low in Hostile Sexism; HS). Shown fictious mean scores of college males (same age and academic level) on the ASI.	without using the term rape. Answered 3 questions imagining they were in the man's situation. Assessed their likelihood of rape proclivity on the Rape Proclivity Scale (Bohner et al., 1998) (α = .92).	reported.	had received peer group information high in Hostile Sexism than in those who had received information low in HS. This suggests peer group support of HS can influence men's tendency to exhibit sexually aggressive behaviour. However, information of the peer group did not affect rape proclivity of men high in Benevolent Sexism (BS), only those low in BS.	(H)
Edwards & Vogel, 2015 (United States)	382 male university students from psychology or communication studies courses at a midwestern university (*M* age = 20.1, *SD* = 2.8)	Experimental study. Part 1: shown TV and printed advertisements then evaluated them. Part 2: read a vignette then completed surveys.	Shown 4 posters with normative messages corresponding to assigned condition (pro-rape norm condition, neutral norm condition, or antirape norm condition).	Presented with a vignette. Asked to rate how likely they would be to force the woman to engage in sexual activities if in this situation (Willan & Pollard, 2003). Assessed their likelihood of SA as a percentage (0-100%) (α = .82 to .90). 4-items of the SES (Koss & Oros, 1982) assessed engagement in sexual coercion (α = .73).	No drop outs.	Multivariate logistic regressions and linear multiple regression found that men exposed to pro-rape messages had higher intentions to be sexually aggressive. Men in the neutral condition also indicated a greater likelihood to be sexually aggressive compared with men in the anti-rape condition. Men exposed to rape-conducive messages and that had higher perceptions of women's sexual intent had 2 times higher odds of estimating their own likelihood to commit SA than men exposed to anti-rape norms.	38/44 (H)
Goodson, Franklin & Bouffard, 2020 (United States)	280 male college students at a large public university in Pacific Northwest (*M* age = 20.9, *SD*	Surveys completed in person.	Informational Support Index (DeKeseredy & Kelly, 1995) assessed encouragement from male peers for sexual	Modified 4-item Likelihood to Rape Scale (Malamuth, 1981) (α = .41). 7-point Likert scale. 7-item SES (Koss & Oros, 1982) assessed SA perpetration. Recorded	91.8%	Bivariate analyses, Ordinary Least Squares regressions and multivariate binary logistic regressions found that among high profile athletes, there was a significant positive relationship between likelihood of rape and informational support from peers.	31/44 (M)

	= 1.91)		violence (α = .74). Fraternity membership controlled for dichotomously.	using a binary measure. Internal consistency not reported.		There was a significant positive relationship between SA perpetration and fraternity membership. Only fraternity membership was a significant positive predictor among non-athletes indicating encouragement from male peers was associated with higher likelihood of rape. Affiliation with the university's Greek system of fraternities increased odds of sexual assault perpetration by 4 times.	
Kaczkowski, Brennan & Swartout, 2017 (United States)	335 male undergraduate students at a large state university in the Southeast (*M* age = 18.9)	Surveys completed online.	Perceptions of peer attitudes towards rape assessed using modified version of the Justification of Rape Scale (Burgess, 2007). Asked to answer referring to 5 named close high school friends (α .82).	Revised 56-item SES assessed sexual violence perpetration since the age of 14 (Koss et al., 2007). Options ranged from '0 times' to '3 times or more'.	96.5%	Zero-inflated negative binomial regression found that perceived peer rape justification significantly increased odds of classification as a possible sexual violence perpetrator by 49%. Rates of perpetration tended to decrease by 19% for every 1 SD increase in social network diversity when controlling for effects of perceived peer rape justification. This suggests that, of men who might perpetrate sexual violence, those with more diverse peer networks do so at a lower rate than those with less diverse networks.	34/44 (H)
Kingree & Thompson, 2013 (United States)	424 male first year students at a public university in the Southeast (*M* age = 18.56, *SD* = 0.51)	Surveys completed in person.	Peer pressure to have sex (α = .78 at T1 and T2). Peer approval of forced sex (α = .78 at T1 and .81 at T2).	Revised 7-item SES (Koss, Abbey & Campbell, 2007) assessed sexual aggression since beginning of academic year. 4-point responses with options ranging from '0 times' to '3 or more times'. Assigned to	53% between T1 and T3.	Bivariate associations and path analysis found that those who joined a fraternity between T1 and T2 reported relatively more peer approval of forced sex and peer pressure to have sex at T2. Fraternity membership was positively associated with the occurrence of sexual aggression at T3. After controlling for baseline levels of variables, fraternity membership was	31/44 (M)

				2 categories: (0) no perpetration or (1) any perpetration.		prospectively associated with peer approval of forced sex and peer pressure to have sex. Increases in peer approval of forced sex predicted the likelihood of sexual aggression 1 year later.	
Leone & Parrott, 2019 (United States)	104 male undergraduate students at a Southern Eastern university (*M* age = 20.10, *SD* = 2.73)	Surveys completed in person. Then, participated in a laboratory paradigm in which 3 male confederates watched a female confederate, who reported a strong dislike of sexual content in the media, view a sexually explicit film which they could stop at any time.	Randomly assigned to a peer norm manipulation in which male confederates set a misogynistic or ambiguous norm. Completed study in the presence of the three male confederates after they had set the peer group norm (Parrott et al., 2012).	Stopping the sexually explicit video used to assess intervention likelihood. Elapsed time in seconds before stopping the video used to assess intervention time.	65%	Cox proportional hazard model found that there was a main effect of peer norm condition on intervention likelihood, indicating that men in the misogynistic condition were less likely to intervene than those in the ambiguous condition. Men with strong adherence to status norms in the misogynistic group evidenced the slowest intervention rates. Therefore, men exposed to misogynistic peer group norms were less likely and slower to intervene than men exposed to an ambiguous peer norm.	39/44 (H)
Mikorski & Szymanski, 2017 (United States)	329 male undergraduate students at a Southern Eastern Public university (*M* age = 18.93, *SD* = 1.57)	Surveys completed online.	Peer group abuse of women assessed using 3-item attachment to abusive male peers' scale (DeKeseredy & Kelly, 1995) (α = .61).	Modified 15-item Interpersonal Sexual Objectification Scale (Kozee, Tylka, Augustus, Horvarth & Denchik, 2007) assessed how often men have sexually objectified women within the past year. 5-point Likert scale (α =	87.5%	Bivariate analysis found that association with abusive male peers was positively correlated with body evaluation and making unwanted sexual advances towards women.	32/44 (Medium)

				.87 for body evaluation subscale and .78 for unwanted sexual advances subscale).			
Pallotti, 2020 (United States)	207 male undergraduate students at a private university in the North East (*M* age not reported)	Surveys completed online.	Peer norms measure (Brown et al., 2014) assessed perceptions of bystander peer norms (what their friends think) (α = .95)	20-item RMA short-form assessed endorsement of rape myths (Payne et al., 1999). 7-point Likert scale (α = .92). Revised 11-item Bystander Attitudes Scale (McMahonan et al., 2014) assessed intention to engage as a bystander. 5-point Likert scale. All items specify victim or perpetrator is a "friend" (α = .71 to .89).	50.1%	Structural Equation Models and chi-squared tests found that RMA attitudes were negatively correlated with men's bystander efficacy and perceived peer approval of bystander behaviour. Men's confidence in their ability to intervene was positively associated with men's perceptions of peer support for bystander intervention. Men who endorse power over women and playboy norms are more likely to demonstrate RMA and, subsequently, this may decrease their likelihood of intervening in SA.	32/44 (Medium)
Seabrook, Ward & Giaccardi, 2018 (United States)	365 male undergraduate students at a large public university in the Midwest (*M* age = 19.37)	Surveys completed online.	Pressure to conform to Masculine Stereotypes Scale (Epstein, 2009). Perceived pressure from male friends (α = .92). Fraternity membership assessed.	10-item RMA Scale (Burt, 1980) assessed endorsement of rape myths. 6-point Likert scale (α = .87). Modified 11-item Sexual Objectification Scale (Morse, 2008) assessed acceptance of objectification of women. 6-point Likert scale (α = .86).	69.9%	T-tests, Structured Equation Modelling and Zero-Order Correlations found that fraternity membership was associated with endorsement of masculine norms, pressure from friends, and acceptance of objectification of women which, in turn, were each associated with acceptance of sexual violence. Greater conformity to masculine norms and acceptance of objectification of women were associated with greater RMA. Increased pressure from male friends to uphold masculine stereotypes and objectification of women was associated with more frequent sexual deception. This	32/44 (Medium)

						suggests that fraternity members are more accepting of sexual violence against women because they more strongly endorse masculine norms, feel pressure from their friends to uphold masculine norms and more readily view women as sexual objects.	
Swartout, 2013 (United States)	341 male college students at a medium public university (*M* age = 18.9)	Surveys completed online.	Peer network density assessed (Green, Richardson & Lago, 1996) e.g. list 5 male peers you most often associated with during high school and rate relationship strength of pairs (0 = never met, 100 = extremely close friends). 10-item Justification of Rape Scale (Burgess, 2007) assessed sexually aggressive behaviour and proclivity (α = .86).	13-item RMA Scale (Burt, 1980) assessed attitudes supporting violence against women. 7-point Likert scale (α = .86). SES (Koss et al., 2007) assessed sexual aggression perpetrated since 14th birthday (α = .85 to .98). Responses range from '0 times' to 'three or more times'. Participants were assigned to 4 groups.	93.2%	Structural Equation Models found peer network density negatively predicted HS but did not significantly predict individual attitudes. Perceived peer attitudes predicted attitudes supporting sexual violence against women, peer group density predicted HS and perceived peer attitudes and peer network density interacted to positively predict hostile masculinity. Men in lower aggression peer groups were increasingly affected by peer network density. This suggests tightly knit peer groups that hold attitudes less accepting of sexual aggression protect against members developing high levels of hostile masculinity, making these men less likely to perpetrate sexual aggression.	32/44 (Medium)
Thompson, Kingeree, Zinzow & Swartout,	572 male first year students at a Southern Eastern	Longitudinal study. Surveys	6-items assessed perceptions of current sets of friends approval	Revised 35-item SES (Koss et al., 2007) assessed SA. At wave 1, time frame was before	72% at wave 4.	Repeated measures general linear models found that the decreasing SA group (which consisted of men who came to college with a history of SA	33/44 (High)

2015 (United States)	university (*M* age = 18.56, *SD* = .51)	completed in person at 4-time points (at the end of each of 4 years of college).	of forced sex (α = .78 at wave 1, .81 at wave 4). 3-items assessed perceived peer pressure from friends to have sex with women (α = .76 at waves 1 and 4).	starting college and during the first year of college. At waves 2-4, time frames were during summer between respective academic years to the current academic year. Assigned into 4 groups (low SA group, increasing SA group, decreasing SA group, or high SA group). Rape Supportive Beliefs Scale (Lonsway & Fitzgerald, 1995) assessed rape supportive attitudes. 5-point Likert scale (α = .90 at wave 1, .92 at wave 4).		but decreased their perpetration likelihood during college) showed decreases in rape supportive attitudes, perceptions of peer approval of forced sex and perceptions of peer pressure to have sex. In comparison, men who increased their levels of SA over time demonstrated larger increases in risk factors, such as rape supportive beliefs, peer approval of forced sex and peer pressure for sex.	
Kaya, Le, Brady & Iwamoto, 2019 (United States)	15 male college students (*M* age = 19.9)	Semi-structured interviews conducted in person. 30-90 mins in length.	Explored the social context in which bystander intervention takes place.	Explored types of bystander interventions and the contexts in which intervention occurred. Delineated aspects of masculinity that contributed to men's efficacy and willingness to engage in bystander behaviours.	N/A	Grounded theory was conducted. Men described the social context in which their intervention took place, describing the presence of socially supportive peer groups of men who either affirmed or encouraged their decision to intervene. Several men noted the presence of supportive peer groups mitigated potential threat that there would be a physical altercation when intervening. Other men described the peer context as providing them with empowerment or authority to intervene. This suggests the presence of supportive peers	19/20 (High)

						encouraged intervention behaviours.	
Piccigallo, Lilley & Miller, 2012 (United States)	25 male college students at campuses in the East Coast (*M* age = 20)	Semi-structured interviews, the majority conducted over the phone, some face to face and some online.	Explored men's involvement in all-male antirape prevention groups including the social context in which participants engage.	Explored what men find effective about all-male antirape prevention groups.	N/A	Grounded theory was conducted. Peer exposure was found to affect the attitudes of programme participants but also the recruitment of peers to the programme functioned as a perpetual peer-based intervention affecting both attitudinal and behavioural change. Men emphasized that having other men to talk to was one of the most effective components of the groups. Reasons were given as to why men would be more receptive to hear messages from other men as opposed to women. Men in these groups appeared to be affected by the norms and evaluations of their male peers to a greater degree than they were female. When approached in a non-confrontational alliance-building way by other men, they reported their knowledge related to SA and their motivation to engage in SA prevention increased.	17/20 (High)

Peer influence

Different terminology was used across studies in addition to, or instead of, 'peer influence': 'peer pressure', 'peer support', 'peer approval', 'peer group', 'peer norms', 'male peers' and 'peer network'. Exposure to peer influence was measured using a variety of methods. The majority of studies assessed participant's self-reported perceptions of peer attitudes towards SA (Abbey & McAuslan, 2004; Brown & Messman-Moore, 2010; Kaczkowski et al., 2017; Kaya et al., 2019; Pallotti, 2020; Seabrook et al., 2018; Swartout, 2013; Thompson et al., 2015). Some studies assessed actual support and encouragement from male peers (Abbey et al., 2001; Dardis et al., 2016; Goodson et al., 2020; Kingree & Thompson, 2013; Mikorski & Szymanski, 2017; Piccigallo et al., 2012) whereas others manipulated peer group norms (Duran et al., 2018; Edwards & Vogel, 2015; Leone & Parrott, 2019).

Three studies assessed peer approval of forced sex (Abbey & McAuslan, 2004; Kingree & Thompson, 2013; Thompson et al., 2015). Two studies used the Justification of Rape Scale (Burgess, 2007) with both asking participants to answer in relation to 5 high-school friends (Kaczkowski et al., 2017; Swartout, 2013). Two studies assessed peer pressure to have sex (Kingree & Thompson, 2013; Thompson et al., 2015). Abbey and colleagues (2001) assessed peer support for SA perpetration using two questions designed for the study. Brown and Messman-Moore (2010) also designed their own questionnaire to assess peer attitudes regarding SA, although internal consistency of the scale was questionable. Dardis and colleagues (2016) assessed perceived and actual peer attitudes; participants were instructed to bring a friend along with them, and they both completed survey measures based on their own attitudes, perceptions of their peer's attitudes, and the average college male. Goodson and colleagues (2020) assessed encouragement from male peers for sexual violence using the Informational Support Index (DeKeseredy & Kelly, 1995) and they also measured

fraternity membership dichotomously.

Alternatively, some studies manipulated the peer group norm. In Duran and colleagues' (2018) study, participants received feedback on the supposed sexist responses (either high in Hostile Sexism [HS], or low in HS) of a peer group, specifically college males of the same age and academic level. Edwards and Vogel's (2015) also manipulated peer group influence by presenting participants with four advertisements showing normative messages which corresponded to their assigned condition (messages were in line with a pro-rape norm condition, a neutral norm condition or an anti-rape norm condition). In Leone and Parrott's (2019) study, participants were randomly assigned to a condition in which three male confederates set a misogynistic or ambiguous norm in their conversation.

Mikorski and Szymanski (2017) assessed peer group abuse of women using the Attachment to Abusive Male Peers scale (DeKeseredy & Kelly, 1995). Pallotti's (2020) used the Peer Norms Measure (Brown et al., 2014) to assess perceptions of bystander peer norms; specifically referring to what their 'friends' would think. The Pressure to conform to Masculine Stereotypes Scale (Epstein, 2009) was used within the Seabrook et al. (2018) study. Additionally, fraternity membership was assessed. Interestingly, Swartout (2013) considered peer network density (Green et al., 1996) by asking participants to name 5 male peers they associated with most often during high-school and to rate the relationship strength between pairs of friends (on a scale of never met to extremely close friends).

Kaya and colleagues (2019) used semi-structured interviews to explore the social context in which bystander intervention took place. Similarly, Piccigallo and colleagues (2012) used semi-structured interviews to explore men's involvement in all-male antirape prevention groups. They explored the social context in which participants engage in such groups in this study. Overall, most studies included in the review used self-report measures relating to SA. The majority conceptualised 'peer influence' as 'friends', although this varied

from one friend to high-school friends. Moreover, there was a lack of consistency across studies in terms of measurement of peer influence.

Design

Ten studies involved surveys (Abbey & McAuslan, 2004; Brown & Messman-Moore, 2010; Goodson et al., 2020; Kaczkowski et al., 2017; Kingree & Thompson, 2013; Mikorski & Szymanski, 2017; Pallotti, 2020; Seabrook et al., 2018; Swartout, 2013; Thompson et al., 2015). Two were longitudinal, however follow-up periods varied. Abbey and McAuslan (2004) asked participants to complete surveys at 2-time points, 1 year apart, whereas Thompson and colleagues (2015) asked participants to complete surveys at 4-time points, at the end of each of their 4-years at college.

Abbey and colleagues (2001) asked participants to describe a social interaction with a woman that involved either a sexual assault or their worst date prior to completing surveys. Dardis and colleagues (2016) used a dyadic design, asking participants to complete surveys in person alongside a close friend. Two studies used vignette designs (Duran et al., 2018; Edwards & Vogel, 2015). For example, Duran and colleagues (2018) asked participants to complete surveys, presented them with fictitious mean scores of a peer group, and then presented them with vignettes depicting rape scenarios. Conversely, Edwards and Vogel (2015) conducted an experimental study asking participants to evaluate advertisements, exposing them to normative messages. Participants then read vignettes prior to completing surveys. Additionally, Leone and Parrott (2019) conducted a laboratory paradigm in which participants joined three male confederates whom either set a misogynistic or an ambiguous peer norm prior to providing them with an opportunity for bystander intervention.

Of the two qualitative studies in the review, both used semi-structured interviews; Kaya and colleagues (2019) conducted interviews in person, whereas Piccigallo and colleagues (2012) conducted interviews either in person, over the phone or online.

Evaluation of sexual assault

In the current review, SA was defined as any unwanted behaviour in the form of a sexual act that is attempted or completed against the will of the victim and without the victim's consent (National Institute of Justice, 2010). For the purposes of the review, SA outcomes were measured through attitudes towards SA, perpetration of SA or bystander intervention to prevent SA. Different terminology was referred to in addition to, or instead of, SA across studies, including 'forced sex', 'sexual aggression', 'sexual coercion', 'sexual violence' and 'unwanted sexual advances'. Hence, the term SA was used to encompass all these behaviours.

Although nine studies measured perpetration using the Sexual Experiences Survey (SES), there was heterogeneity across studies regarding the version used, the number of items, the time period considered, and categorisation. Abbey and McAuslan (2004) and Abbey and colleagues (2001) both used a 12-item version of the SES (Koss et al., 1987) to assess incidences of perpetration from age 14. Moreover, Abbey and McAuslan (2004) conducted a 1-year follow-up in which incidences that had occurred since Time 1 (T1) were measured. Dardis and colleagues (2016) also assessed perpetration since age 14, however using a different version of the SES (SES-Short Form Perpetration; Koss et al., 2007), as did Swartout (2013). Similarly, Kaczkowski's (2017) used the SES (Koss et al., 2007) to assess SA perpetration from age 14, albeit a 56-item version. Thompson and colleagues (2015) measured perpetration using a 35-item SES (Koss et al., 2007) in which time frames of perpetration differed. At wave 1, participants reported SA perpetration before starting college and during the first year of college. At waves 2-4, participants reported incidences of perpetration during summer of the respective academic year to the current academic year. In Kingree and Thompson's (2013) research, a revised 7-item version of the SES (Koss et al.,

2007) was used, though perpetration of SA was assessed since the beginning of the academic year. Edwards and Vogel (2015) also used the SES (Koss & Oros, 1982), however using only 4-items to assess engagement in sexual coercion.

Most studies failed to report how SA perpetration was scored based on the SES. Of the studies that did report this, three reported that options ranged from '0 times' to '3 times or more' (Kaczkowski et al., 2017; Kingree & Thompson, 2013; Swartout, 2013). One study specified that participants were then assigned to one of two categories; 'no perpetration' or 'any perpetration' (Kingree & Thompson, 2013). Two studies specified participants were assigned to one of 4 groups (Swartout, 2013; Thompson et al., 2015) and Thompson and colleagues (2015) went even further outlining these groups based on changes in scores between waves 1 to 4 ('low SA'; 'increasing SA'; 'decreasing SA'; 'high SA').

Conversely, three studies (Duran et al., 2018; Edwards & Vogel, 2015; Goodson et al., 2020) focused on outcomes of self-reported likelihood of sexual assault (also referred to as 'rape proclivity' across studies). For example, Duran and colleagues (2018) presented participants with 5 scenarios depicting rape in which participants were asked to imagine they were in the man's situation. They then assessed their likelihood of rape proclivity through the Rape Proclivity Scale (Bohner et al., 1998). Similarly, Edwards and Vogel (2015) presented participants with a vignette and asked participants to rate how likely they would be to commit SA in this situation; however, likelihood of SA was reported as a percentage (0-100%). In Goodson and colleague's (2020) study, rape proclivity was assessed using 4-items from the Likelihood to Rape Scale (Malamuth, 1981) however internal consistency was unacceptable (α=.41).

Additionally, attitudes towards SA were measured using various methods across studies. The most commonly used measure was the Rape Myth Acceptance Scale (RMA-S) (Burt, 1980) which was included in five studies (Brown & Messman-Moore, 2010; Dardis et

al., 2016; Pallotti, 2020; Seabrook et al., 2018; Swartout, 2013); although there were notable inconsistencies. Brown and Messman-Moore (2010) used a 12-item RMA subscale from the Attitudes Towards Rape Victims Scale (ATRVS; Buddie et al., 2013), which assessed attitudes towards SA. Dardis and colleagues (2016) used the 22-item Illinois RMA-S (Payne et al., 1999), as did Pallotti (2020), to assess endorsement of rape-myths, though the number of items used in Pallotti's study was not reported. Seabrook and colleagues (2018) used a 10-item RMA-S (Burt, 1980) to assess endorsement of rape myths. Conversely, Swartout (2013) used a 13-item RMA-S (Burt, 1980). It is unclear why versions of the RMA-S varied, with neither author reporting full details of the scale used.

Burt's (1980) RMA-S is a 19-item measure containing 11-items related to rape justification and victim-blaming and 8-items related to false accusations and likelihood of believing claims of rape. Items are scored on a 7-point Likert scale, as is the case in Swartout's research (2013), however, Seabrook and colleagues (2018) used a 6-item Likert scale. Their justification for using a 6-point Likert scale has not been made explicit, although it can be implied this was to ensure consistency with other measures administered to respondents. Two additional studies assessed attitudes towards SA through alternative measures. Brown and Messman-Moore (2010) designed 3-questions to assess beliefs about SA however internal consistency for the scale was poor (α=.53). Thompson and colleagues (2015) used the Rape Supportive Beliefs Scale (Lonsway & Fitzgerald, 1995), which demonstrated excellent internal consistency (α=.90 at wave 1 and .92 at wave 4).

Two studies assessed sexual objectification of women (Mikorski & Szymanski, 2017; Seabrook et al., 2018) which occurs when a woman is primarily viewed as a physical object and is reduced to her sex appeal for the desire of others (Bartky, 1990; Fredrickson & Roberts, 1997). In Mikorski and Szymanksi's (2017) study, the 15-item Interpersonal Sexual Objectification Scale (Kozee et al., 2007) was used to assess how often men had sexually

objectified women within the past year, specifically through the body evaluation and unwanted sexual advances subscales. In contrast, Seabrook and colleagues (2018) used the 11-item Sexual Objectification Scale (Morse, 2008) to assess acceptance of objectification of women.

The final outcome measured across studies which was relevant to the review was likelihood of intervening in sexual assault. Two studies measured bystander intervention through self-reported measures. Brown and Messman-Moore (2010) provided participants with a questionnaire which asked what participants would do if they witnessed their peers committing sexual assault, assessing their likelihood of intervening. In contrast, Pallotti (2020) used the 11-item Bystander Attitudes Scale (McMahonan et al., 2014) to assess intentions to engage as a bystander, with items specifying that either the victim or the perpetrator was a 'friend'. Leone and Parrott (2019) assessed bystander intervention using a laboratory experiment. Participants and three male confederates watched a female confederate, who had reported a strong dislike of sexual content, view a sexually explicit film which they were told they could stop at any time. Intervention likelihood was measured based on participants stopping the sexually explicit video. Intervention time was assessed through the elapsed time in seconds before the participant stopped the video. Kaya and colleagues (2019) also focused on bystander intervention. They explored types of interventions and the contexts in which intervention occurred, as well as factors that contributed to men's efficacy and willingness to engage in these behaviours. Additionally, one study within the current review provided outcomes in terms of SA prevention. Piccigallo and colleagues (2012) explored what men found most effective about all-male antirape prevention groups.

Relationship between peer influence and sexual assault

Due to heterogeneity across studies in terms of design, measures and data analysis, the findings of studies were not directly comparable. Subsequently, the findings have been

synthesised qualitatively. Five studies presented findings in relation to peer influence on attitudes towards SA (Brown & Messman-Moore, 2010; Dardis et al., 2016; Mikorski & Szymanksi, 2017; Seabrook et al, 2018; Swartout, 2013). Brown and Messman-Moore (2010) conducted zero-order correlations and found that RMA was significantly related to both personal and perceived peer attitudes supporting SA, indicating both an individual's own attitudes and perceptions of peer attitudes contribute to RMA. Dardis and colleagues (2016) conducted Actor-Partner Independence Models and found that increases in men's RMA was associated with perceptions that their friends hold such attitudes. However, they also found that men's perceptions of their friends' attitudes were not strongly predicted by their friends' actual attitudes. This suggests men may misperceive the attitudes of their friends concerning SA.

Mikorski and Szymanksi (2017) conducted bivariate analyses and found that association with abusive male peers was positively correlated with sexual objectification. Seabrook and colleagues (2018) conducted zero-order correlations and found that fraternity membership was associated with endorsement of masculine norms, pressure from friends, and acceptance of objectification of women. In turn, these factors were associated with acceptance of sexual violence. This suggest that fraternity members may be more accepting of sexual violence against women because they more strongly endorse masculine norms, feel pressure from friends to uphold such norms, and more readily view women as sexual objects, therefore increasing their acceptance, and thus attitudes, towards SA. Additionally, Swartout (2013) conducted Structural Equation Models and found that perceived peer attitudes predicted attitudes supporting sexual violence against women; peer network density predicted HS; and perceived peer attitudes and network density interacted to predict hostile masculinity. It was concluded that close peer groups that hold attitudes less accepting of sexual aggression may protect group members from developing high levels of hostile

masculinity which, in turn, could make these men less likely to perpetrate SA.

Ten studies presented findings in relation to the association between peer influence and likelihood of SA perpetration (Abbey & McAuslan, 2004; Abbey et al., 2001; Dardis et al., 2016; Duran et al., 2018; Edwards & Vogel, 2015; Goodson et al., 2020; Kaczkowski et al., 2017; Kingree & Thompson, 2013; Mikorski & Szymanski, 2017; Thompson et al., 2015). Abbey and McAuslan (2004) conducted a MANCOVA and found perceived peer approval of forced sex was not a significant predictor of SA perpetration. Although Abbey and colleagues (2001) had previously found that peer approval of forced sex was significantly higher for perpetrators than non-perpetrators, this relationship did not meet significance threshold when using a Stepwise Discriminant Function Analysis. Dardis and colleagues (2016) found perpetrators of SA perceived that their friends had increased RMA. Moreover, they found perpetrators were less accurate in their perceptions of their friend's perpetration; they were nearly three times as likely to incorrectly perceive their friends to be perpetrators as compared to non-perpetrators. However, despite their misperceptions of their peers' perpetration status, perpetrators were not significantly more likely to have friends who were also perpetrators.

Hierarchal regressions were conducted by Duran and colleagues (2018) whereby they found that rape proclivity was higher among men who had received peer group information high in HS than in those who had received information low in HS. The results suggest peer group support for HS can increase men's likelihood of sexually aggressive behaviour. However, peer group information was not found to affect rape proclivity of men high in benevolent sexism (BS), only those low in BS. The results suggest that, where men are members of peer groups high in HS or low in BS, they are more likely to perpetrate SA. Edwards and Vogel (2015) conducted multivariate logistic regressions and linear multiple regressions in their study. They found that men who had been exposed to pro-rape messages

had higher intentions to be sexually aggressive, as did men in the neutral condition, in comparison to men in the anti-rape condition. Furthermore, they found that men exposed to rape-conducive messages *and* with higher perceptions of women's sexual intent had two times higher odds of self-reporting likelihood of perpetrating SA, compared to men exposed to anti-rape norms. This indicates that, even where peer group norms are manipulated, these can still influence men's likelihood of SA. However, it is important to note that the researchers did not measure the participant's perceptions of their peer groups' attitudes. It is feasible that participants exposed to pro-rape or neutral norm conditions may have also been members of peer groups in which they were already exposed to such norms.

Goodson and colleagues (2020) conducted bivariate analyses, Ordinary Least Squares regressions and multivariate binary logistic regressions. They found that, among high profile athletes, there was a positive relationship between likelihood of rape and informational support from peers. They also found a significant positive relationship between SA perpetration and fraternity membership, however, among non-athletes, only fraternity membership was a positive predictor. The results indicate that encouragement from male peers was associated with a higher likelihood of rape. Additionally, they found that affiliation with Greek fraternities increased odds of SA perpetration by four times, therefore suggesting fraternities are one setting in which the peer group encourages SA perpetration among men. Similarly, Kingree and Thompson conducted bivariate analyses and path analyses and found that men who joined a fraternity between Time 1 (T1) and Time 2 (T2) reported relatively more peer approval of forced sex and peer pressure to have sex at T2. Moreover, fraternity membership was positively associated with perpetration of sexual aggression 1-year later (T3).

Using zero-inflated negative binomial regression analysis, Kaczkowski and colleagues (2017) found that perceived peer support for rape justification significantly

increased the odds of men being classified as a possible sexual violence perpetrator by 49%. Rates of perpetration tended to decrease by 19% for every 1 *SD* increase in social network diversity, even when controlling for effects of perceived peer rape justification. The results suggest that men with more diverse peer networks might perpetrate sexual violence at lower rates than those with less diverse peer networks. Thompson and colleagues (2015) analysed data using a repeated measures general linear model design. They found that those in the decreasing SA group (which consisted of men who came to college with a history of SA but decreased their perpetration likelihood during college) showed decreases in rape supportive attitudes, perceptions of peer approval of forced sex and peer pressure to have sex. Contrastingly, men in the increasing SA group (of whom increased their levels of SA over time) demonstrated increases in rape supportive beliefs, peer approval of forced sex and peer pressure for sex.

Five studies explored prevention of SA with four of these relating to bystander intervention (Brown & Messman-Moore, 2010; Kaya et al., 2019; Leone & Parrott, 2019; Pallotti, 2020). Brown and Messman-Moore (2010) found that only perceived peer attitudes regarding SA emerged as a significant predictor of willingness to intervene. Leone and Parrott (2019) conducted a Cox proportional hazard model and found that there was a main effect of peer norm condition on intervention likelihood. This indicated that men in the misogynistic peer norm condition were less likely to intervene than those in the ambiguous norm condition. Furthermore, they found that men with strong adherence to status norms in the misogynistic group evidenced the slowest intervention rates. The results suggest that men exposed to misogynistic peer norms are less likely to intervene, and are slower to intervene, than men exposed to ambiguous peer norms. In Pallotti's (2020) study, Structural Equation Models were conducted and found that men's confidence in their ability to intervene as a bystander was positively associated with their perceptions of peer support for bystander

intervention. Furthermore, Pallotti (2020) found that men who endorsed power over women and playboy norms were more likely to demonstrate RMA, which subsequently may decrease their likelihood of intervening in SA.

When considering articles that used qualitative methods, Kaya and colleagues (2019) conducted grounded theory analyses and identified social contexts in which bystander intervention took place. Kaya and colleagues found that the presence of socially supportive peer groups of men either affirmed or encouraged men's decision to intervene. Some men noted that the presence of supportive peer groups mitigated potential threat if there were to be a physical altercation when intervening. Others described the peer context as one which provided them with empowerment or authority to intervene. These findings suggest the presence of supportive peers encouraged bystander intervention amongst men. Similarly, in Piccigallo and colleagues (2012) study, all-male peers within antirape prevention groups were found to affect the attitudes of participants and the recruitment of peers; this functioned as a perpetual peer-based intervention influencing attitudinal and behavioural change. They found that, when men were approached in a non-confrontational alliance-building way by other men, their knowledge relating to SA and their motivation to engage in SA prevention increased.

Discussion

The current review used a systematic approach to explore the relationship between peer influence and sexual assault. Three main objectives were addressed:

Explore whether peer influence is related to men's attitudes towards sexual assault

The findings of the review highlighted discrepancies in how peer influence has been defined and explored within research. Whilst some studies distinguished peer influence in relation to particular peers, others defined this as the norms of an entire population, such as

'college males'. The review also emphasised the variance with regards to attitudes towards sexual assault and how this has been defined and measured in the research.

Of the five studies in the review that explored men's attitudes towards sexual assault, all five supported the relationship between perceptions that peers are accepting of sexual assault and own attitudes supportive of sexual assault. However, the findings of Dardis and colleagues (2016) study appear to suggest that men misperceive the attitudes of their peers regarding sexual assault. It is possible that actual peer attitudes do not relate to men's own attitudes regarding sexual assault. Additionally, the findings would appear to suggest that by having close peer groups that are less accepting of sexual assault, men may be protected from the likelihood of perpetrating sexual assault (Swartout, 2013).

Explore whether peer influence is related to men's likelihood of sexual assault perpetration

Out of the 9 studies in the review reporting outcomes related to perpetration of sexual assault, only two found no relationship between attitudes of the peer group and perpetration of sexual assault (Abbey & McAuslan, 2004; Abbey et al., 2001). Both studies measured sexual assault perpetration using the SES and the quality assessment of the studies were high. Of the remaining 7 studies, peer group support for sexual assault (or perceptions of) were found to be related to, or predictive of, likelihood of sexual assault perpetration, with some studies specifying peer contexts in which this relationship might occur i.e., fraternities and high-profile sports (Goodson et al., 2020; Kingree & Thompson, 2013). This finding is consistent with a recent review which demonstrated fraternity membership and peer approval of sexual violence were predictors of sexual violence perpetration among higher education students (Steele et al., 2020).

Moreover, these findings align with Male Peer Support Theory (Schwartz & DeKeseredy, 1997) and further support Akers' (1973) theory that association with certain

peer groups may reinforce behaviours appropriate to the group despite the illegitimacy of such behaviours. Additionally, one paper found that, where men had more diverse peer networks, their likelihood of SA perpetration was lower. This indicates that certain peer groups can be protective against sexual assault perpetration and provide positive support for members, as highlighted by Schwartz and DeKeseredy (1997). The results of the review indicate the importance of peer groups in influencing behaviour among university males as compared to the influence of individual beliefs.

Explore whether peer influence is related to men's likelihood of bystander intervention

Bystander intervention has been framed conceptually to focus on sexual assault prevention beyond the individual, extending to the roles of peers and community contexts (Casey & Lindhorst, 2009). In a previous review, Banyard (2011) presents an ecological model to bystander intervention which provides multiple contexts that impact upon bystander intervention including peer influences. The findings of the current review are consistent with this model. Of the 5 studies that provided outcomes on bystander intervention or prevention, all 5 supported the relationship between the peer group (i.e., attitudes and norms) and likelihood of intervening in sexual assault. In Brown's (2010) study, perceived peer attitudes were the only significant predictor of intervention willingness suggesting peer attitudes have a larger impact than individual attitudes in willingness to prevent sexual assault. Furthermore, in three studies (Kaya et al., 2019; Pallotti, 2020; Piccigallo et al., 2012) the results indicated that peer support can motivate and encourage bystander intervention and men's willingness to intervene.

Whilst the results of these studies are promising, outcome measures tended to focus on attitudinal change or behavioural intent as opposed to actual bystander behaviours. It could be argued that, in the current review, the relationship between peer influence and willingness to intervene may not correspond to actual behaviour change (Schewe, 2007),

therefore, future research should attempt to measure the relationship between peers and actual bystander behaviour. Nevertheless, these findings are valuable given bystander behaviour has been proposed to predict an individual's future behaviour (Labhardt et al., 2017). Furthermore, in the current review, Leone and Parrott (2019) conducted a laboratory paradigm in which they found support for peer norms influencing intervention likelihood and intervention time. These results would appear to suggest that peer group norms do correspond with actual intervention behaviours, at least in laboratory settings, in addition to willingness to intervene.

Considering the interpretations of findings

Studies included in the current review were predominantly undertaken in the US, known to be an individualistic culture, which is likely to limit the generalisability of the findings. Moreover, the research was undertaken with predominantly white samples. Indeed, the culture in which individuals are raised can influence the way in which they are socialised (Gudykunst et al., 1999), thus the findings of the review may not be generalisable to other countries or ethnicities. For the purposes of the current review, studies which included samples of males were selected for inclusion, limiting generalisability of the findings to males. The findings, therefore, may also not be applicable to female populations. Furthermore, it is important to note all samples were students from university and college populations. This is characteristic of research within this area, which has tended to focus on university samples or high school students (Bohner et al., 2006; Steele et al., 2020). Consequently, caution should be exerted when applying the findings to other male populations, as it is not known whether peer groups may have the same influence on men beyond higher education.

Whilst there was no consensus regarding how peers were defined across studies (i.e., one peer, high school peers, current peers, college males), and the factors of 'peer influence'

and 'sexual assault' were measured differently throughout the research, common findings were still found between studies based on these different measures. This commonality in findings is promising and should provide a clearer picture for researchers. Nevertheless, it should be noted that where new studies measure peer influence or sexual assault in different ways, this may yield different results. That is, the current review is limited by the factors that were studied and the way in which these factors were studied. This could explain the conflicting results found in the research by Abbey and colleagues (2001; 2004) as the researchers retrospectively measured perpetration of sexual assault, whereas the remaining seven studies which found a relationship between the peer group and sexual assault were more inclined to use measures and report findings prospectively and relating to the likelihood of perpetration of sexual assault.

Most of the research within the current review involved survey studies that relied on self-report measures of perceived peer influence and sexual assault. As a result, the findings may be more likely to be subject to social desirability bias, especially given the socially sensitive nature of the questions (King & Brunner, 2000) regarding sexual assault. Although three studies attempted to control for socially desirability bias (Abbey & McAuslan, 2004; Abbey et al., 2001; Brown & Messman-Moore, 2010), the findings of the review should be interpreted in light of this limitation. In future, researchers may choose to consider, and control for, social desirability bias when using self-reported measures in this research area.

Strengths and limitations of the current review

Numerous electronic databases were systematically searched in the current review. Attempts were made to ensure search terms were comprehensive by considering synonyms, reviewing search terms used in the research area, and mapping terms to subject headings. Moreover, the review included one dissertation study (Pallotti, 2020) which was identified through the reference list of another review (Steele et al., 2020). Reviews that include

dissertation studies enable a more complete search of the relevant literature (Egger, Dickerson & Smith, 2007), however extensive time was not provided to retrieve such studies within the current review because they are more likely to be methodologically flawed (Vickers & Smith, 2000).

Reference lists of papers for inclusion were hand-searched to identify further relevant articles, however, this approach was subjective; decisions about the potential relevance of articles were made by the researcher based on the title of the article. Furthermore, due to time constraints and potential bias, the author did not attempt to contact professionals for further potential studies. Although consideration was given to inclusion of grey literature, this did not occur within the current review as these articles are not usually subject to peer review and could introduce bias (Schlosser, 2007). The inclusion criteria enabled identification of studies using a systematic approach, optimising chances that the studies selected were appropriate for the objectives of the review and measured similar concepts. However, research relating to relevant concepts may have been excluded based on these criteria (e.g., where samples were under 17 years or females were included in the analysis). The decision to exclude papers which included participants under 17 may be questionable due to the strong influence peer groups can have during adolescence. However, prior to excluding articles based on the SPIDER framework, only one additional paper was identified from the databases searches which incorporated participants below the age of 17 (Hassan et al., 2021), and this study also included female participants without providing separate outcomes, therefore would not have met inclusion criteria if exclusion criteria relating to those under the age of 17 was removed. Additionally, it is noted that this research, although including participants under the age of 17, would have supported the current review's findings and as such would not have added anything novel to the results.

A percentage of studies were evaluated by two raters to improve reliability when considering articles for inclusion, which was a strength of the current review given the 'substantial' interrater reliability (Landis and Koch, 1977). Nonetheless, only 10% of studies were evaluated by two raters within the current review, whereas 20-30% is a recommended reasonable percentage (Schlosser, 2007). Another strength of the current review was the use of quality appraisal tools to ensure studies included were more methodologically robust. Due to the lack of availability of appraisal tools for survey studies however, the two tools were slightly adapted hence cannot be considered established. Nonetheless, the adapted tools incorporated (frequently used) quality criteria identified by Downes and associates (2016) therefore assisted decisions regarding whether the findings of studies were credible and reliable.

The review included studies reporting three different outcomes in relation to sexual assault. Consequently, there were disparities across studies for methodology and samples used. However, these disparities were acknowledged in the current review and findings were interpreted qualitatively. This limited the extent to which the data could be compared as it was not possible to report statistical significance of findings across studies. Nevertheless, due to limited research within this area, synthesising findings in this way was considered to be a novel and valuable approach. Despite its limitations, the current review appears to be the first attempt to systematically explore the relationship between peer influence and outcomes of sexual assault.

Conclusions and recommendations for practice

The current review found support for the relevance of peer group influence on men's attitudes, perpetration and intervention of sexual assault. Social contexts in which peer influence may be particularly relevant include fraternities and high-profile sports. There was some evidence from a limited number of studies that peer group support may encourage

bystander intervention and that social network diversity may protect against likelihood of perpetrating sexual assault. However, this continues to be a relatively under-developed area of research in comparison to individual factors impacting on sexual assault. Furthermore, it is not known whether the findings are applicable outside of student populations. Future research should explore whether peer groups continue to have an influence on men's acceptance of sexual assault beyond student populations. In addition, it may be valuable to explore which peer group contexts may hold more of an influence over individual attitudes and behaviours than others, and which contexts may be protective for men.

The current literature is inconsistent in its use of terminology and measures of peer influence which can create difficulty when comparing studies. It is recommended that researchers and practitioners attempt to reach a consensus with regards to peer influence, and create a shared terminology which can be used in research going forward.

The findings support MPS theory. Overall, the findings suggest that male peer support for sexual assault may increase the risk of perpetration and decrease the likelihood of sexual assault prevention, and that peer group norms may have more of an influence on young males at university than individual beliefs do. This is consistent with previous research which suggests men's perceptions of norms, whether accurate or not, exert a strong influence on men's own willingness to intervene in sexual assault (Fabiano et al., 2003). This is concerning because not only may this prevent willingness to intervene but, as previously highlighted, this could increase rates of sexual assault perpetration by men and normalise rape-supportive attitudes. Subsequently, normalisation of rape-supportive attitudes may lead to victims underreporting sexual assault.

Nevertheless, the findings of the review are promising, providing an alternative understanding of the role of peer influence on sexual assault. The review indicates that men misperceive their friends' attitudes and behaviours regarding sexual assault, believing that

their friends are less concerned about sexual assault, more likely to perpetrate sexual assault and, less likely to intervene than is actually the case. This provides practitioners with scope to address these misperceptions in sexual assault prevention programmes. In doing so, this could reduce likelihood of sexual assault perpetration and encourage sexual assault prevention, whilst opening up conversations amongst male peer groups which may challenge a 'rape-supportive culture'. Social norms interventions have already started to adopt such an approach with the results thus far showing this may be effective (Bruce, 2002; Kilmartin et al., 1999). An important first step therefore may be to increase men's accurate perceptions of other men's attitudes and behaviours towards sexual assault through a social norms approach, consistent with MPS theory. By doing so, this may empower men to intervene when witnessing sexual assault and reduce likelihood of own perpetration, therefore preventing sexual assault.

The current review provides insight into one social factor which appears to influence individual attitudes and behaviour towards sexual assault, indicating male peer groups may be relevant. However, as stated, males may misperceive their peers' attitudes or likelihood or perpetrating sexual assault. This has important implications as both research and social norms theory suggest that men may misperceive the beliefs and behaviours of male peers, which is likely to reduce their inclination to intervene to prevent violence (Berkowitz, 2002), and encourage problematic behaviours (Fabiano et al., 2003). This can be problematic as these misperceptions, also known as "pluralistic ignorance" (Miller & McFarland, 1991), can impede healthy attitudes or behaviours whilst bolstering unhealthy attitudes or behaviours. For example, if an individual in a peer group believes other members make sexist remarks, even if they do not, they would be at increased likelihood of behaving the same to fit in. In addition, even if individuals believe other group members condone sexist jokes but may not endorse these themselves, they may be at increased likelihood of making sexist jokes to fit in

(Darlington, 2014). Therefore, the findings of the current review may help to inform future prevention efforts as it would be beneficial to address men's misperceptions regarding their peers' attitudes towards sexual assault.

Research within this area has predominantly been conducted within the US, with samples of white males, and with high school, college or university students. The generalisability of the results therefore is questionable beyond these populations. It would be beneficial to conduct further research in countries outside of the US to examine whether there may be differences in the influence peer groups can have on attitudes towards sexual assault. For example, peer contexts within the US such as fraternities may differ to other countries, such as the UK, where fraternities are less relevant; consequently, there may be differences in peer group influence on sexual assault. Additionally, there may be cross-cultural differences due to differing values, such as belonging to an individualistic or collectivist culture, as this can shape individual attitudes, values, behaviours and interactions with others. Moreover, the regularity in which sexual assault is perpetrated towards women outside of university contexts, as highlighted through the #MeToo movement and Everyday Sexism Project (Bates, 2013), would suggest research is still required into peer group influence more broadly. Peer group influence may not be solely relevant to university students, yet an increased understanding may benefit sexual assault prevention efforts.

Chapter 3: Psychometric Critique

The Illinois Rape Myth Acceptance Scale

Introduction

In 2020, it was estimated that 773,000 adults had experienced sexual assault or attempts of sexual assault (Office for National Statistics [ONS], 2021). Despite the prevalence of sexual assault, it is largely underreported, with rape being the most underreported crime of personal violence (Koss et al., 1994). Underreporting still occurs at present, with less than 20% of victims reporting rape to the police (ONS, 2021). Moreover, only 1.6% of rapes that are reported result in the perpetrator being convicted (Home Office, 2021). Victims may resist reporting sexual assault to the police due to fear of the consequences or of not being believed, and concerns that their allegations will not be taken seriously (Allison & Wrightsman, 1993; Garrett & Hassan, 2019). This may indicate a wider issue regarding how sexual assault is viewed in society and handled within the Criminal Justice System.

Researchers have frequently focused upon an individual's beliefs about aspects of rape and the roles of men and women in its occurrence. Indeed, research has highlighted that rape-supportive attitudes contribute towards the prevalence and underreporting of sexual assault (Johnson, 2018; Xue et al., 2016). Particularly where men hold beliefs that they are entitled to a women's body, this may disinhibit them, increasing likelihood of them taking sexual advantage of women they consider to be “asking for it” (Bohner et al., 1998). Alongside this, negative stereotypes such as promiscuity may be ascribed to victims of sexual assault with blame being placed on the victim, discouraging them from reporting to the police (Buddie & Miller, 2001). The prejudices and often false beliefs individuals might hold about sexual assault perpetrators, victims of sexual assault and rape are referred to as “rape myths”. Existing researchers have developed measures of rape myth acceptance and these measures have been used to make inferences about behaviour and to evaluate outcomes of sexual assault prevention programmes. It is therefore important to understand whether these

psychometric tools accurately represent the construct they are intending to measure. The aim of this report is to provide an overall understanding of rape myths, to summarise the literature regarding existing measures of rape myths, and to provide critical analysis of one measure used to assess rape myth acceptance within existing research, the Illinois Rape Myth Acceptance Scale (IRMAS). Subsequently, this analysis will help to establish an appropriate measure to use to assess acceptance of sexual assault within the current thesis' research.

Rape Myth Acceptance

Martha Burt (1980, p.217) expanded on the work of Brown-Miller (1975), defining the concept of rape myths as "prejudicial, stereotyped, or false beliefs about rape, rape victims, and rapists". Lonsway and Fitzgerald (1994, p.134) extended on this, defining rape myths as "attitudes and beliefs that are generally false but are widely and persistently held, and that serve to deny and justify male sexual aggression against women". Examples of rape myths within the literature have included beliefs that the victim is "promiscuous", that the victim "can resist rape if she really wanted to", that women "ask for rape" or lie about rape, and that rape is the product of an "uncontrollable" sex drive in men (Edwards et al., 2011; Payne, Lonsway & Fitzgerald, 1999, Schwendinger & Schwendinger, 1974, p.21-22). Endorsement of these beliefs may shift blame towards victims and may diminish the expectation of consequences for perpetrators of sexual offences (Chapleau and Oswald, 2010). Higher endorsement of rape myth acceptance (RMA) in men has been strongly associated with rape proclivity, i.e., one's likelihood/tendency to choose to rape (Chapleau & Oswald, 2010; Gray, 2006) and has been found to be an antecedent to perpetration of sexual assault (Bohner et al., 2005). Thus, RMA is a significant concern, as endorsement of rape myths may present challenges for rape victims as well as the Criminal Justice System (Sleath & Bull, 2015).

Measures of RMA

The ability to measure an individual's mind, e.g., their attitudes and beliefs, has been an ongoing and debated issue within psychology. Psychometric measures have been designed for the purposes of objectifying and measuring the processes of the mind from a quantitative perspective; this has included the development of measures to assess rape myth acceptance. As aforementioned, research has found participants who endorsed rape supportive attitudes to a greater extent reported greater perpetration of sexual aggression historically and also indicated a higher likelihood of future sexual aggression than participants who endorsed lesser rape supportive attitudes (Malamuth, 1986). Consequently, it is important to develop measures to assess the extent to which individuals endorse such attitudes. Furthermore, rape prevention programmes have previously attempted to dispel rape myths evidence. Empirical research has indicated that altering rape myths may assist in decreasing men's likelihood of engaging in sexual aggression (Gilbert et al., 1991; Jones & Muehlenhard, 1990), therefore adopting measures that assess rape myth acceptance pre- and post- programmes may be useful to determine whether rape prevention efforts influence an individual's beliefs.

One of the first empirical measures to assess attitudes towards rape was Feild's (1978) Attitudes Towards Rape questionnaire (ATR). The measure was rated on a 6-point Likert-type scale (1 = strongly agree to 6 = strongly disagree) and included 32 statements which yielded eight factors as follows: "[1] Woman's Responsibility in Rape Prevention; [2] Sex as Motivation for Rape; [3] Severe Punishment for Rape; [4] Victim Precipitation of Rape; [5] Normality of Rapists; [6] Power as Motivation for Rape; [7] Favorable Perception of a Woman After Rape; [8] Resistance as Woman's Role During Rape" (Feild, 1978, p.164). Feild collected data from 1,448 participants to explore the relationship between beliefs about rape and characteristics of rapists, police, crisis counsellors and the public, and to determine how rape attitudes may differ between groups. However, no differences were found between

police officers and rapists on approximately half of the factors on the ATR questionnaire (Feild, 1978), therefore it was concluded it was difficult to differentiate between factors. The ATR scale has been criticised due to factors being highly cross-correlated rather than multidimensional (Schlegel & Courtois, 2019). Subsequently, researchers have developed other tools to measure RMA.

Developed by Burt in 1980, the Rape Myth Acceptance Scale (RMAS) is arguably one of the most extensively used measures of RMA. The RMAS assesses an individual's levels of rape myth endorsement (e.g., distorted beliefs concerning the rape of adult women). Research into the RMAS found that sexually aggressive men endorsed greater inaccurate beliefs about rape than non-sexually aggressive men (Burt, 1980). Burt's results have since been replicated (Muehlenhard & Linton, 1987) and expanded upon, with associations being found between RMA and a range of beliefs, attitudes and behaviours (Lonsway & Fitzgerald, 1994). Nevertheless, it has been argued that: roughly a third of the RMAS items do not measure rape myths specifically; the scale was highly susceptible to social desirability bias; many of the relationships found in studies appeared to reflect simple common sense; there was a lack of clarity with the scale; there were problems with item format and the use of colloquial phrases within the RMAS (e.g., "fair game" and "necking") (Bumby, 1996; Lonsway & Fitzgerald, 1994). Moreover, Gerger and colleagues (2007) have stated previous RMA scales have resulted in low means, making it difficult to determine the effects; these low scores may not necessarily reflect lower endorsement of rape-myths, but may reflect more current, politically correct, responses. These limitations highlighted the need to develop better tools.

Additional measures of RMA have been developed in response to these issues, such as the RAPE scale (Bumby, 1996) and the Acceptance of Modern Myths about Sexual Aggression Scale (AMMSAS; Gerger et al., 2007). Perhaps the most widely used of these

measures is the AMMSAS, which was designed to reflect more subtle attitudes around rape, incorporating items overtly and covertly related to RMA (Johnson, 2018). Though the AMMSAS reflects a more up-to-date version of RMA than traditional measures, it was not developed for use with offenders, which presents limitations in assessing whether it measures the rape-related constructs it intends to (Johnson, 2018). Additionally, whilst it's been demonstrated the AMMSAS has robust psychometric properties across cultures such as Germany, France and Spain (Gerger et al., 2007; Megías et al., 2011; Süssenbach & Bohner, 2011), it has not been used as much within the U.S. Given a large proportion of research into rape-myth acceptance appears to be conducted within the U.S. (as shown within chapter 2) this is concerning. Watson (2016) has suggested that cross-cultural adaption would be beneficial to ensure the psychometric properties of the AMMSAS are similar within U.S. college students. Furthermore, similarly to previous RMA measures, the items in the AMMSAS contain colloquial phrases such as "making out", whilst the wording of some other items is unclear/ fairly complex e.g., "A lot of women strongly complain about sexual infringements for no real reason, just to appear emancipated" (Gerger et al., 2007). Consequently, the discussed RMA measures were not selected for use in the present research.

Another issue within the RMA literature is the ambiguity in terminology and phrasing, which has created difficulties in drawing comparisons between psychometric measures, as tests generally do not measure the same construct. Moreover, twenty-four RMA measures were reviewed by Lonsway and Fitzgerald (1994) and they found existing measures lacked psychometric precision. Hence, the authors set out to redefine and reconceptualise the construct of RMA (Lonsway & Fitzgerald, 1995). In addition, Payne and colleagues (1999) argued that little research had focused upon the underlying structure and conceptual mapping of rape myths. Therefore, they aimed to address these shortcomings by conducting a large-scale investigation into the structure of rape myth endorsement (Payne et al., 1999). These findings were used to develop and explore the validity of a measure – the Illinois Rape Myth

Acceptance Scale (IRMAS), now widely used within research. As such measures are used to make inferences about an individual's behaviour, and to evaluate outcomes of university sexual assault prevention programmes, it is important these tools accurately represent the construct that they measure. Therefore, the IRMAS has been selected for the purpose of this critique, which seeks to explore the psychometric properties of the measure and its use in RMA research.

Overview of the IRMAS

The IRMAS (Appendix 21) is a 45-item self-report questionnaire developed to explore rape myths and endorsement of such beliefs in society. It is frequently administered in person or online. Items are rated on a 7-point Likert-type scale, with scores of 1 meaning that respondents do “Not at all Agree” with statements, to ratings of 7 where respondents, “Very much Agree”. Forty statements are known rape myths based on a literature review; whereas five are "filler items" included “to help control response sets” (Payne et al., 1999, p.50). For example, filler items include "Newspapers should not release the name of a rape victim to the public", thus they are not included in the final scale score. The IRMAS measures an overall rape myth construct with seven subscales: “(i) She asked for it; (ii) It wasn’t really rape; (iii) He didn't mean to; (iv) She wanted it; (v) She lied; (vi) Rape is a trivial event and (vii) Rape is a deviant event” (Payne et al., 1999, p.50). Total scores range from 40 to 280, with lower scores indicating lower agreement with rape myths and higher scores indicating greater endorsement of rape myths.

The 45-item IRMAS appeared to be theoretically sound, nonetheless, its length could have limited the use of the scale. Therefore, to allow for wider applicability of the scale, Payne and colleagues (1999) also created a "short-form" of the IRMAS (IRMAS-SF). The IRMAS-SF was designed to assess general RMA, not the specific subscales. Seventeen RMA items were included from the IRMAS alongside 3 negatively worded filler items, providing

the final 20-item IRMAS-SF. Both the 45-item IRMAS and the 20-item IRMAS-SF scale will be discussed in this critique, given the IRMAS-SF was created concurrently with, and based on, the IRMAS.

Scale Development

To develop the IRMAS, a series of six studies were conducted by Payne and colleagues (1999) investigating the culture of RMA. In the first study, 604 undergraduate students were asked to evaluate 95-items identified as rape myths in addition to 9 oppositely worded "filler items" about rape. The filler items were not rape myths themselves and were used to discourage response sets. Respondents rated their level of agreement using a 7-point Likert-type scale of not at all agree (1) to very much agree (7). A general component of RMA and the seven subcomponents were found through multivariate analyses. The second study mimicked the structure of Study 1. Payne and colleagues (1999, p.43) used individual differences scaling (INDSCAL; Carroll & Chang, 1970) to explore participants' perceptions of similarities in rape myth culture in a sample of students and university employees (24 male, 23 female). Based on the original 95-items, participants were asked to rate the similarity of 19 rape myth statement pairs on a 9-point scale of not at all similar to very similar. Nine subcomponents of rape myths were found across two dimensions (deny versus justify rape, and victim versus perpetrator focus).

The researchers (Payne et al., 1999) conducted a third study to explore the development of the IRMAS and its psychometric properties. Criteria for item selection included clarity (clearly worded items), structural integrity (items highly correlating to the general and seven subcomponents outlined), content coverage and weight (an array of content is covered in the subcomponents and items represent depth of the general component) and reliability (subscales possess an alpha greater than .75) (p.47). The 45-item IRMAS was produced based on these criteria.

Relationships between the IRMAS and similar constructs were explored in Study 4. Individuals with greater scores on the IRMAS and IRMAS-SF were found to endorse more traditional sex-role types, more hostility towards women, and generally accepted interpersonal and general violence more than those with lower IRMAS scores (Payne et al., 1999, p.55).

In Study 5, the IRMAS scores for groups previously shown to differ in RMA were compared. These comparisons were based on evidence from existing research and theory which has proposed occupation and group membership is associated with rape-myth acceptance, for example, within the police (Brownmiller, 1975; Field, 1978; Payne et al., 1999). Payne and colleagues (1999) found mean IRMAS scores between rape advocates and police officers significantly differed. In comparing the two known groups during scale development, the developers were able to determine whether the IRMAS functions in probable ways. Rape advocates would be expected to have lower acceptance of rape-myths due to their role in guiding victims through the process of medical examination and police investigation and trying to prevent "secondary victimisation" (Campbell et al., 1999). In contrast, police officers are suggested to lack skills for interviewing sexual assault victims, with some underestimating the distress experienced by victims during interviews and engaging in behaviours that discourage victims from reporting without an advocate present (Campbell, 2005; Campbell, 2006), therefore Payne and colleagues' (1999) findings regarding group differences are as predicted. Previous evidence has suggested only approximately 50% of rapes reported to the police are seen as "true rapes" by the Criminal Justice System (CJS), with police officers providing the lowest likelihood judgements (36%) and expecting that "approximately three out of five complainants are either untruthful or mistaken" (Feldman-Summers & Palmer, 1980). These findings, along with findings during development of the IRMAS, would appear to account for rape victims' claims that the police

did not believe them when they reported the assault. If professionals within the CJS hold such beliefs, this may prevent victims from reporting and explain high attrition rates within cases of sexual assault, thus having important implications and emphasising the need to reduce rape-myths, especially within the CJS.

Finally, in Study 6, Payne and colleagues (1999) examined IRMAS scores in relation to the content of rape narratives in a sample of 45 undergraduate students. Participants wrote two different stories; one detailing what they believed had occurred during a rape scenario presented to them, the second was regarding a person of Native American/African American descent, which was used as a control. Story content was analysed and Payne and colleagues (1999) found a positive relationship between inclusion of rape myths in the narratives and IRMAS scores. From these studies, it was concluded that the IRMAS and IRMAS-SF demonstrated strong psychometric properties, indicating its development was suitable for the measurement of RMA.

Characteristics

Self-report

The IRMAS is a self-reported measure completed by participants themselves which simplifies survey administration. Self-reported measures are frequently used in research measuring the endorsement of rape myths, as gaining information directly from the individual regarding their own attitudes or behaviours is surmised to improve accuracy of the results. For example, one study exploring RMA and lad culture using mixed-gender focus groups (Craig, 2016) indicated that male participants may have distanced themselves from these constructs due to social desirability bias within the group (i.e., participants may have provided answers different to their actual beliefs or behaviours to appease the group). Therefore, self-reported measures of RMA may be more suitable, particularly if studies have

controlled for social desirability bias (Brown & Messman-Moore, 2010).

Nonetheless, there are potential issues with a participants' honesty when responding to self-report measures which may implicate upon the results. For example, participants may strive to produce a certain impression (i.e., response bias). This bias is relevant to the IRMAS as respondents are expected to report their own attitudes towards rape, a controversial and socially sensitive topic. Furthermore, the IRMAS and IRMAS-SF measure overt rape myths whereas it has been argued that certain overt victim-blaming attitudes that may have been socially acceptable 20 years ago may often no longer be endurable overtly (McMahon & Farmer, 2011). As overt sexism appears to have generally declined, rape myths that overtly blame females for rape could be argued to have become less acceptable, hence there may be a shift to more subtle and covert rape myths. For example, McMahon (2005) found that college athletes would not directly victim-blame women, however, they would express beliefs that women would put themselves in risky situations by drinking alcohol, flirting or dressing in a certain way. This suggests that overtime, language regarding rape myths may become more subtle therefore updated language within RMA measures is salient (McMahon & Farmer, 2011). Consequentially, caution should be exerted when making inferences from the results of studies using self-report methods (Mathie & Wakeling, 2011), such as the IRMAS, as these measures may be more susceptible to response bias when they do not reflect current language, such as when assessing overt rape myths.

Despite this, Payne and colleagues (1999) attempted to control for response sets when developing the IRMAS and IRMAS-SF by including "filler items" about rape that are not rape myths. More recently developed versions of the IRMAS, e.g., the Updated IRMA and the IRMA-Subtle version (McMahon & Farmer, 2011; Thelan & Meadows, 2021) may not be subject to issues of response bias to the same extent due to their attempts to measure more covert rape myths. Furthermore, due to statistical probabilities, social desirability reduces

when using Likert-type scales, as with the IRMAS, as opposed to dichotomous responses (Sorenson & Taylor, 2005).

Level of measurement

Ratio scales are often considered the ideal level of data measurement when assessing a construct (Kline, 2000), predominantly due to ratio data satisfying four features of the measurement scale, particularly having an absolute zero property and equal intervals. Nonetheless, Kline (1986) has argued that, for a psychometric measure to be considered robust, it should at least be constructed as an interval scale. The IRMAS uses a seven-point Likert-type scale, which is used to explore the participants' agreement with each statement regarding RMA, therefore this type of scale is deemed acceptable for analysis.

Psychometric Properties

Reliability refers to the "internal consistency" of a test and its "stability over time" (Kline, 2000, p.7) and is important when investigating the IRMAS.

Reliability

Internal reliability

One aspect of test reliability is internal consistency, which refers to the extent to which test items relate to each other and measure the same construct. Cronbach's alpha (α) is often used to measure internal consistency, with reliability coefficients ranging between 0 and 1, and being based on the average correlation between items on a particular scale (Kline, 1986). Coefficients closer to 1 indicate greater internal consistency of scale items (Gliem & Gliem, 2003), though a correlation of 0.7 is deemed as acceptable (George & Mallery, 2003, p.231). During initial development of the IRMAS, Payne and colleagues (1999) found that the IRMAS demonstrated excellent internal consistency (α = .93), with subscales ranging from α = .74 to .84, whilst the IRMAS-SF demonstrated good internal consistency (α = .87).

Internal reliability of the IRMAS has been tested in various contexts. Muir and colleagues (1996) administered the IRMAS among a sample of 316 Scottish undergraduates and 780 American undergraduates, with ANOVA results revealing that males reported greater RMA than female participants (M = 2.65 and M = 2.02 respectively), and that American students displayed greater RMA than those in Scotland (M = 2.42 and M = 1.96 respectively). Excellent coefficient alphas were found in both populations (α = .93). In a cross-validation study, Diem (2000) administered the IRMAS to 224 undergraduate students and also found internal consistency was excellent (α = .94), with subscales ranging from .71 to .84. Similar to Payne and colleagues' (1999) original development studies, internal consistency of the IRMAS-SF in Diem's (2000) sample was slightly lower than the full scale though still good (α = .88). Additionally, in a study assessing the relationship between moral development and RMA in male first-year college students (N=161), the IRMAS demonstrated excellent internal consistency (α = .93; Tatum, 2009). Moreover, Chapleau and Oswald (2010) reported excellent internal consistency of the IRMAS (α = .91) in their research determining how power-sex association/beliefs contribute to RMA in a sample of Catholic university students (N=108). Foubert and colleagues (2011) also found excellent internal consistency in a sample of 489 male fraternity members (α = .93). However, alpha coefficients were not reported for the specific subscales within the latter three studies.

Research using the IRMAS-SF has generally found good internal consistency, though demonstrating lower internal consistency than the full version. Chapleau and colleagues (2007) investigated the relationship between ambivalent sexism and RMA with a sample of 420 college students. the IRMAS-SF demonstrating good internal consistency within this sample (α = .85). In addition, the IRMAS-SF demonstrated excellent reliability in a sample of 1024 college students (α = .93; Canan et al., 2017) and 323 participants when translated for use with a Turkish population (α = .90; Coklar & Mese, 2015). Furthermore, when exploring

the effects of a bystander intervention on IRMAS-SF scores in a student population (N = 389), good internal consistency was found (α = .80; Baldwin-White et al., 2016). Nevertheless, these findings indicated there was some potential instability with the factor structure of the IRMAS-SF. The post-test sample contained fewer participants (N = 363), however, the researchers did not specify whether the alpha coefficients reported applied to completion of the IRMAS-SF pre-test, post-test or both occasions. Overall, however, the IRMA and IRMAS-SF have both demonstrated a satisfactory level of internal reliability.

Test-retest reliability

Test-retest reliability relates to administering a test on separate occasions to provide an estimate of the extent to which the results are replicable and to measure consistency over time. Thus, to demonstrate high test-retest reliability, a scale must show little change over time (Guilford, 1956). Scores are usually correlated using the Pearson's *r* statistic, with good measures having a high test-retest correlation of 0.8 or greater (Kline, 2000). In the initial development study, Payne and colleagues (1999) repeated 20% of the IRMAS items to a subgroup of participants and they found the IRMAS had good immediate test-retest reliability, $r\ (495) = .90$, $p < .001$ (p.36). However, Kline (2000, p. 11) has argued that "to be trustworthy the two testings should be separated by at least a three-month gap". Furthermore, studies relating to the test-retest reliability of the IRMAS have been limited.

One study compared pre-test and post-test scores on the IRMAS-SF prior to and following bystander intervention (Baldwin-White and colleagues, 2016); the only factor that remained consistent from pre- to post-test was the subscale "protections". Even so, Pearson's *r* was not explicitly referred to within this study. Moreover, the subscale "protections" was not included in the original IRMAS but was a factor labelled and identified by Baldwin-White and colleagues (2016) through exploratory factor analyses. The factor of protection encompassed "emotional protection while reporting rape", "physical protection" through

"self-defence classes", and a "lack of protection due to lack of prosecution"; three items loaded onto this factor including "it is preferable that a female police officer conducts the questioning when a woman reports a rape" and "most rapists are not caught by the police" (Baldwin-White et al., 2016, p.643). The results suggested that some of the IRMAS items contain ambiguity which may lead to unstable behaviour over time (Baldwin et al., 2016). However, inconsistency in factor structure pre to post-test could have been due to the effects of the intervention, rather than low test-retest reliability.

Item Structure

Item structure of the IRMAS also requires consideration. Many Likert-type scales within psychological research contain positively worded and negatively worded (i.e., reverse wording) items together (Zhang & Savalei, 2016). However, introducing reverse worded items into a scale is questionable (Lindwall et al., 2012). Negatively worded items may cause confusion with interpretation, lead to errors in responding, and may bias the results of the analyses through acquiescence bias (Savalei & Falk, 2014). Moreover, including reverse worded items in Likert scales can induce reduced reliability (Roszkowski & Soven, 2010). Payne and colleagues (1999) attempted to minimise response bias by avoiding negatively worded statements to measure RMA in the IRMAS. Instead, they included statements that were reverse worded however that do not contradict rape myths directly; these filler items therefore do not contribute towards the total scale score.

In addition, Likert-type scales tend to be more reliable as they contain multiple items to measure a construct, as opposed to a singular item. Research has recommended six to eight items are generally sufficient for reliably measuring a single construct (Nemoto & Beglar, 2014). Responses to the IRMAS are always provided on a Likert-type scale. Additionally, subscales contain between 5 and 8 items each, indicating reliability of item structure. Nevertheless, some studies have varied the Likert scales used for the IRMAS, these ranging

from 4-point to 7-point scales (Bouffard & Miller, 2020; McMahon & Farmer, 2011). These differences in item structure can create issues in reliably comparing results across studies.

Validity

A psychometric test must test what it claims to measure (Kline, 2010) to demonstrate validity. The most relevant aspects of validity for the IRMAS appear to be content validity, convergent validity and concurrent validity as will be discussed.

Content Validity

Content validity is concerned with the extent to which a psychometric test embodies all aspects of the construct it intends to measure, i.e., whether items were generated based on theory, and the quality of academic understanding of the construct (Sireci, 1998). When developing the IRMAS and IRMAS-SF, Payne and colleagues (1999) reviewed the literature to ensure the scale accurately embodied the structure and content of the rape-myth domain. The IRMAS and subscales demonstrated good psychometric properties, indicating the content of this measure accurately represented the construct of rape-myth acceptance therefore is valid. Contrastingly, Baldwin-White and colleagues (2016) conducted an analysis of factor structure of the IRMAS-SF pre-test to post-test and found that some of the items on the IRMAS-SF were ambiguous (i.e., the items that loaded onto the subscales were different). For example, the statement “It is usually only women who dress suggestively that are raped” loaded on subscales relating to both the act of rape and to the perpetrator. This creates issues as this item does not appear to capture one single factor related to the construct of rape-myths. To be effective, items on a scale must attend to one particular idea, otherwise measurement and interpretation are unclear (Fowler, 2009). Moreover, Baldwin and colleagues (2016) suggested that the IRMAS-SF fails to address victim-blaming, which is significant when considering the RMA literature (Suarez & Gadalla, 2010). It could therefore

be argued that the IRMAS-SF may not be the most effective measure of RMA as it may lack content validity.

Despite this, when the full-scale IRMAS and IRMAS-SF were initially developed, Payne and colleagues (1999) identified subscales such as (1) She asked for it, (4) She really wanted it, and (5) She lied; these factors appear to address victim-blaming. Baldwin and colleagues (2016) have identified different factors, such as women's desire for rape and excusing men's behaviour for rape, rather than finding items of the IRMAS-SF load onto victim-blaming specifically. These contradictory claims appear to be due to differences in labelling of factors; however, this still highlights there may be some potential instability in the IRMAS-SF.

Moreover, Tatum (2009) found individual subscales of the IRMAS significantly correlated with one another, with several pairs of subscales demonstrating a correlation above $r = .5$. According to George and Mallory's guidelines (2006), correlations greater than .5 indicate potential issues with interdependency between variables. Nonetheless, these concerns were alleviated as further analysis showed tolerance levels were within an acceptable range. Further concerns are proposed in relation to content validity of the IRMAS as researchers have begun to adapt the measure to non-American contexts, for example other researchers have found a four or five-factor structure (Bendixen & Kennair, 2017; Trottier et al., 2020; Xue et al., 2016). This suggests that, whilst some items may be robust, the validity of other subscales and items may be specific to the social contexts, culture or sample (Skov et al., 2021). Though content validity of the IRMAS was demonstrated in the original study, there is little evidence to suggest these results have been replicated.

Convergent validity

Convergent validity is established if two similar constructs correspond with each other (Cronbach & Meehl, 1955); that is, for the IRMAS to demonstrate convergent validity,

it should be related to constructs which have been theoretically or empirically linked to RMA (e.g., rape proclivity, sexist attitudes, bystander behaviour). Payne and colleagues (1999) compared the relationship between the IRMAS, the IRMAS-SF and the following constructs: adversarial sexual beliefs, sex-role stereotypes, hostility towards women and attitudes towards violence. They found moderate to strong correlations between the IRMAS, the IRMAS-SF and related measures, $r(174) = .47$, $p < .001$, to $r(174) = .74$, $p < .001$ (Cohen 1988; Payne et al., 1999). Additionally, Foubert and colleagues (2011) conducted independent t-tests to explore the relationship between types of pornography viewing in the past 12 months, likelihood of raping or committing sexual assault, RMA and bystander efficacy. Their results showed that men who viewed sadomasochistic or rape pornography during the past 12 months had significantly higher RMA than men who did not ($p < .01$). They also found there was no difference in RMA when comparing the 83% of men who saw types of mainstream pornography with men who did not. These results indicate viewing more violent pornography relates to higher scores on the IRMAS.

Moreover, studies have demonstrated significant correlations ($p < .01$) between scores on the IRMAS and hostile sexism (Bendixen & Kennair, 2017; Chapleau et al., 2007) acceptance of violence, adversarial sexual beliefs, (Diem, 2000), decreased moral development (Tatum, 2009) and traditional masculine ideologies (Lutz-Zois, 2015). Correlations for the IRMAS have ranged from .50 to .74, whereas for the IRMAS-SF these have ranged from .47 to .72. A significant positive correlation has also been found between IRMAS scores and rape proclivity, $r = .52$ (Chapleau & Oswald, 2010) and forcible/coercive sexual assault ($p < .01$; Frazier & Gonzales, 2021). However, the latter authors conducted a Comprehensive Model and did not find a significant relationship between IRMAS scores and sexual aggression, suggesting that the IRMAS may lack convergent validity with sexual aggression in more recent years. Likewise, these findings may indicate that beliefs are not

necessarily related to actions (Ariely & Loewenstein, 2006; Frazier & Gonzales, 2021). Overall, it would appear that a number of related constructs correlate with the IRMAS full-scale and short-form, therefore indicating a satisfactory level of convergent validity.

Discriminant validity

Discriminant validity is established if two dissimilar constructs are differentiated (Cronbach & Meehl, 1955). Research is sparse regarding discriminant validity of the IRMAS. However, Diem (2000) found low correlations between IRMAS scores and social desirability (r = -.14, $p < .036$), with less than 2% of variance shared between the two measures. These findings indicate good discriminant validity between the IRMAS and social desirability, and may suggest that social desirability is not related to, and therefore is not an issue when administering, the IRMAS.

Concurrent validity

Concurrent validity involves the test and an outcome measure being administered at the same time, or comparisons of the new test with existing tests to see if they produce similar results (Kline, 2000). Payne and colleagues (1999) did not appear to compare their new measure (the IRMAS) with existing measures of RMA, with correlates not being reported. This limits the ability to assess concurrent validity in the initial development study. However the IRMAS and IRMAS-SF were significantly correlated, r = .97, $p < .01$ (Diem, 2000). Furthermore, the IRMAS-SF has been used more recently to validate newer RMA measures, such as the AMMSA. Significant positive correlations have been found between the IRMAS-SF and the AMMSA, ranging between 80 to .88 across 4 studies (N = 1,279; Gerger et al., 2007). Additionally, a significant relationship has been found between the IRMAS-SF and the Attitudes Towards Rape Victims Scale (r = .69) in a Turkish sample, providing evidence for satisfactory concurrent validity of the IRMAS-SF (Coklar & Mese,

2015).

Predictive validity

Predictive validity considers whether a test can predict future performance/behaviour by comparing outcomes on the measure with a result obtained sometime in the future (Kline, 1986). Many studies compared the relationship between rape proclivity and RMA using Burt's (1980) RMAS, whereas there have been fewer studies examining the relationship between rape proclivity and IRMAS scores. Aosved (2006) studied a sample of 492 male college students and preliminary tests found higher scores on the IRMAS were associated with higher levels of rape proclivity ($r = .32$, $p < .0001$). The researcher also found that they were able to discriminate between levels of sexual assault perpetration based on scores of rape proclivity and RMA, indicating RMA and rape proclivity may both be related to actual perpetration of sexual aggression. Similarly, a meta-analysis by Trottier and colleague (2019) concluded there was a weak relationship between sexual coercion and the IRMAS ($r = .25$), though the shorter RMA scale developed by Lonsway and Fitzgerald (1995), containing 19-items, was found to be a stronger predictor of sexual coercion ($r = .35$). Moreover, IRMAS scores were significantly greater among participants reporting past use of sexual coercion compared to those not reporting past sexual coercion ($t = -5.829$, $p < .01$). Further analysis revealed that IRMAS scores continued to significantly predict "both verbal and illegal coercion tactics" (Bouffard & Miller, 2021, p.14). Therefore, although there appears to be limited research into the predictive validity of the IRMAS, the results thus far suggest the measure has predictive utility regarding sexual aggression and sexual coercion.

Normative populations

To be interpreted at an individual or group level, a measure must have appropriate group norms (Kline, 2000); scores may be less valuable without a normative comparison.

However, when using psychological tests that examine individual differences such as individual attitudes and beliefs, norms are not as useful (Kline, 1986). Given the IRMAS is not a diagnostic tool and it may be classified as a measure of individual differences, normative comparisons are not pertinent to the validity of the IRMAS. Despite this, it is still valuable to discuss whether samples are normative in terms of demographics, and representative of the larger population. In addition, it may be useful to know whether there are differences in scores between males and females, or offender and non-offender populations if the IRMAS is to provide evidence that may inform intervention efforts, for example programmes to reduce hostility towards women or dispel rape myths.

The IRMAS has mostly been administered in research to samples of university students (Baldwin-White et al., 2016; Bendixen & Kennair, 2017; Bouffard & Miller, 2020; Chapleau et al., 2007; Chapleau & Oswald, 2010; Diem, 2000; Foubert et al., 2011; Frazier & Gonzales, 2021; Lutz-Zois, 2015; Muir et al., 1996; Nyul & Kende, 2021; Tatum, 2009; Xue et al., 2019), therefore it is possible results are not generalisable to the general population. Most of these studies have been conducted in the United States, with a small number being carried out in different cultures and populations such as India (Barn & Powers, 2021), Scotland (Muir et al., 1996), China (Xue et al., 2019), Korea (Oh & Neville, 2004), and Norway (Bendixen & Kennair, 2017). However, in Korea for example, some items of the IRMAS-SF had to be adapted due to cultural differences in terminology. This indicates potential difficulties in administering the IRMAS in non-American populations and of establishing validity of the IRMAS in other cultures. It is therefore important to explore rape myths in different cultures (Skov et al., 2021) to ensure researchers are able to assess RMA accurately.

Conclusion

This critique provides evidence to support the reliability and validity of the IRMAS

and IRMAS-SF as interval scales to some extent. Nevertheless, issues of validity warrant further consideration. One limitation mentioned extensively in the literature relates to both versions being bound by “time and culture” (Payne et al., 1999, p.61) and, as aforementioned, the use of colloquial phrases and slang is likely to change over time. This cannot be easily avoided given "sexual communication relies heavily on slang terminology" (Payne et al., 1999, p.61). Additionally, slang may vary depending on geographic location presenting further issues to validity of the IRMAS. Hence, researchers are beginning to adapt the IRMAS for use in other countries, such as some of the terminology of the IRMAS-SF being adapted due to cultural differences in Korea. It is difficult to know whether the IRMAS-SF is an appropriate measure to use in non-American populations. Moreover, since its development, the scale has been updated twice to reflect these changes in language; the Updated version of the IRMAS (McMahon & Farmer, 2011) and, more recently, the IRMA - Subtle version (Thelan & Meadows, 2021). It may be more appropriate for researchers to use newer, updated measures of the IRMAS given the time-bound nature of language; assessing for covert rape myths with the IRMAS(-SF) may not provide an accurate representation of individual attitudes and thus conclusions regarding RMA at present. A further limitation is the divergence in relation to the operationalisation of RMA and of which items load onto which factors, in addition to how researchers may label factors. These issues may hinder the reliability and validity of RMA measures. Nevertheless, the authors were explicit in defining what a "rape myth" was in the context of the IRMAS (Payne et al., 1999).

Although the IRMAS demonstrates a satisfactory level of reliability and validity, as discussed, when exploring the literature regarding the IRMAS, many researchers seem to have accepted reliability and validity of the IRMAS based on the initial development study without further examination. Overall, research has demonstrated the IRMAS has good to excellent internal consistency, though studies relating to test-retest reliability studies are

lacking. Moreover, a reasonable degree of validity has been demonstrated, predominantly through convergent validity. However, there has been some ambiguity regarding item loadings onto subscales of the IRMAS, therefore content reliability is questionable. Furthermore, the majority of research whereby the IRMAS has been administered has been within American and student populations, therefore the scales generalisability to other populations is uncertain and further research is recommended.

As the concept of rape myths shift from overt to more covert expressions (Gerger et al., 2007), validity of the IRMAS may reduce. Hence, newly developed versions, such as the IRMAS-Subtle version (Thelan & Meadows, 2021), provide a means of the measure remaining up to date with current slang. Initial research (N = 951) has shown the IRMAS-Subtle version has good internal consistency ($\alpha = .87$), criterion-validity and has supported a five-factor structure. The original IRMAS appears to suffice as a measure of RMA, with some evidence of reliability and validity, hence the psychometric is widely used. Nevertheless, there is scope to provide more comprehensive research into the psychometric integrity of this tool. It is also warranted to investigate the psychometric properties of the newly developed IRMAS-Subtle version, as this measure may more accurately reflect current attitudes towards rape and, more widely, sexual assault. Due to the IRMAS-Subtle version being based on the IRMAS, there appears to be a psychometrically sound basis. Moreover, it's lack of colloquial phrases and assessment of more covert rape-myths in comparison to its counterparts, and it's focus on terminology that encompasses sexual assault rather than rape exclusively, is promising. During a search to explore public discourse regarding rape-myths on (social) media, Clay (2019) and Bohner and colleagues (2022) found that some contemporary beliefs not addressed within the AMMSAS and IRMAS included women's reports of sexual assault often being false and women often accusing men of sexual assault for selfish reasons. Some of the items included within the IRMAS-Subtle version appear to

address such beliefs. Accordingly, the use of the IRMAS-Subtle version (Thelan & Meadows, 2021) was justified within the current research.

Chapter 4: Empirical Research Study

"Lad culture" in the group chat:

Does involvement in a lads' group chat influence attitudes towards sexual assault and women?

Abstract

Sexual assault is a prevalent problem and it is well documented that certain male peer groups, for example fraternities and higher education contexts (lad culture), relate to increased rape-supportive attitudes and perpetration of unwanted sexual experience. Recent research has begun exploring sexual violence perpetrated in online contexts, however, the extent to which individuals endorse such attitudes and behaviours through virtual spaces such as male-only group chats (known as lad group chats) is unknown. Study 1 focused on the development of the Involvement in Lad Group Chat Questionnaire (ILGCQ), a newly developed measure to categorise extent of involvement in lad group chats. Q-Methodology was used to analyse data relating to lad group chats, resulting in an 18-item questionnaire. Study 2 aimed to address the gap in the literature by exploring associations between extent of involvement in lad group chats, acceptance of sexual assault, ambivalent sexism, and sexual assault perpetration in the general population. Male and female participants (control group) aged 18 or over were recruited from social media pages and two UK university mailing distribution lists to complete an online questionnaire. The questionnaire entailed demographic variables, the ILGCQ, the Illinois Rape Myth Acceptance Scale – Subtle version, the Ambivalent Sexism Inventory, and the Sexual Experiences Survey Short-Form Perpetration/ Victimisation. The study sample (N = 156) was unequally distributed therefore non-parametric tests such as the Kruskal-Wallis and Mann-Whitney tests were used, in addition to Spearman's Rho correlation. Results showed that involvement in a lads group chat was significantly and positively related to higher acceptance of sexual assault and hostile, benevolent and ambivalent sexism towards women. Differences between involvement in a lads group chat were not related to sexual assault perpetration, however there was a significant positive correlation between sexual assault perpetration and other outcome variables (acceptance of sexual assault, ambivalent sexism). Prevalence of sexual assault

perpetration was high in men and sexual assault victimisation was fairly high in women. These findings suggest that men involved in a lads group chat are more accepting of sexual assault and more hostile and ambivalent towards women than men not involved in a lads group chat and women. Subsequently, these attitudes appear to relate to sexual assault perpetration. These findings highlight the need for more widely disseminated sexual assault prevention programmes that target men outside of university. Additionally, these programmes should address the inappropriate and sexist culture within certain group chats, in order to shift male peer group norms that may contribute towards the normalisation of sexual assault.

Introduction

Sexual assault is a global problem. Prevalence rates for sexual violence within the UK have not substantially changed within the last five years (Ministry of Justice, 2021). In 2021, 5.9 million individuals aged 16 to 74 reported that they had experienced sexual assault since the age of 16 through the Crime Survey for England and Wales, whilst it was estimated that 773,000 adults had experienced sexual assault, or attempts of sexual assault, in the last year (Office for National Statistics [ONS], 2021). Moreover, according to research carried out by StopStreetHarassment.org, in 2019 43% of men and 81% of women reported having experienced "some form of sexual harassment or assault in their lifetime" in the USA (Kearl, 2018, p.7). Figures show that, generally, the majority of sexual assault is perpetrated by men, and that sexual assault/harassment disproportionately affects women (Breiding et al., 2014; Smith et al., 2017; Stoltenborgh et al., 2011). The majority of those who had reported being a victim of sexual assault or rape in England and Wales between March 2016 and March 2019 (98%) reported that the perpetrator was male (ONS, 2021). Given the consequences sexual assault can have on victims, including physical injury, sexual health problems, mental or emotional problems, and attempted suicide (ONS, 2021), it is important to understand and address this issue.

Despite sexual assault remaining a current issue, less than one in six victims reported incidences of sexual assault to the police (16%) between April 2016 and March 2020 (ONS, 2021). Of those that reported the assault to someone *other* than the police, 40% stated they did not report it to the police because they would feel embarrassed, 38% did not believe the police would help them, and 34% believed it would be humiliating. These findings were gathered through the Crime Survey for England and Wales (CSEW), a self-reported survey covering households in England and Wales; one of its strengths is that the CSEW covers crimes that have not been reported to the police, thus providing the most reliable estimate on the prevalence of underreporting of sexual assault. Furthermore, research has indicated the most common reasons for victims not reporting sexual assault include feeling hopeless, ashamed or afraid of the perpetrator, due to fear of the consequences, and, importantly, feeling they would be blamed, that it was not a big enough deal, or fear of not being believed (Garratt & Hassan, 2019; Spencer et al., 2017). Without an accurate understanding of prevalence rates of sexual assault, it is difficult to ensure sexual assault is being addressed effectively.

It has been brought into question whether the reasons that victims find it difficult to report sexual assault are exacerbated due to living in a patriarchal society. Currently, there appear to be some widely held myths regarding sexual assault. Rape myth acceptance (RMA), in particular, has been problematic in relation to how sexual assault is viewed within society. According to Lonsway and Fitzgerald (1994, p.134), rape myths are "beliefs that are generally false but are widely and persistently held, and that serve to deny and justify male sexual aggression against women". This includes beliefs such as some women are deserving of rape, women lie about rape, and victim blaming, which can include a victim being intoxicated or her chosen attire when explaining why an incident of sexual assault took place

(Projansky, 2001). Thus, some women may fear that reporting sexual assault may taint their reputation (Sarkar, 2017).

Projects such as the Everyday Sexism Project (Bates, 2013) and the #MeToo movement (https://metoomvmt.org/) have provided a space for females to voice their experiences of everyday sexism and share their stories of sexual harassment and assault. Moreover, these projects emphasise the power imbalance between males and females across various contexts and indicate that sexism is often normalised in daily life (Grover, 2019). The normalisation of sexism can be problematic as sexist behaviours can sometimes be passed off as a joke, diminishing its implications (Nichols, 2018). Subsequently, there may be negative consequences for women on the receiving end of such 'humour', as this can cause difficulties for individuals dissuading them from reporting sexual assault or harassment if victimised. Furthermore, RMA has been found to correlate with greater levels of sexism and perpetration of sexual assault (Aosved & Long, 2006; Dean & Malamuth, 1997; Marx et al., 1999). RMA is also a largely robust factor found to contribute to rape proclivity (Bohner et al., 2006, 2010), defined as the self-reported likelihood of perpetrating sexual aggression, "under various conditions that may or may not occur" (Malamuth, 1981, p.139). As sexism, RMA, and rape proclivity appear to correlate and have been recognised to be important factors in understanding perpetration of sexual assault, it is important to address them, especially given the normalisation of sexism evidenced online through the Everyday Sexism Project and the #MeToo movement.

Although research has focused largely upon the relationship between sexism, RMA, rape proclivity and sexual assault perpetration at an individual level, it has lacked social perspective. In line with social norms theory (Sherif, 1936), it is essential to understand the contexts and cultures in which these attitudes and behaviours may be developed and maintained. One context in which previous research has focused on is 'lad mags' – magazines

that appeal to men. They are widely available and previously have been argued to promote images of masculinity, male sexual privilege and sexual objectification of women, normalising gendered sexual scripts (Hollway, 1984; Jackson, Stevenson & Brooks, 2001; Krassas et al., 2003). Horvath and colleagues (2012) supported this claim, finding participants in the public could not differentiate between quotes concerning views of women found in lads' mags and statements by convicted sexual offenders. Moreover, the public ranked quotes from lads' mags as "equally, or more derogatory" than quotes from convicted sexual offenders (Horvath et al., 2012,. P.466). It has been postulated that harbouring negative attitudes and beliefs relating to masculinity and sexual scripts[5] will provoke rape and justify sexual aggression towards women (Ryan, 2004). Therefore, this research gives weight to the normalisation of sexist attitudes within society as well as emphasising the need to address these attitudes to prevent sexual aggression towards women.

Sexist attitudes are also present within the context of 'lad culture', another context focused upon within the literature. Lad culture is a phenomenon which predominantly relates to young males, and it has been noted to occur within higher education institutions (Phipps & Young, 2013); it is a context in which sexism and misogyny are present, taking the form of 'banter', and is often related to sports and drinking alcohol. A large number of female students have experienced some form of sexual harassment at university, this sometimes being accepted as the 'norm' within these institutions (Phipps & Young, 2013). Indeed, around one in four American undergraduate women have experienced sexual assault or misconduct at university (Cantore et al., 2019) and within the UK, 70% of female students have experienced sexual assault at university (NUS, 2021). Lad culture is theorised to emphasise principles of sexual assertion, masculinity and traditional gender beliefs (Phipps &

[5] Sexual scripts are culturally determined patterns of behaviour that create sexual meaning, inform desire and enable individuals to interpret theirs and their partner's behaviour (Frith, 2009; Ryan, 2011). They include patterns of behaviour and methods of consent/non-consent, such as hook-ups and rape scripts.

Young, 2013). Moreover, lad culture is believed to foster a subculture of rape-supportive attitudes and sexual objectification, often as a means of male-bonding with peers (Flood, 2008). It has been argued that, if an individual endorses these beliefs, this may excuse the objectification of women and sexual offending (Boeringer, 1999; Schwartz & DeKeseredy, 1993) and such beliefs have been shown to be a significant predictor of sexual aggression and coercion (Ryan, 2004; Santana et al., 2006).

Sports societies and fraternities have been found to present pro-rape activities and practices (Crosset, Benedict & McDonald, 1995), perhaps due to the competitiveness of team sports (Dempster, 2009). Boeringer supported this, providing evidence that males affiliated with a sports team or society condoned 56% of rape-supportive statements, in comparison to those who did not identify with such groups whom only accepted 8% (Boeringer, 1999). There is a wealth of evidence indicating an association between membership to such groups and RMA (Boeringer, 1999; Moynihan & Banyard, 2008). Moreover, a meta-analysis was completed by Murnen and Kohlman (2007) and they found that students had a higher likelihood of condoning rape-supportive beliefs and self-reporting perpetration of sexual assault when they were a member of sports societies and fraternities compared to those not belonging to these groups.

Some studies have found no support for a link between membership to sports teams or societies and sexual assault (Moynihan & Banyard, 2008; Schwartz & Nogrady, 1996). Conversely, Boswell and Spade's research (1996) established that fraternities that upheld a 'party atmosphere' which included greater focus on sex and alcohol typically showed degrading behaviour towards women, suggesting inconsistencies in findings may be due to differences in group ethic. Furthermore, inconsistencies in findings may be due to the impact the peer group may have on an individual. McMahon (2007) found that, in a study of undergraduate athletes, although the majority opposed elements of victim-blaming and

considered sexual aggression to be immoral when completing a questionnaire, they indicated significant rape-supportive attitudes during interviews. Therefore, it has been proposed that beliefs held by the peer group may override a male's own perspectives regarding sexual assault (Schwartz & DeKeseredy, 1997).

Swartout (2013) has indicated men's sexually assaultive behaviours are significantly associated with their peers' attitudes towards women. For instance, Bohner and colleagues (2006) found that participants who endorsed high RMA and whom had also been provided with false information regarding the extent to which their peers accepted such myths reported the greatest rape-proclivity. Moreover, male fraternity members were more likely to engage in coercive sex than those not in a fraternity (Loh et al., 2005). In addition, where an individual perceived their male peers had increased rape-supportive beliefs, this was correlated with sexual assault perpetration (Boeringer et al., 1991). Sports societies and teams have been theorised to foster such attitudes and behaviours due to their provocative peer support networks (Humphrey & Kahn, 2000). Furthermore, it is argued that such groups may develop masculine peer norms which excuse the sexual objectification of women, and such norms instruct male members on how they should speak, act and behave (Fabiano et al., 2003).

Originating from social norms theory, Male Peer Support theory (MPS; DeKeseredy, 1988) provides one explanation for peer group attitudes influencing male acceptance of sexual assault. All-male peer groups often provide members with access to resources such as social companionship and emotional support, in addition to supplying males with norms and values that shape their relationships with females (Dekeseredy, 1990). Men may find that when their interactions with women are subject to conflict or stress, they can rely on their peers for advice and support to cope. Whilst some of this support may be helpful, in some cases peer group members may encourage each other to 'exercise their male rights' and

legitimise sexual assault against women (Dekeseredy, 1990). Schwartz and DeKeseredy (1993) expanded on the MPS as it was recognised that the initial model focused on individual behaviour which does not operate alone; instead, the beliefs, actions and values of males can be considered as expressions of broader patriarchal structures. Within the modified MPS, the role of the familial patriarchy, a subsystem of male dominance within domestic settings, is considered, in addition to the social patriarchy i.e., male control at a societal level (Barrett, 1980).

Researchers have argued that "the more couples agree on the right of control by men, and the greater the dependence of women on men, the greater the potential for violence and exploitation" (Dekeseredy & Schwartz, 1993, p.398). Relevant themes of the familial patriarchal ideology include insisting on women's respect, loyalty, dependence, obedience and sexual access. If females do not comply with these "norms" then this can cause stress for men, and such women may be considered to be an appropriate target for abuse by peers due to this challenging male authority or preventing sexual gratification (DeKeseredy, 1988). In such toxic environments, members of the peer group must continue to uphold their adherence to group norms and can sometimes provide support and reassurance for sexually aggressive members to ensure they do not alter their self-concept as normal and respectable men (Kanin, 1967).

Alcohol abuse is another factor proposed to increase the likelihood of men perpetrating sexual assault against women within the Modified MPS, although it has the largest impact in conjunction with the effects of peer groups. Specifically, it has been suggested that alcohol consumption is associated with discussions about women's sexuality and status socially (Hey, 1986), that it is a tool used to coerce a woman into providing sexual gratification either through her being under the influence of alcohol or verbal persuasion (Sanday, 1990), that some men may take advantage of a drunk women because the women's

capacity to resist may be lower or that they may use violence if unable to obtain sexual gratification (DeKeseredy & Schwartz, 1993).

A third variable proposed to contribute to likelihood of perpetrating sexual assault within male peer groups includes the absence of deterrence. DeKeseredy and Schwartz (1993) suggest that men may learn values or norms in patriarchal society, or based on membership to groups or from peers that legitimise heavy alcohol use and abuse against women. Due to external controls limiting behaviour, often people do not act on these norms. However, a lack of external controls is a determinant for pro-abuse group activities (Sanday, 1990). Therefore, if men who sexually abuse women do not receive serious punishment for doing so then they will not fear the consequences of such behaviour and the lack of external control means that, for men, the potential rewards of this behaviour may seem to outweigh the costs. If sexual abuse against females is not perceived to be a crime or serious problem to males, then this will be a strong factor in legitimising this behaviour. According to the modified MPS, perpetration of sexual assault may be more likely to occur where males are in a strong all-male peer group that encourages heavy alcohol consumption, have been raised in a patriarchal dominated family structure, and where there is an absence of consequences for perpetration which may then permit such abuse to continue (DeKeseredy & Schwartz, 1993). It is hypothesised that close peers are influential because individuals learn deviant behaviours from the values of those they are associated with (Sutherland, 1947).

Despite the body of research regarding peer norms and their relationship with individual attitudes towards sexual assault, evidence suggests men may misperceive their peers' beliefs towards women and sexual assault (Dardis et al., 2015). Dardis and colleagues (2015) found that, in undergraduate men, their perceptions of their peers' attitudes towards females and rape were not related to their peers' actual reported beliefs. However, the participants' own attitudes towards women and rape were found to correlate both with their

perceptions of their peers' beliefs and those of the average college male. Compared to non-perpetrators, participants who had perpetrated sexual assault were also found to overestimate their peers' perpetration of sexual assault behaviours significantly more (Dardis et al., 2015). This suggests that men, and in particular, perpetrators of sexual assault, may be mistaken about their peer group's attitudes and behaviours towards sexual assault. This is consistent with social norms theory, which suggests an individuals' perception of their peer groups' attitudes can impact their own beliefs and actions (Fabiano et al., 2003), even where their perceptions of their peer groups attitudes may be inaccurate. Hence, understanding contexts in which males may misperceive their peer's attitudes would be beneficial, as addressing the misperceptions relating to sexual assault, predominantly within all-male groups and institutions, would seem to be beneficial for sexual assault prevention.

One theme that emerged within Craig's research (2016) was that lad culture existed solely within groups, not at an individual level. Craig (2016) found that, although participants recognised lad culture played a role in their daily lives and within their peer groups, participants appeared to distance themselves from lad culture within focus groups. The results suggested that involvement in this culture and behavioural outcomes were influenced by support from a male peer group, the use of alcohol, patriarchal attitudes and the absence of a deterrent (p.92), consistent with MPS. However, the results of Craig's research (2016) also indicates that, outside of the context of an all-male peer group, individuals do not promote the attitudes that they do when with the peer group.

In a bid to reduce sexual assault at universities, prevention programmes have been implemented based on the social norms approach (Gidycz et al., 2011). Namely, bystander interventions delivered to single-gender groups have aimed to dissipate the norms that perpetuate sexual assault against women (Edwards et al., 2000). These interventions teach individuals skills that aid them in taking action and intervening when witnessing concerning

peer behaviour (Banyard et al., 2004). Thus far, bystander interventions have shown promise. Banyard and colleagues (2007) developed an intervention programme which has demonstrated effectiveness in decreasing rape myths, increasing prosocial attitudes towards bystander intervention, and increasing participant confidence in intervening in risky situations. However, evaluations of prevention programmes for sexual assault have presented mixed findings (see Gidycz, Orchowski & Berkowitz, 2011 for a review), with some demonstrating decreases in victimisation (Orchowski et al., 2008) whilst others have demonstrated only modest success in changing attitudes towards sexual assault (Morrison et al., 2004). It has thus been concluded that, generally, prevention programmes have been unsuccessful in tackling sexual assault at universities (Lonsway et al., 2009).

The lack of success of current prevention efforts may be due to various factors, such as the (often) brief nature of programmes, or the lack of focus on self-reported perpetration or victimisation rates. Nevertheless, it should also be noted that most bystander interventions have targeted males who are not part of a "cohesive group" (Gidycz et al., 2011, p.722). Given whether an individual decides to intervene in risky situations such as sexual assault is often related to whether they think other people in their environment would provide support to them (Berkowitz, 2010), it may be more effective if prevention efforts took place within a cohesive group of male peers, where males are more likely to interact with each other longer-term and there is likely to be a greater influence on each other to change. It is necessary to gain a better understanding of contexts in which men may interact and have influence on each other, especially if peer influence may be impacting upon their attitudes towards sexual assault. As such, social contexts may impact upon the effectiveness of prevention efforts and therefore a better understanding of these contexts is required.

One area in which peer influence may contribute towards the normalisation of sexism and acceptance of sexual assault, but which is yet to receive attention in the literature, is lad

group chats. Mobile phones and social media are embedded as part of our daily lives and researchers have already started to explore sexism and threats of rape towards women in online spaces (Citron, 2009; Döring & Mohensi, 2019; Jane, 2012). Young people regularly use their devices to engage with each other virtually, through content such as group chats. For the purposes of the current research, group chats are defined as a group of people who share an interest in something regularly exchanging messages via the internet and social media platforms (e.g., WhatsApp). It is possible that these online spaces may contain parallels to the masculine norms perpetrated within male-dominated institutions, as has been found within online gaming previously (Fox & Tang, 2014). For example, in 2018, a lad's private group chat became public and caught the media's attention due to a group of male students at Warwick University exchanging sexist comments and threats about rape. Based on this incident and the reactions on social media, it is speculated that aspects of 'lad culture' may be present within the private sphere of group chats. This is problematic given group chats offer a space where messages remain unregulated, that provides partial anonymity, and has the potential to desensitise individuals to the content posted (Jane, 2014). The attitudes and the behaviours of male peers may remain unchallenged in these contexts; therefore, it would seem warranted to gain a better understanding of the attitudes and behaviours within lad group chats, and whether these interactions may influence individual attitudes.

The Current Research

Male-only group chats may be problematic, given the media and social media indicate sexism and rape-supportive attitudes may occur within these spaces. However, these attitudes may remain unchallenged. It is therefore warranted to explore contexts in which male peer groups may have an influence on sexual assault. The current research sought to expand on existing research and strengthen our understanding of male peer groups by firstly exploring male perceptions and experiences of male-only group chats (hereby referred to as lad group

chats) and secondly, examining relationships between lad group chats and factors related to sexual assault and sexism.

Study 1

To date, research has not explored the differences and similarities of men's experiences of lad group chats. Further investigation is therefore needed to understand men's extent of involvement in lad group chats. The aim of Study 1 was to explore the perspectives of men and their experiences of lad group chats; and to develop a questionnaire regarding involvement in lad group chats.

Method

Design

A retrospective study was conducted of males, over the age of 18, who had been a member of a lad group chat within the past 2 years. For the purposes of the current research, being involved in a group chat was defined as the use of any application in order to send Instant Messages (IMs) to more than one person at a time in a private message/chat. Lad group chats were defined as any group chat that included male participants only, with no female participants present/involved. Q-methodology (Stephenson, 1935) draws on strengths from both qualitative and quantitative research methods, and provides a means of using factor analysis to systematically study experiences, hence making subjectivity 'operant' (Brown, 2003). In the present study, it enabled the researcher to gain a range of perspectives from males involved in lad group chats, identifying patterns and differences. Q-methodology provided a means to systematically interpret subjective views about the phenomenon of interest, lad group chats, and generated factors, each of which represented a perspective or 'story' of men's experiences of lad group chats. This was considered to be particularly important in this area of research due to lad group chats being a social context, therefore it

was recognised individuals may experience this environment differently to one another. Q-methodology consists of five stages: developing the concourse, sampling the concourse, constructing the Q-set, participants' sorting of the Q set, and analysis and interpretation.

Sample

A purposive sample was obtained for this research. Males over the age of 18 were recruited via an online link to the study posted on social media. The link was disseminated, through Facebook and Twitter pages, to members of a sports society at a West Midlands university. As this study aimed to investigate a particular *event (*i.e., lad group chats), rather than a concept, the sample was strategically obtained from this particular population. The inclusion criteria were: identified as male, over the age of 18, and had been a member of an all-male group chat within the past two years prior to taking part in the study. As Q-methodology focuses on gaining 'stories' from individuals rather than categorising individuals by frequency into groups, no further inclusion criteria were included and demographic data was not collected. Similarly, in Q-methodology, sample size is driven by the need to obtain 'stories' that reveal the main viewpoints favoured by a particular group, rather than requiring a large number of participants (Watts & Stenner, 2012). Therefore, the sample size was based on availability of participants.

Developing the concourse

The concourse within Q-methodology for the current study was a "universe of salient propositions" (Stephenson, 1935) about men's experiences of using lad group chats. The data for the concourse was derived from Twitter data. Publicly available tweets in the English language were obtained by the main researcher in April 2021. Data was collected using screenshots, as other applications such as NCapture only collect the first 140 characters of data provided in a Tweet, whereas Twitter's current character limit ranges from 140 to 280

characters. In addition, other applications (Twitter R, MAXQDA) have certain limits to capability which were not suited to the current research (e.g., a limit of a 7-day data collection period).

Relevant keywords were identified from an initial scoping search of the hashtag #ShameOnYouWarwick, a social media trend in 2018-2019 that related to a group chat of male students at Warwick University becoming public, due to the content replicating characteristics of lad culture. Specifically, tweets containing the terms "lad" OR "male" OR "men" OR "boys" AND "group chat" were obtained. The search was limited to Tweets that had a minimum of five "likes" and five "retweets", features of Twitter that provide exposure to tweets by sharing with other users (Pancer & Poole, 2016) and that demonstrate agreement with and popularity of tweets. Tweets that were produced between 1st January 2018 and 31st December 2019 were obtained. This time period was selected as this accounts for the period prior to, during and subsequent to the Warwick lad group chat scandal being prominent in the media. This method aligns with existing research on social media analysis as it enables researchers to collect data during the "peak" of online discussion regarding a certain topic (Bogen et al., 2018; 2019). Furthermore, only tweets that appeared to be produced by male users (as identified via their Twitter bio or display picture) were obtained. This is due to the current study's focus on male experiences of lad group chats. In total, 80 tweets were collected from users with public Twitter profiles during the data collection period.

Sampling the concourse

The concourse was analysed to devise a list of 'themes' of men's experiences of lad group chats. Data was cleansed to identify original content tweets, rather than retweets (tweets in which a user had reposted another user's tweet with no additional content), consistent with research on social media content analysis (Bogen et al., 2018; 2019). Moreover, irrelevant tweets were removed from the dataset, leading to a final sample of 60

original tweets in the English language. The data was then coded using NVivo software (Jackson & Bazeley, 2019). The coding process enabled the researcher to identify characteristics and experiences related to being a member of a lad group chat, using the search terms selected. The researcher followed an open-ended coding procedure in order to allow themes and subthemes to emerge whilst analysing the data. Relevant themes related to lad group chats that were identified included; meaningfully naming group chats (e.g., "all boys group chats have a meaning"), the impact upon work (e.g., "when you're using Whatsapp in work and someone posts on the lads group chat *an image stating you should probably ignore that*"), and sexist comments (e.g., "depends what they [girls] are going to wear"). Themes identified from coding and analysis of the Twitter data were then created into 42 generic statements, creating the concourse for the present study.

Constructing the Q-set

The Q-set was developed from the Twitter themes and was a list of 'statements' that reflected the full scope of the original Twitter data. At this stage, the researcher eliminated duplication of themes and generated similar themes into broader categories, as recommended by Block (1978). This was to ensure each statement represented a single idea and the overall themes of the concourse rather than direct quotes. The statements were a synthesis of the Twitter data which meant it was impossible at this stage to identify an individual, ensuring anonymity. A list of 42 statements was produced and each was randomly assigned a number, generating the Q-set which would be administered to the current study's sample. The full list has been provided in Appendix 19a.

Completing Q-sorts

Q-sorting provides the basis of Q methodology. An online Q-sort procedure was administered to the sample using Q-sorTouch (Pruneddu, 2016). Each participant was

provided with a participant information sheet on following the link to the study, which outlined the study purpose, their involvement, anonymity, right to withdraw and contact details for the researcher in case they had any questions. By proceeding with the study, participants were providing their informed consent to take part. Participants were then provided with a set of instructions that explained how to do the sorting process (Appendix 19b). Participants were asked to sort all of the statements from the Q-set in response to the following question: "to what extent do the following statements relate to your own experiences of lad group chats". Of the 19 grids distributed, all were completed correctly. Participants initially sorted each statement into three boxes (most relatable, neutral, least relatable).

Sorting then continued using the response grid (Appendix 19c). The Q-grid specified subcategories of extent of agreement and determined how many statements could be placed in each column (-4 to +4). This forced sorting procedure was used to provide a symmetrical distribution (i.e. a bell shape) from the mid-point that encouraged participants to make discriminations between statements that might not have been made otherwise (Brown, 2003). Q-sorting continued until all statements were placed into the grid according to the participant's level of agreement with the statement based on their own experience of a lad group chat. On completion, participants were asked to re-examine their Q-sort to ensure it represented their experiences accurately and changes were made if appropriate. The position of each statement was then recorded in the Q-sorTouch programme according to the statement number. This enabled preservation of each participant's Q-sort and provided a story of each participant's experience of lad group chats.

The Q-sort data was then downloaded and inputted online into KenQ software (Banasick, 2019), along with the list of statements. Data was then taken from each participant's Q-sort and correlations were found with other participant's Q-sorts, this

formulating a correlation matrix. Factor analysis, a data reduction method, was then completed to analyse the data set and explore patterns in how Q-sort items (statements) were arranged amongst the sample. Varimax factor rotation was conducted and three factor loadings were found, however due to overlap with regards to some of the items, two final factors were proposed in relation to lad group chats. These factor loadings occurred where clusters of opinions/meaning were found across Q-sorts. Due to the aim of the current study - to explore similarities/differences between interactions in lad group chats – the lower number of factor loadings was not problematic. Instead, composite grids were produced for these two factors. The composite grids represented the ways in which participants had sorted their Q-sorts similarly indicating what the collective Q-sort would look like. The composite grids for the two factors were analysed in order to find similarities within group chats that mapped onto behaviour described within 'lad culture'. To map the current Q-sort items onto lad culture, data was cross-referenced with empirical research into lad culture (Craig, 2016; Phipps & Young, 2013). In addition, similarities found within group chats based on the composite grids, however that did not map onto aspects of lad culture, were identified. This resulted in 18 final items for inclusion within the newly developed Involvement in Lad Group Chat Questionnaire (ILGCQ); 9-items which mapped onto lad culture and therefore would be included in the final score, and 9 filler items which were not included within the final score (as they did not map onto lad culture according to existing research), nevertheless that were included as they were frequent experiences identified within group chats. Further details regarding the ILGCQ is provided within Study 2.

Study 2

The current research aims to expand knowledge on whether lad culture solely exists in group settings or whether individuals may begin to internalize the beliefs and norms of their peer groups. Specifically, the study will explore whether lad group chats influence acceptance

of sexual assault and sexism in the general population. Below are the five research questions addressed in the present research along with the corresponding hypotheses:

Q1: Does being involved in a lad group chat relate to acceptance of sexual assault?

Hypothesis 1 (H1): Males involved in a lads group chat will demonstrate higher acceptance of sexual assault than males not involved in a lads group chat and females.

Null hypothesis 1 (H01): Lad group chat involvement will be unrelated to acceptance of sexual assault.

Q2: Does being involved in a lad group chat relate to attitudes towards women?

Hypothesis 2 (H2): Males involved in a lads group chat will have more ambivalence, hostility and benevolence towards women than males not involved in a lads group chat.

Null hypothesis 2 (H02): Lad group chat involvement will be unrelated to attitudes towards women.

Q3: Does acceptance of sexual assault relate to attitudes towards the opposite sex?

Hypothesis 3 (H3): Males who score higher on acceptance of sexual assault will have increased hostility, benevolence and ambivalence towards women.

Null hypothesis 3 (H03): Acceptance of sexual assault will be unrelated with attitudes towards women.

Q4: Does involvement in a lad group chat relate to perpetration of sexual assault?

Hypothesis 4: Sexual assault perpetration will be more prevalent in males involved in lad group chats than those not involved in lad group chats.

Q5: Are outcome variables (acceptance of sexual assault and ambivalent sexism) related to sexual assault perpetration?

Hypothesis 5: Acceptance of sexual assault and hostility, benevolence and ambivalence towards women will relate to increased sexual assault perpetration.

Method

Prior to the study, a priori G power analysis determined that a sample size of 153 participants would be needed to run an ANOVA test achieving 80% statistical power and a medium effect size (d = .25) when employing a 0.5 criterion of statistical significance. The sample size in the present research (n = 156) met the standards for reaching statistically significant conclusions for analyses in this study.

Participants

Participants were recruited through convenience and snowball sampling with the final sample being drawn from two research pools to increase diversity. Male and female participants were recruited through social media platforms, Twitter and Facebook, including on social media pages such as "UniLad" and "Lad Bible", with the aim of reaching the relevant population of interest ("lads"). Undergraduate students were recruited from two public research universities within the United Kingdom. The study was advertised through an e-mail which was sent out via a university distribution list for undergraduate students. The use of two recruitment sources in the current study increased diversity of the sample and targeted both a university student and non-student population, expanding on previous research in this area which has generally recruited student populations.

Eligibility criteria for the current study included being over 18 years of age due to the exploration of sensitive content (e.g., sexual beliefs) and identifying as either a male or female. Participants identifying as another gender (e.g., transgender, non-binary) were not eligible to participate in the current study due to the researchers focus on male-on-female sexual assault, stereotypical sex roles, and male-only group chats. Individuals who did not submit a completed survey were considered to have withdrawn from the survey, however the final measure in the survey was optional therefore, where only the final measure was not completed, surveys were retained.

Ethical consideration

All procedures were approved by the institutional review board. Participants followed a link to the online study in Qualtrics (Provo, UT) via the recruitment methods. Participants were presented with an information sheet (Appendix 9) which provided details of the study, anonymity, right to withdraw, and contact details. In addition, due to the sensitive nature of some of the topics in the survey, participants were provided with a link signposting them to support in case they opted to withdraw before completing the study and receiving the debrief. On completion of the study, participants were provided with a debrief form (Appendix 10) which outlined the true aims of the study, reminded them of their right to withdraw and signposted to further support if distressed by the sensitive content of the questionnaire.

Procedure

Participation was voluntary; an electronic consent statement (Appendix 11) was provided to participants prior to enrolling in the study. Eligible participants were provided with instructions to create a pseudonym code (Appendix 12) to protect anonymity but enable them with the right to withdraw their data within 14 days of completing the survey. This time period provided the opportunity for participants to consider withdrawing their data following being debriefed of the true nature of the study, whilst not interfering with the researcher's ability to begin data analysis for the study. They were then asked to complete the 15-minute online questionnaire via Qualtrics. Male and female participants received slight variations of the questionnaire due to the nature of the study (described below). Participants could enter a raffle to receive a £25 or £50 Amazon voucher at the end of the study.

Measures

Participants were presented with questions regarding demographic data and involvement in group chats. Following this, questionnaires were administered in a

randomized order through Qualtrics. The Sexual Experiences Survey (described below) was administered last due to the increased sensitivity in content therefore participants could continue without completing this measure.

Demographic data

Male and female participants completed a brief questionnaire assessing demographic characteristics, including age, ethnicity, religion, geographical area and level of education. Data on these variables were collected to enable the researcher to make conclusions about the results of the study taking into account the generalisability of the sample. Furthermore, student samples have been used in previous research within the area of sexual assault, therefore collecting data regarding age and level of education could provide further information regarding applicability of the results outside of university populations. Participants were also asked to indicate their sexual orientation due to the current study's interest in male-on-female sexual assault. Moreover, participants were asked to indicate their current relationship status following other studies into sexual activity of male populations (Santana et al., 2006; Scott-Sheldon et al., 2010).

Previous research has indicated males want to support females on issues of sexism (Fabiano et al., 2003), therefore the current study explored whether participants had close romantic relationships, as doing so may have impacted upon whether participants were involved in a lad group chat. Additionally, whether participants had previously had sexual relations with a partner was explored, which they could respond to as "yes", "no" or "to some extent". This is similar to other studies within this area and was of interest based on the study's focus on attitudes and behaviour towards sexual assault.

Extent of involvement in lad group chat

A survey indicating participants' extent of involvement in lad group chats was developed for the current study, as outlined within Study 1. The Involvement in Lad Group Chats Questionnaire (ILGCQ) (Appendix 13) included 5 initial questions presented to both male and female participants which aimed to explore their use of group chats more generally. Male participants were then provided with an 18-item questionnaire developed for the present study, the ILGCQ. Items included nine filler items, which were relatable features of group chats but not specific to lad culture or laddish behaviours in group chats, for example "it is difficult to make plans together" and "people read messages and do not reply". Nine items reflected 'laddish' behaviour or behaviours that mimicked lad culture thus creating the ILGC scale. Items included "sports are mentioned", "alcohol and drinking are talked about" and "women are rated".

Participants were asked to base their responses on the single-sex group chat (male-only) they were currently in or had been in in the past two years. For the first 16 items, participants indicated the frequency that these behaviours occurred within their male-only group chat on a Likert scale of 1 (never) to 5 (almost always). Participants were then asked to indicate the extent to which they agree with the 2 remaining statements on a Likert scale of 1 to 5 (strongly disagree to strongly agree). These Likert-type scales were selected based on research within similar areas (e.g., questionnaires into social media usage or lad culture). Only the nine items reflecting lad culture were scored providing a total score of 45. Participants were split into one of three categories based on their responses: scores of 9-18 = not involved in a lad group chat; 19-27 = involved in a lad group chat to some extent; or 28-45 = involved in a lad group chat. The category of “involved in a lad group chat” was determined based on a cut-off of score of above 27. This was because this would indicate the participant had rated all 9 scale items to have occurred more frequently than “sometimes” (3)

within their lad group chat, or that they had scored highly on multiple of these items (e.g., “often” or “almost always”). However, due to small sample sizes, the categories of “involved in a lad group chat” and “involved in a lad group chat to some extent” were collapsed for analysis, therefore male participants were assigned into one of two categories: “involved in a lad group chat” or “not involved in a lad group chat”. Female participants were asked the 5 initial questions regarding general group chat use but were not provided with the ILGCQ and, by default, were categorised as "not involved in a lad group chat" (control group).

Acceptance of Sexual Assault

A recently adapted version of the Illinois Rape Myth Acceptance Scale – Subtle version (IRMAS-S) (Thelan & Meadows, 2021) was administered to explore acceptance of sexual assault (Appendix 14). The 22-item scale is a self-report measure that was adapted from earlier versions of the IRMAS (McMahon & Farmer, 2011; Payne et al., 1999) for the purposes of creating a more subtle measurement that focuses on endorsement of rape myths and more covert beliefs. Sample items included "if a woman does not physically fight back, she cannot really say she was raped" and "sexual assault probably did not happen if the woman has no bruises or marks" (Thelan & Meadows, 2021, p.20-22). Additionally, 10 distractor items regarding sexist beliefs were included in the IRMAS-S, however these items were not used to calculate the final score, for example, "women tend to misinterpret compliments as harassment when men are hitting on them" (p.9). Responses are provided on a 5-point Likert scale from 1 (strongly disagree) to 5 (strongly agree) and a total score of all items is calculated, with greater scores indicating higher acceptance of sexual assault. Thelan and Meadows (2021) demonstrated excellent internal consistency for the IRMAS-S ($\alpha = .93$) amongst a mixed sample of participants recruited through Amazon Mechanical Turk (MTurk) and undergraduate psychology students at a midwestern university ($n = 222$). Both male and

female participants responded to the IRMAS-S in the present study, with excellent internal consistency being found (α = .91).

Attitudes Towards Women

The Ambivalent Sexism Inventory (ASI), developed by Glick & Fiske (1996), was administered to measure attitudes towards women within male participants in the present study. The 22-item scale includes two subscales (Appendix 15), eleven of the times items assessing hostility towards women on the Hostile Sexism (HS) subscale, for example "Women seek to gain power by gaining control over men" (p.512). The Benevolent Sexism (BS) subscale (11 items) assessed subjectively positive, yet sexist in terms of stereotypes, views of women e.g., "Women should be cherished and protected by men" (p.512). Items are rated on a 6-point Likert-scale from 0 (disagree strongly) to 5 (strongly agree) and scores are totalled to provide an overall measure of sexism, or measures of HS and BS separately. Higher scores indicate higher levels of sexism (ambivalent, hostile or benevolent). Glick and Fiske (1996) conducted research with student and non-student populations. Among the five samples, the ASI demonstrated acceptable to excellent internal reliability for the total scale (α = .83 to .90), the HS subscale (.80 to .91) and the BS subscale (0.73 to .83). Moreover, the ASI was found to have discriminant, convergent and predictive validity in the general population (Glick & Fiske, 1996). In the present study, the ASI was presented to male participants only. Internal reliability was good in the present sample (α = .80).

Sexual Assault Perpetration

The Sexual Experiences Survey - Short Form Perpetration [SES-SFP] (Koss et al., 2007) was administered to assess male participants' perpetration of unwanted sexual experiences in the present study (Appendix 17). The scale consists of 38 items, seven of which are behaviourally specific items that assess history of sexual perpetration, describing a

specific sexual act then asking which tactics were used to coerce the sexual act (i.e., 35 total items). One item includes "I put my penis or my fingers or objects into a woman's vagina without her consent". For each possible sexual outcome (item), five possible tactics may have been utilised to obtain the sexual outcome: verbal pressure (a), verbal criticism (b), incapacitation (c), physical threats (d), physical force (e). Participants were then asked to indicate the number of times that they had engaged in the specific behaviours and tactics (from 0 to 3+) within two timeframes: since age 14 (but not including the past year) and in the past 12 months. Timeframes can be combined to provide a lifetime score.

Four categories of sexual perpetration were defined based on the combination of the tactics used and the sexual outcome (none, unwanted sexual contact, sexual coercion and attempted rape/rape). Touching of another's body or removing clothes without consent but not attempting penetration was considered to be unwanted sexual contact. Sexual coercion was defined as using verbally coercive tactics (pressure, threats, criticism, anger) to obtain or try to obtain oral, anal or penetrative sex. Attempted rape and rape were defined as taking advantage of a person's altered consciousness, threats of physical harm, or using a weapon or physical force to obtain oral, anal or penetrative sex.

An additional two items assessed the gender of the victim and the extent to which the participant acknowledged it was rape, however these items were not used towards the four categories. Research has demonstrated the SES-SFP has good internal consistency amongst college populations (rho = .67; Anderson, Cahill & Delahanty, 2017). Internal consistency (α) was not calculated for the present research as, although this is a useful measure to assess reliability for latent constructs, it is not deemed to be appropriate for measuring behavioural experiences (Koss et al., 2007), for example when used estimating rates of sexual assault perpetration. The SES-SFP was administered to male participants only; participants were presented with an additional brief information sheet prior to continuing to this stage of the

questionnaire informing them of sensitive content and providing the choice for them to skip this section of the questionnaire.

Sexual Assault Victimisation

The Sexual Experiences Survey – Short Form Victimisation (SES-SFV) (Koss et al., 2007) was administered to female participants to assess their history of sexual victimisation experiences (Appendix 18). Five compound items assessed behaviourally specific sexual acts, such as "Someone had oral sex with me or made me have oral sex with them without my consent" (p.368) followed by the same five tactics used to coerce the sexual act as the SES-SFP (total 35-items). Similarly to the SES-SFP, respondents indicate the number of times they experienced each item (from 0 to 3+) from the age of 14 and within the past 12 months. This results in four mutually exclusive categories: non-victim (all items unchecked), sexual contact, sexual coercion, and attempted rape. Two additional questions measured the sex of the person who perpetrated the sexual act and asked respondents whether they acknowledged this was rape, though these items were not included in the final categorisation. Internal consistency was not calculated for the current research given there is no latent construct in the case of sexual victimisation. Female participants were presented with an additional brief information sheet prior to progressing onto this section of the questionnaire which informed them of sensitive content and provided the option to skip this part of the questionnaire.

Results

Preliminary Analysis

Responses to the questionnaire were analysed using Statistical Package for Social Sciences v.28.0 (SPSS; Chicago, IL). Preliminary analyses were performed to examine relationships between the study variables to determine possible covariates for testing the study hypotheses. In addition, analyses were performed to examine normality of the data.

Bivariate correlations

Spearman's Rho correlations were performed to examine relationships between demographic variables, given they are ordinal data, and outcome variables, to determine possible covariates for testing the study hypotheses. There was a significant negative correlation between acceptance of sexual assault and gender (r_s = -.423, p = <.001) and acceptance of sexual assault and religion (r_s = -.340, p = <.001). Ambivalent sexism towards women was negatively correlated with geographical location (r_s = -.192, p = .049) and positively correlated with relationship status (r_s = .285, p = .006). Nevertheless, as the demographic variable of gender was manipulated through the independent variable in the current study (males involved in lad group chats, males not involved in lad group chats, and females), this was not controlled for in subsequent analyses. In addition, although religion, geographical location and relationship status appeared to be significantly associated with the outcome variables, these factors are likely to be confounded due to manipulation of the independent variable (involvement in group chats). As participants were not randomly assigned to the condition of group chats, putting these demographic variables into subsequent analyses would not 'control for' these possible covariates (Lord, 1969). As such, although covariates were considered, they were not controlled for within the current study.

Normality

Normality of outcome variables was then assessed by examining histograms, skewness and kurtosis. As sample size for males in each category was less than 50, Shapiro-Wilkes test was conducted on lad group chat data to test for normal distribution of scores. The Shapiro Wilk test did not show evidence of non-normality for the ILGCQ data, W(35) = .95 , p = 0.10, suggesting the data was normally distributed. As sample size was greater than 50 for outcome measures, Kolmogorov-Smirnov test of normality was conducted on outcome data to test for a normal distribution. The Kolmogorov-Smirnov test found that IRMAS-S

scores were non-normally distributed for the whole sample, $D(154) = .12$, $p < .001$. In addition, ASI scores, $D(79) = .20$, $p < .001$ and its subscales, hostile sexism, $D(79) = .15$, $p < .001$ and benevolent sexism, $D(79) = .14$, $p < .001$ were non-normally distributed in males.

Researchers have suggested data is considered to be acceptable if skewness and kurtosis is between -2 to +2 (Bryne, 2010; George, 2010; Hair et al., 2009). Acceptance of sexual assault appeared to be normally distributed with negative skew (-.22, SE = .19) and negative kurtosis (-1.067, SE = .39) therefore parametric assumptions were considered to be met given these values fall within the acceptable range for univariate tests, such as ANOVA. However, Ambivalent Sexism appeared to be non-normally distributed as values were negatively skewed (-1.605, SE = .27) and with positive kurtosis (3.34, SE = .54) thus parametric assumptions were not met. Although one-way ANOVAs can be robust to violations of assumptions and may be relevant to conduct to test the first hypothesis due to a normal distribution between -2 and +2 (Bryne, 2010), the results of the Kolmogorov-Smirnov test indicate data for outcome variables is not normally distributed. In addition, sample sizes were unequal across the three groups (males in a lad group chat, males not in a lad group chat, and females). The use of an ANOVA was rejected on this basis, and the non-parametric equivalent, the Kruskal-Wallis test, was conducted to analyse the differences between groups for acceptance of sexual assault. Non-parametric testing was also used to explore the differences between males involved and not involved in a lads group chat and attitudes towards women, namely the Mann-Whitney test.

Descriptive Statistics

Participants

Of the 187 participants who visited the site, 28 participants did not complete any of the measures beyond demographics, therefore they were excluded from the analysis. One participant reported their age was under 18 therefore they did not meet the inclusion criteria.

One participant reported they were transgender and one did not report their gender hence they were excluded from the present study due to the research exploring male against female sexual assault. Demographic details of the sample are provided in Table 3.

Table 3.

Descriptive statistics (n=156)

Variables	***n* (%)**
Gender	
Male	77 (49.4)
Female	79 (50.6)
Age	
18-24	41 (26.3)
25-34	74 (47.4)
35-44	25 (16)
45-54	13 (8.3)
55-64	2 (1.3)
65-74	1 (0.6)
Ethnicity	
White	125 (80.2)
White and Asian	9 (5.8)
White and Black Caribbean	5 (3.2)
Caribbean	3 (1.9)
White and Black African	2 (1.3)
Indian	2 (1.3)
African	2 (1.3)
Chinese	1 (0.6)
Other ethnic group/not reported	6 (3.8)
Geographical location	
UK	94 (60.3)
US	50 (32.1)
Australia	3 (1.9)
Canada	2 (1.3)
India	1 (0.6)
South Africa	1 (0.6)

Turkey	1 (0.6)
Not reported	4 (2.6)
Religion	
Catholicism/Christianity	77 (49.7)
Judaism	4 (2.6)
Islam	6 (3.9)
Buddhism	4 (2.6)
Hinduism	2 (1.3)
Prefer not to say	3 (1.9)
None	52 (33.5)
Other	1 (0.6)
Not reported	(3.9)
Level of education	
Some Secondary School/High School	1 (0.6)
GCSE's (or equivalent)	2 (1.3)
A-Levels (or equivalent)	8 (5.2)
High School Diploma	27 (17.4)
Bachelor’s Degree	74 (47.7)
Master’s Degree	24 (15.5)
Ph.D. or higher	6 (3.9)
Trade School	5 (3.2)
Apprenticeship	3 (1.9)
Other	1 (0.6)
Not reported	4 (2.6)
Sexuality	
Heterosexual	140 (90.3)
Homosexual/gay/lesbian	5 (3.2)
Bisexual	3 (1.9)
Other	2 (1.3)
Prefer not to say/not reported	5 (3.2)
Relationship status	
Married	61 (38.7)
Single	32 (20.6)
In a relationship	29 (18.7)

Living with a partner	24 (15.5)
Engaged	3 (1.9)
Divorced	3 (1.9)
Prefer not to say/not reported	4 (2.6)
Previous sexual encounters with a partner	
Yes	137 (88.4)
No	12 (7.7)
To some extent	2 (1.3)
Prefer not to say/not reported	4 (2.6

Extent of Involvement in Group Chats

Among participants, almost 60% (*n* = 92) reported that they were currently a member of a group chat, followed by 32% who had been a member of a group chat in the past 2 years (*n* = 50). Eight participants had been a member of a group chat before but not in the past 2 years whereas six participants had never been a member of a group chat. Of those who had been a member of a group chat within the past two years, 43.6% (*n* = 68) reported they had been a member of a single sex group chat whilst 68.6% (*n* = 107) reported they had been a member of a mixed gender group chat. Those involved in a group chat within the past two years had reported that they had a group chat with friends (*n* = 115), close friends (*n* = 103), work colleagues (*n* = 96), family (*n* = 83), teams, clubs or societies (*n* = 47), strangers (*n* = 31) or with a mixed group (*n* = 24). The majority of participants indicated that they had read messages within their group chat at least once a day (67.9%, *n* = 106) followed by 16% of participants who reported reading their group chat every other day (*n* = 25), fourteen participants reading this weekly, one monthly and three less than monthly. Almost 45% of participants (*n* = 70) reported that they contributed to their group chat at least once a day, followed by others contributing to this every other day (*n* = 45), weekly (*n* = 23), monthly (*n*

= 6) and less than monthly (n = 5). Seven participants did not provide details of how often they read and contributed to their group chat.

Of the male participants who indicated they were involved in a group chat within the past two years, 34 participants were categorised as being involved in lad group chats (as per the ILGCQ) whereas 45 participants did not appear to be involved in lad group chats. The remaining 77 participants who had been involved in a group chat were female.

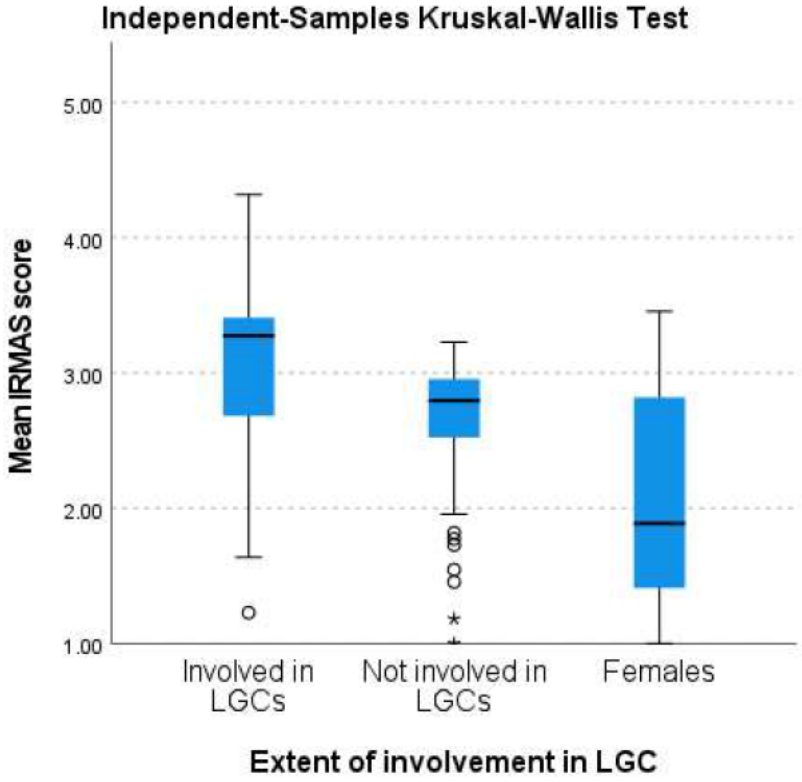
Acceptance of Sexual Assault

A Kruskal-Wallis test (see figure 3) showed that extent of involvement in a group chat significantly affected beliefs related to acceptance of sexual assault, $H(2),= 22.19$, $p = .001$. Acceptance of sexual assault was significantly higher for those involved in lad group chats (Mdn = 3.27) than for those not involved in lad group chats (Mdn = 2.80) and female participants (Mdn = 1.89). Post-hoc Mann-Whitney tests were conducted using a Bonferroni-adjusted alpha level of .017 (0.05/3) to compare pairs of groups. Differences between males involved in a lad group chat to those not involved in a lad group chat (U = 367.50, z = -3.84, $p < .001$, r = -.43) and females (U = 460.00, z = -5.38, $p < .001$, r = -.51) were significant, therefore the first null hypothesis was rejected. Medium to large effect sizes were found (Cohen, 2013) providing support for the first hypothesis, that males involved in a lads group chat will demonstrate higher acceptance of sexual assault than males not involved in lad group chats and females. In addition, male participants who were not involved in lad group chats were found to be significantly more accepting of sexual assault than female participants (U = 1.057.00, z = -3.35, $p < .001$, r = -.31) with small to medium effect sizes found (Cohen, 2013).

A Spearman's rank-order correlation was also run to determine the relationship between involvement in a lads group chat and attitudes towards sexual assault. The first alternative hypothesis was further supported, with results suggesting a moderate positive correlation ($r_s = .44$, $df = 33$, $p < .001$).

Figure 3.

Differences between levels of lad group chat involvement (LGCs) and acceptance of sexual assault



Note: This figure demonstrates the differences between mean scores on acceptance of sexual assault across three groups (males involved in a lads group chat, males not involved in a lads group chat, and female participants).

Ambivalent sexism

Mann-Whitney tests were conducted to compare ambivalent sexism towards women in male participants. Differences in hostile sexism towards women were significant between males involved in a lad group chat and males not involved in a lad group chat ($U = 558.00$, $z = -2.05$, $p < .02$, $r = -.023$). Males involved in a lad group chat ($Mdn = 3.59$) were found to be more hostile towards women than males not involved in a lad group chat ($Mdn = 3.36$),

however effect sizes were small indicating a weak relationship between extent of involvement in a lad group chat and hostile sexism. There were no significant differences in benevolent sexism towards women between males in a lad group chat (*Mdn* = 3.50) and males not involved in a lad group chat (*Mdn* = 3.45). There was a small effect of extent of involvement in lad group chats on ambivalent sexism towards women overall. Males involved in a lad group chat (*Mdn* = 3.55) demonstrated slightly higher ambivalence towards women than males not involved in a lad group chat (*Mdn* = 3.41), $U = 531.00$, $z = -2.32$, $p < .01$, $r = -.026$. Therefore, the second null hypothesis was rejected and the second alternative hypothesis, that males involved in a lads group chat will be more hostile, benevolent and ambivalent in their attitudes towards women, was partially supported. Those involved in a lads group chat appeared to hold more hostile and ambivalent attitudes towards women than those not involved in lad group chats, though to a small extent, however there were no difference between groups in benevolence towards women.

Due to data not meeting parametric assumptions, a Spearman's Rho test was conducted to explore the relationship between acceptance of sexual assault and hostile, benevolent and ambivalent sexism towards women in male participants. Results are provided in Table 4. The third null hypotheses was rejected and H3 was accepted; higher levels of acceptance of sexual assault were associated with higher levels of hostility, benevolence and ambivalence towards women.

Table 4.

Correlations between Acceptance of Sexual Assault and Ambivalent Sexism

Mean Scores on Ambivalent Sexism Scales	**Mean IRMAS-S score**	
ASI - Hostile Sexism towards women	Spearman's Rho	.631*
	Sig. (1-tailed)	<.001
	N	78
ASI - Benevolent Sexism towards women	Spearman's Rho	.292
	Sig. (1-tailed)	.005

	N	78
Total ASI	Spearman's Rho	.565*
	Sig. (1-tailed)	<.001
	N	78

Note: This table presents the correlation between subscales and full-scale ambivalent sexism measure and acceptance towards sexual assault (IRMAS-S score).

* p < .001

Sexual Assault Perpetration

Descriptive statistics were calculated to determine the prevalence of sexual assault perpetration among male participants. Of the 44 male participants who responded to the SES-SFP (a 57% overall response rate), nearly 44% of participants (43.2%, N = 19) were categorised as having perpetrated rape, whilst 16 participants (36.4%) did not appear to have engaged in any sexual assault perpetration. Six participants indicated they had used sexual coercion to obtain an unwanted sexual act (13.6%), two indicated they had used unwanted sexual contact (4.5%) whilst one indicated they had attempted rape. Nearly 70% of participants reported they had perpetrated unwanted sexual experiences towards a female victim only (68.2%, N = 30) whilst 7 indicated they had perpetrated unwanted sexual experiences towards males only (15.9%). Responses were missing for 7 participants. In response to the question "do you think you may have you ever raped someone?", most participants did not think they may have raped someone (84.1%, N = 37) whereas 15.9% of participants (N = 7) classified their perpetration of unwanted sexual experiences as rape.

A Pearson chi-square test was conducted to investigate whether there was a relationship between involvement in a lads group chat and sexual assault perpetration. The relationship between the two variables was not significant indicating there was no association between extent of involvement in group chats and sexual assault perpetration.

Due to parametric assumptions being violated on the majority of outcome measures, a Spearman's Rho test was conducted to explore the relationship sexual assault perpetration and outcome variables. Results are provided in Table 5.

Table 5.

Spearman's Rho correlations between Sexual Assault Perpetration and outcome variables

		SES-SFP category
Mean IRMAS-S score	Correlation coefficient	.413*
	Sig. (1-tailed)	.003
	N	43
Mean ASI Total score	Correlation coefficient	.437*
	Sig. (1-tailed)	.002
	N	44
Mean ASI hostile sexism score	Correlation coefficient	.528*
	Sig. (1-tailed)	<.001
	N	44
Mean ASI benevolent sexism score	Correlation coefficient	.249
	Sig. (1-tailed)	.052
	N	44

Note: This table presents the correlation between categories of sexual assault perpetration in male participants, acceptance of sexual assault, and the full and subscales of the ambivalent sexism measure.

* $p < 0.01$

Sexual Assault Victimisation

Descriptive statistics were calculated to determine the prevalence of sexual assault victimisation among female participants. Of the 32 female participants who responded to the SES-SFV (overall response rate of 41%), the majority were categorised as not having experienced any unwanted sexual experiences (37.5%, N = 12), whereas it appeared that nearly 35% (34.4%, N = 11) could be categorised as a victim of rape. Five participants (15.6%) indicated they had been a victim of unwanted sexual contact and four participants (12.5%) indicated they had been a victim of sexual coercion used to gain unwanted sexual experiences. Despite 11 participants being categorised as victims of rape according to the

SES-SFV, only 5 participants appeared to classify this as rape when asked "have you ever been raped?", whereas 15 participants did not classify their unwanted sexual experiences as rape. Nearly 70% of participants (68.8%, N = 22) reported that the sex of the sexual assault perpetrator was male, 3 participants reported that it was both females and males who had perpetrated unwanted sexual experiences towards them, and 7 participants did not provide a response regarding the sex of the perpetrator. Spearman's Rho correlation was conducted and no significant relationship was found between sexual assault victimisation and acceptance of sexual assault.

Further testing

As the area of lad group chats is under-studied, additional quantitative tests were completed to explore demographic details in comparison to participant groups. It was of interest to determine whether participants exhibited differences in age, level of education, geographical location, ethnicity, religion, relationship status and previous sexual experience for males involved in a lads group chat and males not involved in a lad's group chat. The results of this analysis may provide insight into whether there is a certain kind of individual more likely to be involved in a lad group chat, thus furthering knowledge within the area.

A Shapiro-Wilkes test was conducted on each variable to determine normality of the data. Only the mean ILGCQ scores were shown to be normally distributed ($W = .95$, $df = 33$, $p = .10$). However, all remaining demographic variables were not normally distributed ($p < .001$) therefore all data was assumed to violate parametric assumptions and an ANOVA test was rejected. Instead, the non-parametric counterpart, the Kruskal-Wallis test was used to test for differences between males involved in a lads group chat (LGC), as opposed to those not involved, and demographic variables.

There were six categories of age groups identified (18-24, 25-34, 35-44, 45-54, 55-64 and 65-74). A Kruskal-Wallis test found no significant effect of age on involvement in a

LGC. A non-significant effect of age was unexpected given previous research has shown that older working men distanced themselves from hegemonic masculinity (Foweraker & Cutcher, 2015), hostile masculinity decreased with age and that younger males expressed significantly greater rape-myth acceptance and hostility towards women than older men (Aromaki et al., 2002). Moreover, conformity to group-think and adopting the views and behaviours of other has often been referred to as age-dependent, with evidence suggesting susceptibility to peer/social influences is greatest during adolescence, this declining in adulthood (Foulkes et al., 2018; Knoll et al., 2015; 2017). Conversely, within the current research, the findings indicate males may be involved in a lad group chat, and influenced by their peers within the lad's group chat, beyond late adolescence and their early twenties. The current research assessed age through categories therefore the average age of participants was not calculated. However, although no effect of age was found, the majority of participants were between 25-34 years old, with this age category being the most prominent for males involved in a lad's group chat. Typically, research regarding peer influence on male sexual assault has focused on student samples with a mean age of approximately 20, as based on the results of the systematic literature review presented. Therefore, these findings expand on literature within the area as this suggests male peer groups may continue to influence individual attitudes despite age, at least within the context of lad group chats.

It was speculated that there may be differences in sexual attitudes, attitudes towards lads group chats, and peer group influence between ethnic groups considering the dissimilar cultural and socioeconomic factors that influence sexuality and shape interactions with others (Amaro et al., 2002). Moreover, previous research has indicated that cultural factors may play a role in peer influences on smoking behaviour in adolescents (Unger et al., 2001) and that there may be small but significant ethnic differences in gender role stereotyping and attitudes towards casual sex (Ahrold & Meston, 2010). Nonetheless, there was no significant effect of

ethnicity on LGC involvement found within the current research. Previous researchers, Ahrold and Meston (2010), found small effect sizes for ethnic differences in attitudinal measures towards sex however their sample consisted of 1,415 college students; they concluded that a large sample size may be needed to detect these differences. It is possible that the small sample size within the current research limited the ability to detect differences between ethnicity. Additionally, there were nineteen categories identified for ethnicity within the current research (see Appendix 20), thus the non-significant outcome may be due to low numbers of participants in some of these categories whilst the the majority of the sample categorised their ethnicity as White/Caucasian. A more diverse sample and larger sample size may be required to detect such differences across groups.

There was no effect of sexual orientation, relationship status or previous sexual encounters on LGC involvement. This is consistent with similar research by Craig (2016) who found there was no effect of sexual orientation, relationship status and previous sexual encounters on involvement in "lad culture". These findings suggest that proximity to a close intimate relationship may not alter involvement in a LGC. This provides further support for Brown and Messman-Moore's (2010) claims, that peers may be more influential on men's attitudes towards sexism and sexual aggression than personal attitudes. With regards to previous sexual encounters, it has been suggested that the predominant influence of lad culture is peer norms, rather than an individual's experience of sexual relationships (DeKeseredy & Kelly, 1995). As the present study was concerned with exploring LGC's and behaviours within these which map onto lad culture, it is plausible that previous sexual encounters would not have an effect on whether a male is involved in a lad's group chat.

The Kruskal-Wallis showed there was a significant effect of level of education on LGC involvement, $H(1) = 5.33$, $p = .02$. A Chi-square test of independence was performed to assess the relationship between involvement in a LGC and level of education. There was a

significant relationship between the two variables, X^2 (18, N=153), = 35.31, p = .01). Female participants were more likely to be educated to a higher degree than males, the majority having a Bachelor's or Master's degree. Males not involved in a LGC were also more likely to be educated at a Bachelor's or High School Diploma level compared to males involved in a LGC. This suggests it may be beneficial to target males within schools prior to them becoming involved in LGC's, given these individuals may be educated to a lower level than those not involved in a LGC; this may prevent future peer influence within LGC's and these interactions exacerbating individual attitudes which encourage/support sexual assault. The current findings are plausible as lower educated participants have previously been found to be more likely to endorse rape-myths (Burt, 1980; Kassing et al., 2005). It is therefore possible that those who were educated to lower levels in the current study were more susceptible to peer influence within LGC's and more accepting of sexual assault than those not involved in a LGC, not accounting for extraneous variables such as age or location.

A Kruskal-Wallis test exploring the effect of eight categories of religion on LGC involvement showed there was a significant effect between the two variables, H(1) = 4.28, p = .04. However, when post-hoc tests were conducted, a Chi-square test of independence found there was no significant association between LGC involvement and religion, X^2 (14, N=150), = 15.89, p = .32).

In addition, a significant effect of location, specifically country as identified through 7 categories, was found on LGC involvement using the Kruskal-Wallis test, H(1) = 18.42, p = <.001. Follow-up tests were carried out through the Chi-square test of independence. There was a significant relationship between LGC involvement and geographical location, X^2 (12, N=152), = 36.60, p = .001). The majority of females were from the UK followed by the US. Males who were not involved in a LGC were more likely to be from the US than males who were involved in a LGC and females. In contrast, the majority of males involved in a LGC

appeared to be from the UK, suggesting males from the UK may be more likely to become involved in a LGC exhibiting lad culture behaviours than other countries. This finding was unexpected given the breadth of studies conducted into peer influence on sexual assault within the US (see chapter 1). Moreover, within the US, there appears to be a greater influence from fraternities, with research suggesting males in fraternities are more accepting of sexual violence because, within these contexts, male members strongly endorse masculine norms, feel pressure to uphold masculine norms, and more readily view women as sexual objects (Seabrook et al., 2018). However, it appears that, within the current sample, these pressures and views were not as frequently reported within group chats. It is possible that males who are members of fraternities may exhibit rape-supportive attitudes and behaviours more overtly as a result of peer pressure from other members of the peer group and to display masculinity. However, they may not condone these same behaviours or attitudes with their peers more privately. Contrastingly, it seems males within the UK may experience this same pressure within private spaces with peers such as group chats, or it is possible that this may be their only outlet for exhibiting these attitudes due to social desirability in more public spaces. More research is required to determine the extent to which these geographical differences in lad group chat involvement, or peer group influence outside of the US more generally, may exist.

Discussion

Little is known about the influence of peer groups within modern, accessible, and often unregulated online contexts, such as group chats. Despite this, in 2018, an all-male group chat gained traction in the media due to concerning content such as rape threats towards fellow female students, sexism, and rape-supportive attitudes. The general public expressed their views on social media with regards to the group chat content and the university's responsibility to address this, sharing the hashtag #ShameOnYouWarwick. Prior

to this, research had predominantly focused on factors related to sexual assault at an individual level, such as RMA and sexism towards women. However more recently, in line with social norms theory, peer group attitudes have been found to be one potential factor contributing to individual attitudes and behaviour towards sexual assault (Crosset et al., 1995; Fabiano et al., 2003; Phipps & Young, 2013). The current research aimed to expand on the literature by exploring male peer groups and their influence on attitudes towards women and sexual assault within this particular context (lad group chats). Male and female participants were recruited from social media and two universities within the UK to participate in an online questionnaire. Male participants were categorised as either having 'been involved in a lads group chat in the past 2 years' or having 'not been involved in a lads group chat in the past 2 years'. Female participant data was used as a control group.

Five hypotheses were tested through the survey data to explore differences between men who were involved in a lads group chat, men who were not involved in a lads group chat and females on levels of acceptance of sexual assault, ambivalent sexism, and sexual assault behaviour. A summary of the main study findings followed by a discussion of these findings, implications, limitations and conclusions will be provided.

Summary of findings

The first hypothesis, that males involved in a lads group chat would demonstrate higher acceptance of sexual assault than males not involved in a lad group chat (LGC) and females was supported. The current study found that males in a LGC were more accepting of sexual assault than males not in a LGC and females. These findings appear to suggest all-male contexts such as lad group chats may influence the values, beliefs and attitudes of members, socially constructing a rape-supportive environment (Boswell & Spade, 1996). These findings provide support for MPS (Schwartz & DeKeseredy, 1993), in that the legitimization of acceptance of sexual assault towards women may be encouraged by men's

peer bond and conforming to the norms of the subculture. According to MPS, exhibitions of masculinity may be supported in all-male peer groups and males may be socialised to behave to such standards, whereas individuals who do not conform to these standards may be viewed as deviant and inhibit social bonds (Murnen & Kohlman, 2007). In the current study, participant responses to one of the filler items within the Involvement in Lad Group Chat Questionnaire (ILGCQ) may have provided some support towards this concept of males not wanting to deviate from exhibitions of masculinity within all-male peer groups. Participants involved in an all-male group chat within the past 2 years were asked "if someone was being inappropriate in the group chat, I would not feel comfortable with shutting down the conversation". Of the 34 participants who reported that were involved in a lad group chat, 61.8% agreed with this statement, two participants strongly agreed, six participants neither agreed nor disagreed whereas less than 15% of participants reported that they would feel comfortable with shutting down inappropriate conversations within the lad group chat (N = 5). Consistent with this, previous research has shown that, although the majority of undergraduate athletes within an all-male society regarded sexual violence to be immoral, they still indicated significant rape-supportive attitudes during interviews, suggesting that beliefs held by the male peer group may outweigh own perspectives regarding sexual assault (McMahon, 2007; Schwartz & DeKeseredy, 1997). The current study's findings seem to suggest that all-male peer group chats may increase attitudes supportive of sexual assault, which is consistent with existing research into male peer groups, e.g., fraternities and sports societies (Boeringer, 1999; Cross et al., 1995; Moynihan & Banyard, 2008; Murnen & Kohlman, 2007).

Second, it was hypothesized that males involved in a lads group chat would be more hostile, benevolent and ambivalent towards women than males not involved in a lads group chat; this relationship was partially supported by the findings. Males involved in a lads group

chat were more hostile and ambivalent in their attitudes towards women than those not involved in lad group chats. The results suggest that males involved in an all-male group chat within the current study held beliefs that were more derogatory towards females that defy "traditional gender roles", that justified male domination, and asserted that women should "be content with their role in society" (Chapleau et al., 2007, p.132). These results are plausible given it has been suggested that all-male peer groups provide opportunities for male-bonding (Flood, 2008) and that male beliefs can be considered as an expression of the social patriarchy, specifically male domination, whereby, if women do not conform then this can be a source of stress for males (DeKeseredy, 1988). Researchers have previously presented similar findings within other male-orientated contexts, such as lad magazines appearing to normalise gendered sexual scripts (Krassas et al., 2003) and 'lad culture' within higher education institutions appearing to assert principles such as masculinity, traditional gender beliefs and where sexism is often present (Phipps & Young, 2013).

Contrary to existing literature and somewhat unexpectedly, there was no difference in endorsement of benevolent sexism between males involved in a LGC and males not involved in an LGC. Within previous research, it appears that "hostile and benevolent sexism are positively related" (Glick & Fiske, 1996, p. 507) meaning those who endorse greater hostile sexism have also been found to endorse more benevolent sexism across cultures, indicating both constructs justify male power (Glick et al., 2000; 2004). However, within the present study, hostile sexism was higher for males involved in a lad group chat, yet there was no difference in benevolent sexism as would be expected. It has been suggested that men report more benevolent sexism towards women in the United States (Chapleau et al., 2007), potentially indicating males in the US endorse benevolent sexism more so than males in other countries. If so, then this may explain the lack of increase for benevolent sexism within males involved in LGCs. In the present study, further analysis of demographic data showed that

males involved in a LGC were more often from the UK, whereas males who were not involved in a LGC were more frequently from the US. These results appear to indicate cultural differences may exist between how sexism is perpetrated by males in different countries, for example, males within the UK may hold more hostility towards women compared to the US.

Furthermore, the degree of hostile sexism in comparison to benevolent sexism may vary throughout society, depending on factors such as the balance of power between the sexes (Glick & Fiske, 1996; Guttentag & Secord, 1983); these variations in society could account for the lack of apparent relatedness between hostile and benevolent sexism within this sample. Some theorists have proposed that ambivalent beliefs are typically conflicted and thus unrelated (Cacioppo & Bernston, 1994), whereas, Thompson and colleagues (1995) suggested that, due to attitudes being multidimensional, different forms of ambivalence may be possible, for example, a man holding two seemingly consistent beliefs about women (e.g., "women are incompetent at work" and "women must be protected") which could produce two "opposing evaluations" (Glick & Fiske, 1996, p.494).

Within the present study, the third hypothesis (a) was supported; males demonstrating higher hostile sexism, benevolent sexism and ambivalent sexism had increased acceptance of sexual assault. These findings are consistent with existing research which has found a relationship between the hostile sexism and RMA (Glick & Fiske, 1997), and benevolent sexism and greater victim-blaming (an aspect of RMA) (Abrams et al., 2003). However, the current study expanded on previous research as it explored more "subtle" rape-myths and attitudes towards sexual assault. Researchers such as Gerger and colleagues (2007) have suggested that individuals have a greater awareness that endorsing rape myths is socially undesirable and that this may have contributed to RMA seemingly declining over the years (McMahon, 2007; McMahon & Farmer, 2011). It is therefore difficult to determine whether

observed rates of RMA are declining over time because of issues with measuring RMA, as opposed to individuals no longer accepting rape myths. Instead, it has been proposed that individuals may endorse more covert rape myths, as agreeing with items on previous RMA measures may be less socially acceptable at present. More recently, attempts have been made to update language on these measures to include more subtle phrasing of rape myths.

The fourth hypothesis, that there will be a positive relationship between lad group chat involvement and sexual assault perpetration, was not supported. There were no differences in prevalence of sexual assault perpetration between males involved in a LGC and males not involved in a LGC. These findings were unexpected given previous research has shown there is a higher likelihood that males subscribe to rape-supportive attitudes and self-report sexual assault or coercion in all-male contexts such as lad culture, sports societies and fraternities (Loh et al., 2005; Murnen & Kohlman, 2007; Ryan, 2004; Santana et al., 2006). Nevertheless, some researchers have suggested there is no link between membership to all-male peer groups and sexual assault perpetration (Moynihan & Banyard, 2008; Schwartz & Nogrady, 1996). Close peers may be influential because individuals in the group learn deviant behaviours from the values of those they are associated with (Sutherland, 1947). However, given the current study did not measure the strength of the relationships within the peer network, it is uncertain how close peers were within their LGC's. This may explain the lack of significant relationship between LGC involvement and prevalence of sexual assault perpetration. Moreover, it is possible that inconsistencies in findings related to the prevalence of sexual assault perpetration may be because of differential group ethic (Boswell & Spade, 1996); dynamics of individual group chats were not considered within the present study. In accordance with MPS theory, group members are instructed on how to behave through group norms and individuals may adopt the norms of the group to receive approval and support from peers, in addition to conforming to "group-think" mentality (Fabiano et al., 2003;

Sanday, 1990). Where peer networks are more diverse or peer group members adhere to more prosocial attitudes or provide positive support for group members, these peer groups may be protective against sexual assault perpetration (Schwartz & DeKeseredy, 1997). The positive influence of peers within the LGC, or peer groups external to the LGC, were not accounted for within the study, however, these factors could have impacted upon sexual assault perpetration.

The fifth finding of the current study was that acceptance of sexual assault and hostility, benevolence and ambivalence towards women related to increased sexual assault perpetration. These findings are similar to previous research which indicated RMA correlates with greater levels of sexism and rates of sexual assault perpetration (Aosved & Long, 2006; Dean & Malamuth, 1997; Marx et al., 1999). However, these results appear to contradict that of Craig (2016), who found that participants recognised lad culture played a role in their lives but appeared to distance themselves from this at an individual level in focus groups. The discrepancy in these findings may be due to the anonymity provided within the current study given participants were asked to participate in an online questionnaire, as opposed to with a female researcher present within a focus group. These findings provide further support for MPS theory, as the results suggest beliefs of the peer group (within lad group chats) may be more prevalent than individual perspectives regarding sexual assault (Schwartz & DeKeseredy, 1997). Subsequently, peer group endorsement of these beliefs may relate to greater acceptance of sexual assault and endorsement of sexism towards women at an individual level.

Limitations

Although the majority of hypotheses in the current study were supported, it is important to acknowledge the study's limitations. Firstly, the group sizes between males involved in a lads group chat, males not involved in a lads group chat, and females were

unequal. Despite this, when investigating differences between groups, efforts were made to use non-parametric testing to account for non-normality. This meant that certain demographic variables which had demonstrated a significant relationship with outcome variables, and therefore were possibly covariates, could not be controlled for in the analysis. Future studies may choose to use a larger sample of participants with equal group sizes as this may enable ANOVA tests to be conducted and possible covariates could be controlled for.

A further limitation was the use of a cross-sectional research design as this does not allow testing of causal relationships between variables. Although there were significant positive relationships found between groups and acceptance of sexual assault and ambivalent sexism, the causal relationship is not known. Due to the design, it is difficult to distinguish between selection effects, i.e., factors that predict joining lad group chats, and socialization effects i.e., whereby lad group chat involvement has socialised males to be more accepting of sexual assault. It is plausible that men with characteristics that predispose them to attitudes accepting of sexual assault and sexist attitudes towards women disproportionately select into lad group chats, as has been found to be the case with fraternities (Kingree & Thompson, 2013; McCabe et al., 2018) Hence, individuals may choose to be involved in a lad group chat with like-minded peers due to their own beliefs, as opposed to peers within the LGC influencing them. Nonetheless, cross-sectional designs are common to use in sexual assault research, as they enable the researcher to assess attitudes at a specific point in time, they support the analysis of multiple variables and are cost-effective (Kesmodel, 2018).

Processes were implemented to reduce the potential bias in reporting, for example, using an anonymous survey. Despite this, reliance on self-reported attitudes and behaviours about sensitive topics such as sexual assault may impact the accuracy of the data. It was possible some men did not feel comfortable with full disclosure of their beliefs or perpetration of sexual assault, especially given some participants reported being in a

relationship or living with a partner. Due to the study being online, the environment in which the participants completed the study could not be controlled, therefore if individuals were taking part in a shared or public area or with a partner present, they may not have felt comfortable to disclose the extent of their involvement in lad group chats, attitudes towards sexual assault, and perpetration. Previous studies have included a social desirability measure when collecting self-report data to measure attitudes and behaviours towards sexual assault; it may be helpful to include a measure of social desirability in future research, however due to concerns regarding survey fatigue, this was not possible. Alternatively, future researchers may choose to conduct the same measures in a confidential space to remove the possibility of a partner being present during completion, although it is uncertain how this may impact upon socially desirable reporting.

Careful consideration was given to the most appropriate and reliable measures to use in the current study, however there are some limitations. The ILGCQ was used to determine whether or not males were involved in a lad group chat, however the measure has not yet been validated. Due to time constraints, the measure was not piloted or revised prior to use in the current research, as has been done in previous research within this area (Craig, 2016; Thelan & Meadows, 2021). Nevertheless, due to a lack of research within this area, the initial items were developed based on an analysis of Twitter data. These items were then provided to a small sample of male participants from sports societies within a UK university to determine their level of agreement with statements regarding lad group chats using Q-Methodology, a valuable method for exploring subjective views or experiences and identifying patterns. Statements were included in the ILGCQ following factor analysis and based on consensus among participants that these behaviours or experiences were similar to their own experiences of all-male group chats. In addition, these statements were then cross-referenced with literature on 'lad culture' (Phipps & Young, 2013) and an existing measure

regarding involvement in lad culture (Craig, 2016); this helped to establish their relevance to lad culture and to ensure the items mapped onto similar concepts (e.g., drinking, sexist 'banter', sports). Internal reliability was acceptable for the ILGCQ ($\alpha = .65$) however, it would be useful to validate this measure to ensure future research is using the most effective method for categorising involvement in lad group chats. Regardless, there is no available measure into lad group chat behaviour to date, therefore the ILGCQ provided a novel way of assessing this private context, and the extent to which this may be related to acceptance of sexual assault and sexism, within the current research.

The ASI was used to explore male participants' attitudes towards women within the current study whereas its validated counterpart, the Attitudes Towards Men scale (Glick & Fiske, 1999), was used to explore female participants' attitudes towards men. The use of different measures of ambivalent sexism depending on the gender of participants, and each with a different number of items (22 and 20 respectively), created difficulties in comparing the three groups for hostile, benevolent and ambivalent sexism. Consequently, the researcher was unable to make comparisons between male and female ambivalence towards the opposite gender and data related to attitudes towards men was omitted. Instead, analysis was carried out to determine differences between the two groups of male participants (involved or not involved in lad group chats). However, females can endorse hostile and benevolent beliefs about other females, as can males endorse hostile and benevolent stereotypes about other males (Glick & Fiske, 1999). Future research should consider administering both the ASI and AMI to male and female participants as this may provide a better understanding of ambivalent sexism and the relationship with attitudes towards and perpetration of sexual assault. In addition, this will allow for more accurate comparisons, however the possibility of respondent fatigue would need to be considered due to the length of the questionnaires (Ben-Nun, 2008).

Conclusions

This study explored the influence of lad group chat involvement on attitudes towards sexual assault, sexism and sexual assault behaviour within a sample of individuals with access to social media. Significant differences were found between those involved in lad group chats, those not involved in lad group chats and females, with males involved in lad group chats demonstrating higher acceptance of sexual assault and increased hostility and ambivalence towards women. Moreover, results suggested increased acceptance of sexual assault within males relates to increased perpetration of sexual assault. Females also appeared to endorse attitudes accepting of sexual assault, however, less so than males. Additionally, males were more likely to endorse hostility or ambivalence towards women. The findings appear to provide support for MPS, in that all-male peer groups such as lad group chats relate to increased sexual assault-supportive beliefs and perpetration, although males who were not in lad group chats still appeared to endorse such attitudes and behaviours to some extent.

Implications

The findings of this study have important implications. Firstly, the findings advance and support previous literature, finding higher acceptance of sexual assault and hostility towards women in the context of lad group chats. However, the extent to which males self-select into lad group chats based on their perception that other members endorse similar beliefs and behaviours was not within the scope of the current research. Moreover, how close participants were to peers within their lad group chat and the dynamics within this were not known which may explain the lack of significance between whether males were involved in lad group chats and perpetration of sexual assault. This highlights the need for further research to explore this context, lad group chats, in more depth from a qualitative perspective.

This research also has practical implications for sexual assault prevention efforts. Findings suggest men who are engaged in a lad group chat report greater acceptance of

sexual assault and hostility and ambivalence towards women. Moreover, some of the items included on the ILGCQ related to the sharing of naked images of women, rating women (sexual objectification) and extreme images/videos (violence); this is concerning as some males scored highly on this measure. As shown throughout the literature and the current study, attitudes supportive of sexual assault can relate to sexism and possibly sexual assault perpetration. The research highlights the need to intervene and address the interactions and behaviours had within lad group chats to prevent the possibility of sexual assault acceptance and perpetration. In addition, the findings emphasise the importance of timely interventions to address concerning behaviours and inappropriate messages within lad group chats. One prevention effort that has been discussed is bystander interventions; these interventions aim to target sexual assault by using male peer relationships, however they could also incorporate informational support regarding group chat behaviour. Group chats offer a space where messages remain unregulated and provides partial anonymity, therefore, these environments have the potential to desensitise individuals to the content posted (Jane, 2014). For example, in the current study, some male participants shared extreme images and videos within group chats. Intervention efforts may be improved by addressing content online and within private spaces such as group chats given the current findings. Additionally, it would be important to disseminate prevention efforts based on dismantling rape-supportive and sexist norms within all-male peer groups to populations beyond universities and schools, as this currently seems to be where prevention efforts are focused. The current findings suggest that men may hold rape-supportive attitudes and sexist attitudes towards women even when not a part of a university population, and this could subsequently increase the possibility of sexual assault perpetration.

Overall, the current study addresses a gap in the literature exploring another, digital and more private, context in which male peer groups may influence sexual assault beliefs and

behaviour. There is a need to develop more widely targeted interventions for sexual assault prevention and to disseminate programmes beyond universities. Moreover, it would be beneficial to focus on norms within lad group chats and to dismantle these, given involvement in these group chats can contribute to a greater acceptance of sexual assault and sexism towards women.

Chapter 5: General Discussion

This chapter aims to provide a general discussion which presents conclusions based on the thesis. Researchers have attempted to understand factors related to likelihood of sexual assault perpetration at an individual level, such as rape myth acceptance, however the social contexts in which these attitudes and behaviours are supported or enabled have been identified as being important. One theory that has been proposed to explain rates of sexual assault perpetration and rape-supportive attitudes within male peer group environments, such as fraternities, is Male Peer Support (MPS) theory (Schwartz & DeKeseredy, 1997). The researchers propose association with male peer groups may reinforce illegitimate behaviours and provide support for members to engage in violence against women due to stress from a man's encounters with women. It is proposed that responses such as sexual aggression are encouraged by male peers in such environments to retain patriarchal domination (Schwartz & DeKeseredy, 1997). The current thesis aimed to seek support for this theory, by firstly reviewing the literature regarding male peer group influence and sexual assault. A method for measuring individual attitudes towards sexual assault was then evaluated. Subsequently, empirical research was conducted, the findings of which have been presented. The research expanded on the literature review, exploring male peer group influence towards sexual assault within a specific context, lad group chats (LGC).

Systematic literature review

A systematic literature review was conducted to retrieve papers published between 1990 and 2022. This review was beneficial to establish whether there was an existing relationship between male peer groups and factors related to sexual according to research. Support was found for the relationship between peer influence and men's increased acceptance towards sexual assault, self-reported likelihood of perpetrating sexual assault, and decreased probability of intervening as a bystander to prevent sexual assault. These findings enhance our understanding of social factors related to sexual assault and indicate male peer

groups can influence individual attitudes and behaviours towards sexual assault which is concerning.

The papers included in the review were of medium to high quality. Sixteen papers found significant results in support of male peer groups influencing attitudes and behaviour towards sexual assault, with seven papers receiving a medium quality assessment and nine papers receiving a high-quality assessment. Ten percent of the papers were quality assessed by a second assessor therefore increasing confidence in the findings of the results. Only one paper within the review found that perceived peer approval of forced sex was not a significant predictor of sexual assault perpetration (Abbey & McAuslan, 2004) and this received high quality assessment. Nevertheless, it is important to consider the possibility that publication bias (journals refusing to publish statistically non-significant findings) or the file-drawer effect (researchers withholding non-significant findings) may account for the literature in support of peer group influence on attitudes and behaviours towards to sexual assault. Even so, the results of the review are promising. They provide empirical support for MPS theory and suggest attitudes and behaviours related to sexual assault may be socially learned within all-male peer groups. However, they also suggest that men may misperceive their peer's attitudes and behaviours towards sexual assault, which provides practitioners with scope to address these inaccurate perceptions during sexual assault prevention programmes.

Psychometric critique

One method of measuring individual versus peer attitudes towards sexual assault within the literature was to assess endorsement of rape myths, however there was ambiguity between how this was measured throughout research. Some studies within the systematic literature review used variations of rape-myth acceptance (RMA) scales whilst others presented vignettes, assessed likelihood to rape, or explored sexual assault perpetration using the Sexual Experiences Survey (Koss et al., 2007). Due to the inconsistencies in measuring

attitudes towards sexual assault across studies, the current thesis aimed to explore measures of RMA to decide on how to assess individual attitudes towards sexual assault within the current research study. Hence, a critique of a widely used measure of rape myth acceptance, the Illinois Rape Myth Acceptance Scale (Payne et al., 1999) was presented.

Although the measure demonstrated good to excellent internal consistency and the developers demonstrated its validity as a test to assess RMA, further research into reliability and validity of the tool seemed to be limited. Moreover, the concept of rape myths has been proposed to be time-bound by Payne and colleagues (1999), and it appears rape myths may have shifted from overt to more covert expressions (Gerger et al., 2007) calling into question the reliability of using the IRMAS in the present day. Instead, it was concluded that a newly developed version of the IRMAS, the IRMAS – Subtle version (Thelan & Meadows, 2021) would be more appropriate to use in the current research, due to its focus on more covert rape myths and updated language reflecting sexual assault as opposed to rape exclusively. As the IRMAS-S is adapted based on the original IRMAS, it is possible the psychometric properties are similar, though due to its recent publication, further research into the psychometric properties of the IRMAS-S is required, potentially limiting findings of the empirical study.

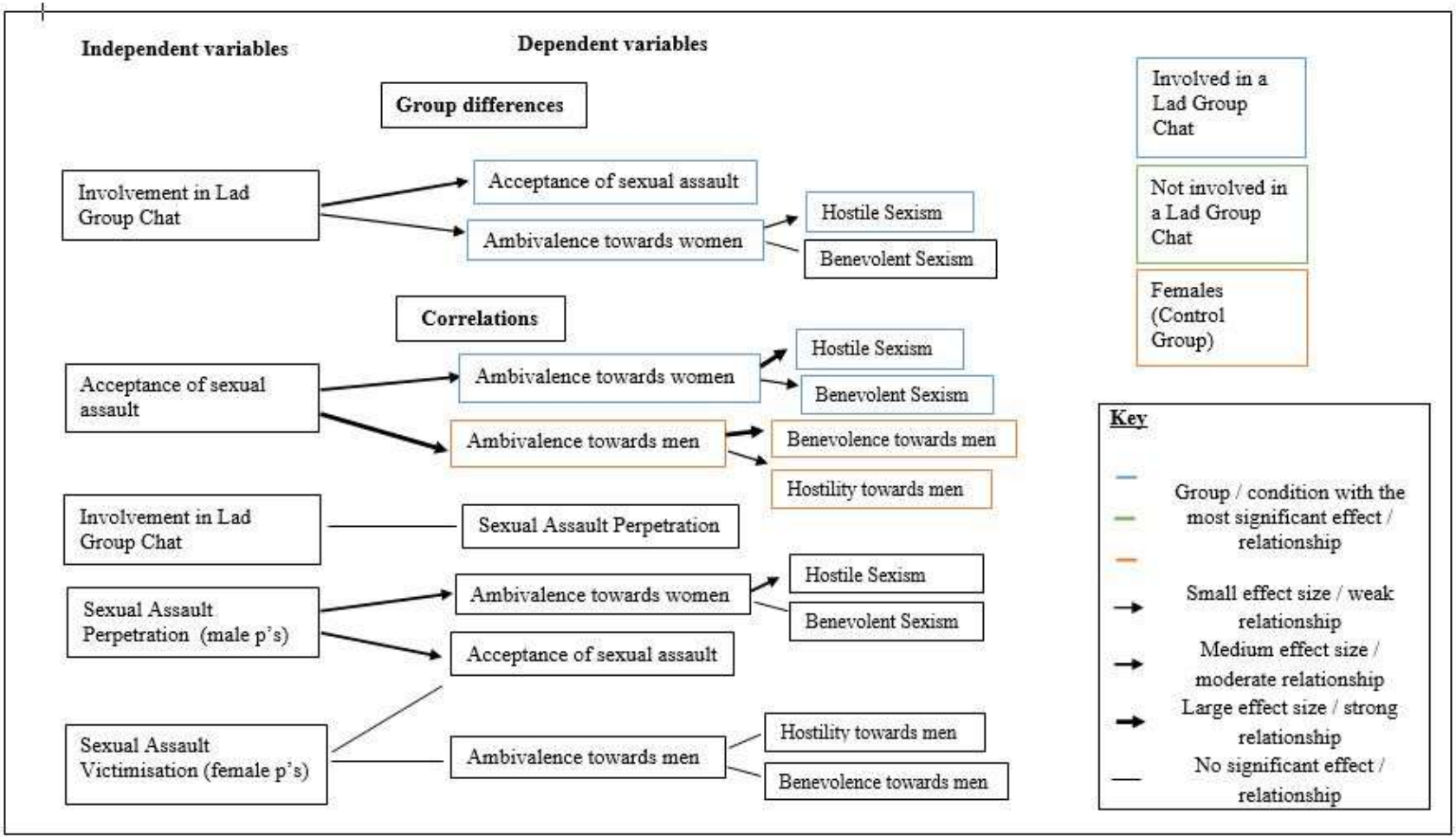
Empirical research study

When reviewing literature within the systematic review, it was noted that most studies were conducted within the U.S. Conversely, the empirical research within the current study aimed to expand on this, by including participants from different cultures and locations. In addition, generalisability of the results of the review were limited due to research predominantly focusing on university and college populations. This was despite the #MeToo movement and Everyday Sexism Project (Bates, 2013) having highlighted the prevalence of sexual harassment and sexual assault perpetrated towards women in other contexts and outside of student populations. It was also noted that there were no studies exploring social

contexts that may influence attitudes towards sexual assault virtually. This was despite the regularity of mobile phone and social media usage in modern society. Moreover, a media story published in 2018, known as the Warwick university rape scandal had highlighted the potential of online group chats being problematic, due to rape-supportive attitudes that were shared among a group of males. The current research aimed to address these gaps in the existing literature. Consequently, the relationship between involvement in a lad's group chat, sexism and sexual assault within the general population was explored. Male and female participants over the age of 18 were recruited through social media platforms and two UK universities. Participants completed an online questionnaire to assess attitudes and behaviours in this cross-sectional design. A conceptual model to explain the findings of this research is provided in Figure 4.

Figure 4.

Conceptual model for empirical research findings



Conceptual model for involvement in Lad Group Chats (LGC)

Firstly, group differences between the three groups (males involved in a LGC, males not involved in a LGC and the control group – females) and acceptance of sexual assault were explored. Significant differences between groups were found. Males involved in a LGC demonstrated higher acceptance of sexual assault than males not involved in a LGC with medium to large effect sizes. However, males not involved in a LGC also had higher acceptance of sexual assault than females. This suggests that, although involvement in a LGC may increase men's acceptance of sexual assault, males generally appear to be more accepting of sexual assault than females. These results provide empirical support for MPS theory and can be understood in the context of males within LGC's being instructed on how to act and behave through group norms, possibly adopting the norms of the group to "fit in" and receive approval (Fabiano et al., 2003). These results are consistent with the findings of the systematic review which had found male peer group influence is a relevant factor contributing towards rape-supportive attitudes in contexts such as fraternities, sports societies and with perceptions of peer groups. Moreover, it is possible that being involved in a LGC could impact upon sexual assault prevention. This is due to previous research finding that only peer attitudes towards sexual assault were significant for willingness to intervene, not personal attitudes (Brown & Messman-Moore, 2010). The current research expands on previous literature, indicating LGC's may also be a relevant context in which male peer group influence may contribute towards rape-supportive attitudes, similarly to other male-dominated institutions and environments.

Next, group differences in ambivalent, hostile and benevolent sexism towards women were compared to male participants at two levels (those involved in a LGC and those not involved in a LGC). Small effect sizes were found, however, males in a LGC exhibiting more ambivalence towards women and higher hostility towards women than those not in a LGC.

No differences were found between groups in terms of benevolent sexism towards women. The increased hostility towards women within LGC's may be problematic. As outlined within the psychometric critique, hostile sexism has been significantly correlated with acceptance of rape-myths via IRMAS scores (Chapleau et al., 2007) and IRMAS scores have subsequently been positively correlated with rape proclivity (Chapleau & Oswald, 2010). In addition, these findings may indicate cultural differences in how sexism is perpetrated by males in different countries. For example, Chapleau and colleagues (2007) have suggested men report more benevolent sexism towards women in the US, whereas this sample also included males in the UK; those in LGC's more frequently reported they were from the UK yet only hostile sexism and ambivalent sexism was higher for males in LGC's, therefore it is possible there are cultural differences in attitudes towards women. Acceptance of sexual assault was found to have a strong positive relationship with hostile sexism, a moderate positive relationship with ambivalence towards women, and a weak relationship with benevolent sexism in male participants, indicating males more accepting of sexual assault are also more hostile or ambivalent towards women. This is plausible given rape-myths often includes beliefs related to victim-blaming and the role female victim's play in rape.

No association was found between whether males were involved in a LGC or not and sexual assault perpetration. This conflicts with research found within the systematic review. For example, within the review, it was found peer approval of forced sex was significantly higher for perpetrators than non-perpetrators (Abbey et al., 2001), male perpetrators of sexual assault perceived their peers had increased RMA (Dardis et al., 2016), men exposed to pro-rape messages had higher intentions to be sexually aggressive (Edwards & Vogel, 2015), and that there was a significant positive relationship between likelihood of rape and information support from peers among high-profile athletes and between perpetration of sexual assault and fraternity membership (Goodson et al., 2020). Although these male peer contexts appear

to relate to increased likelihood of sexual assault in university populations within the US, within a more culturally diverse sample and within LGC's, these results were not replicated.

Within the review, Duran and colleagues (2018) found that rape proclivity was higher in men who had received peer group information high in hostile sexism than those who had received information low in hostile sexism. Firstly, these findings suggest peer group support for hostile sexism can influence men's tendency to exhibit sexually aggressive behaviour. It is not known in the current study whether male peers within the LGC were high in hostile sexism, although some of the items on the ILGCQ related to sexism more generally. Moreover, Duran and colleagues (2018) found that information of the peer group did not affect rape proclivity for men high in benevolent sexism, only men demonstrating low benevolent sexism. It is possible the differences in findings are due to the current sample demonstrating no differences in benevolent sexism, given there were no differences found between the two groups in levels of benevolent sexism *and* sexual assault perpetration. As previously stated, this could be due to cultural differences, given the majority of sexual assault and peer influence research has been conducted within U.S. student populations, therefore may not be generalisable to wider populations.

Finally, the association between sexual assault perpetration and outcome variables were explored. Sexual assault perpetration was moderately and positively correlated with acceptance of sexual assault, ambivalent sexism and hostile sexism towards women. However, no relationship was found between benevolent sexism and sexual assault perpetration. These results indicate that LGC involvement can increase acceptance of sexual assault, hostility towards women and ambivalence towards women compared to not being involved in a LGC. Subsequently, attitudes towards sexual assault and women are associated with increased sexual assault perpetration. This is plausible given the peer group within the group chat, and the interactions had within these, may influence individual attitudes towards

sexual assault and sexism, consistent with MPS theory. The attitudes and behaviours exhibited by peers within lad group chats appear to instruct males on how to think and behave, increasing acceptance of sexual assault and stereotypical attitudes towards women, similarly to other peer contexts such as fraternities and high-profile sports teams. Although the current research did not find a direct correlation between involvement in LGC's and perpetration, increased acceptance of sexual assault, hostility and ambivalence towards women were found to relate to increased sexual assault perpetration. Based on these results, it is concluded that there may be an indirect link between LGC involvement and sexual assault perpetration, whereby attitudes towards women and sexual assault may be exacerbated by peers within LGC which may subsequently increase likelihood of perpetration.

Alternative considerations

Overall, these findings appear to support MPS theory. However, a second perspective has been suggested which may explain high rates of sexual aggression in fraternities and it is possible this may also be relevant to LGCs. This alternative theory is that men who already hold rape-supportive beliefs and that are more sexually aggressive may self-select into male peer groups based on their perception that the group holds similar belief systems (Kanin, 1985). Due to the cross-sectional design in the current study, causality is not known. It is possible that males who hold beliefs that accept sexual assault, or are sexist towards women, may self-select into LGCs under the notion that these peer group contexts allow them to bond with male peers who hold similar beliefs. It is difficult to navigate the effects of self-selection into peer groups, which makes it difficult to determine whether beliefs related to sexual assault or sexual assault perpetration is indeed a socially learned behaviour (Schwartz & DeKeseredy, 2013).

A further consideration is the types of peers that males have within their LGC. The present study assessed LGC's, however, within the systematic review, there was ambiguity

between how peer influence was measured, which could lead to differences in results. During the review, Kaczkowski and colleagues (2017, p.281) found that rates of sexual violence perpetration decreased "by 19% for every 1 standard deviation increase in social network diversity". This suggests peer network diversity could be an important protective factor, as men who perpetrate sexual violence do so at a lower rate if they have a more diverse peer network. Additionally, peers can offer positive support, as demonstrated with qualitative research which found men's confidence in their ability to intervene in sexual assault was positively associated with men's perceptions of peer support for bystander intervention (Pallotti, 2020). This is promising when considering the utility of involving peer groups in prevention efforts such as bystander intervention programmes, as males are more likely to call out the behaviour of others perpetrating sexual assault if they feel they have support from their peers. Within the current research, males involved in a LGC were asked to rate the item "if someone was being inappropriate in the group chat, I would not feel comfortable with shutting down the conversation"; the majority indicated they agreed with this statement. This suggests those involved in a LGC would be concerned about calling peers out within the group chat even if they recognise their peers are displaying problematic behaviours or attitudes. Due to this, it would be beneficial to include peer groups within bystander intervention programmes, or to at least address (inaccurate or real) peer norms towards sexual assault.

Implications

Whilst the results of the systematic review indicate male peer groups may influence individual attitudes towards sexual assault, perpetration and bystander intervention, the current research expands on this. The findings suggest private and modern online contexts for male peer interactions, such as LGC's, may also influence attitudes towards sexual assault and women, which may lead to perpetration. The findings of the current research are similar

to previous research into other male-orientated contexts (e.g., fraternities) and institutions (e.g., the Army); they indicate that certain environments that may esteem hegemonic masculinity may play a role in pressurising individuals to adhere to masculine norms. As a result, this may influence individual attitudes and behaviours towards sexual assault in an unfavourable manner. Given the negative outcomes sexism, rape-supportive attitudes and sexual assault perpetration can have on women, it is warranted that peer contexts such as LGC's are addressed as one factor which may contribute towards individual attitudes and behaviour towards sexual assault.

Practically, these findings have implications for sexual assault prevention efforts. Current prevention efforts have been aimed at college and university males in order to dispel RMA and increase bystander intervention. However, the demographics of the current research would suggest it may be beneficial to disseminate intervention programmes that address attitudes towards women and sexual assault on a wider scale. Such programmes should include men who are above university age and in the general population, as the influence of peers on attitudes towards females and sexual assault appear to exist outside of university campuses. Moreover, the findings indicate LGC involvement may contribute towards sexual assault-supportive attitudes and sexism, therefore addressing the norms within such peer group contexts within intervention programmes may be important. As found in previous research by Dardis and colleagues (2016), men may misperceive their peer's attitudes and peer group norms, yet these may still influence their own attitudes towards sexual assault and behaviour. Therefore, it would be beneficial to dispel misperceptions of peer beliefs and 'norms' towards sexual assault. In doing so, this could result in a reduction of individual rape-myth acceptance and sexual violence as, if men are aware of accurate peer norms, they may be less likely to try to "fit in" and conform to inaccurate peer group norms, as social norms theory would suggest they do and as currently appears to be the case.

In disseminating prevention efforts which address social norms that may normalise sexism and sexual assault and by shifting the culture often found within male-dominated institutions and environments, this may decrease victim-blaming and increase rates of reporting for sexual assault victims. In addition, police managers should encourage an educational-approach including raising awareness of gender-based issues within police agencies (Franklin, 2005) and future best practices to approach sexual assault may include trauma-informed care. For example, debriefs for officers, changes in reporting methods, interdisciplinary collaboration, victim-empathy and specialised training may improve police responses to reporting of sexual assault (Rich, 2021) by helping to dispel possible hegemonic masculinity within police culture. Subsequently, it is hoped this may reduce a rape-supportive culture and increase victim confidence in reporting sexual assault to the police. Finally, it would be beneficial for institutions such as universities and the police to consider how they may respond effectively if concerning content within lad group chats is made public; it is important that this is addressed appropriately given involvement in lad group chat behaviours may increase individual attitudes towards sexual assault and, consequently, perpetration.

Conclusion

Overall, the present study addresses a gap in the literature, providing insight into male peer group influence within group chats and the impact this context may have on attitudes towards women and sexual assault. It is concluded that lad group chats appear to share parallels to male-dominated environments and contexts such as police culture or fraternities, whereby male peer norms relate to increased acceptance of sexual assault and hostility towards women. Subsequently, the results of the research suggest these attitudes may relate to greater sexual assault perpetration. These findings stress the need for more widely disseminated intervention efforts that target males beyond university age. These prevention efforts should dispel harmful peer group norms regarding sexual assault as, ultimately,

addressing misconceptions may de-normalise such attitudes within males, particularly those who are involved with male-dominated organisations. Moreover, increasing positive norms and more diverse networks within male peer groups may encourage positive action, such as intervening as a bystander to prevent sexual assault. Males are more likely to intervene or to be deterred from sexual assault if they believe they have the support of their peers.

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Appendices

Appendix 1: Electronic database searches and syntax used in SLR

Search 1

Database	Search Strategy	Date	Number of Hits
PsycInfo	1. Male? OR men? 2. "peer group?" OR "peer pressure?" OR "peer influence?" OR "peer relation?" 3. Attitude? OR belief? OR view? OR perspective? 4. Rape OR "sexual assault" OR "sexual harassment" OR "sexual violence" 5. **1 AND 2 AND 3 AND 4**	19/07/2020	1. 1,151,311 2. 30,975 3. 839921 4. 20,415 5. **92**
EMBASE	1. Male? OR men? 2. "peer group?" OR "peer pressure?" OR "peer influence?" OR "peer relation?" 3. Attitude? OR belief? OR view? OR perspective? 4. Rape OR "sexual assault" OR "sexual harassment" OR "sexual violence" 5. **1 AND 2 AND 3 AND 4**	19/07/2020	1. 8,294,674 2. 25,792 3. 1,147,253 4. 19,512 5. **65**
SCOPUS	1. Male$ OR men$ 2. "peer group$" OR "peer pressure$" OR "peer influence$" OR "peer relation$" 3. Attitude$ OR belief$ OR view$ OR perspective$ 4. Rape OR "sexual assault" OR "sexual harassment" OR "sexual violence" 5. **1 AND 2 AND 3 AND 4**	19/07/2020	1. 10,483,427 2. 39,024 3. 3,320,976 4. 48,311 5. **104**
Web of Science (Core Collection)	1. Male$ OR men$ 2. "peer group$" OR "peer pressure$" OR "peer influence$" OR "peer relation$" 3. Attitude$ OR belief$ OR view$ OR perspective$ 4. Rape OR "sexual assault" OR	19/07/2020	1. 2,028,575 2. 12,482 3. 2,401,260 4. 42,545 5. **29**

	"sexual harassment" OR "sexual violence" 5. **1 AND 2 AND 3 AND 4**		
ProQuest Social Sciences Database	1. Male* OR men* 2. "peer group*" OR "peer pressure*" OR "peer influence*" OR "peer relation*" 3. Attitude* OR belief* OR view* OR perspective* 4. Rape OR "sexual assault" OR "sexual harassment" OR "sexual violence" 5. **1 AND 2 AND 3 AND 4**	19/07/2020	1. 266,896 2. 4,857 3. 242,901 4. 12,178 5. **11**
Limits: English. 1990 – Present.			
Search results: Total articles: **301** Removal of duplicates: **189** (112 excluded) Initial screening (titles and abstracts): **33** (156 excluded) Full articles accessed (SPIDER applied): **29** (4 excluded)			

Search 2

Database	Search Strategy	Date	Number of Hits
PsycInfo	1. Male? OR men? 2. "peer group?" OR "peer pressure?" OR "peer influence?" OR "peer relation?" 3. Attitude? OR belief? OR view? OR perspective? 4. Rape OR "sexual assault" OR "sexual harassment" OR "sexual violence" 5. **1 AND 2 AND 3 AND 4**	18/02/2021	1. 1,185,364 2. 31,837 3. 862,772 4. 21,138 5. **97** **5** new articles
EMBASE	1. Male? OR men? 2. "peer group?" OR "peer pressure?" OR "peer influence?" OR "peer relation?" 3. Attitude? OR belief? OR view? OR perspective? 4. Rape OR "sexual assault" OR "sexual harassment" OR "sexual violence"	18/02/2021	1. 88,078,54 2. 27,419 3. 12,134,83 4. 20,898 5. **69** **3** new articles

	5. **1 AND 2 AND 3 AND 4**		
SCOPUS	**1.** Male$ OR men$ **2.** "peer group$" OR "peer pressure$" OR "peer influence$" OR "peer relation$" **3.** Attitude$ OR belief$ OR view$ OR perspective$ **4.** Rape OR "sexual assault" OR "sexual harassment" OR "sexual violence" **5. 1 AND 2 AND 3 AND 4**	18/02/2021	1. 10,483,427 2. 39,024 3. 3,320,976 4. 48,311 5. **105** **1** new article
Web of Science (Core Collection)	**1.** Male$ OR men$ **2.** "peer group$" OR "peer pressure$" OR "peer influence$" OR "peer relation$" **3.** Attitude$ OR belief$ OR view$ OR perspective$ **4.** Rape OR "sexual assault" OR "sexual harassment" OR "sexual violence" **5. 1 AND 2 AND 3 AND 4**	18/02/2021	1. 2,116,691 2. 13,059 3. 2,537,415 4. 44,625 5. **29** 0 new articles
ProQuest Social Sciences Database	**1.** Male* OR men* **2.** "peer group*" OR "peer pressure*" OR "peer influence*" OR "peer relation*" **3.** Attitude* OR belief* OR view* OR perspective* **4.** Rape OR "sexual assault" OR "sexual harassment" OR "sexual violence" **5. 1 AND 2 AND 3 AND 4**	18/02/2021	1. 266,896 2. 4,857 3. 242,901 4. 12,178 5. **11** 0 new articles
Limits: English. 1990 – Present.			
Search results: Total articles: **311** Removal of duplicates: **194** (117 excluded) Initial screening (titles and abstracts): **34** (160 excluded) Full articles accessed (SPIDER applied): **23** (11 excluded) Articles identified from reference lists: **1** (from review) Quality assessment: **16** (6 excluded)			

Search 3

Database	Search Strategy	Date	Number of Hits
PsycInfo	1. Male? OR men? 2. "peer group?" OR "peer pressure?" OR "peer influence?" OR "peer relation?" 3. Attitude? OR belief? OR view? OR perspective? 4. Rape OR "sexual assault" OR "sexual harassment" OR "sexual violence" 5. 1 AND 2 AND 3 AND 4 **6. New additions since last search**	22/01/2022	1. 1,218,168 2. 33,121 3. 9,359,10 4. 22,419 5. 106 **6. 9**
EMBASE	1. Male? OR men? 2. "peer group?" OR "peer pressure?" OR "peer influence?" OR "peer relation?" 3. Attitude? OR belief? OR view? OR perspective? 4. Rape OR "sexual assault" OR "sexual harassment" OR "sexual violence" 5. 1 AND 2 AND 3 AND 4 **6. New additions since last search**	22/01/2022	1. 9,411,607 2. 29,496 3. 1,292,183 4. 22,603 5. 85 **6. 16**
SCOPUS	1. Male$ OR men$ 2. "peer group$" OR "peer pressure$" OR "peer influence$" OR "peer relation$" 3. Attitude$ OR belief$ OR view$ OR perspective$ 4. Rape OR "sexual assault" OR "sexual harassment" OR "sexual violence" 5. 1 AND 2 AND 3 AND 4 **6. New additions since last search**	22/01/2022	1. 9,175,835 2. 117,533 3. 3,407,217 4. 68,876 5. 122 **6. 17**
Web of Science (Core Collection)	1. Male$ OR men$ 2. "peer group$" OR "peer pressure$" OR "peer influence$" OR "peer relation$"	22/01/2022	1. 2,074,278 2. 88,683 3. 2,604,072 4. 58,913 5. 63

	3. Attitude$ OR belief$ OR view$ OR perspective$ 4. Rape OR "sexual assault" OR "sexual harassment" OR "sexual violence" 5. 1 AND 2 AND 3 AND 4 **6. New additions since last search**		**6. 34**
ProQuest Social Sciences Database	1. Male* OR men* 2. "peer group*" OR "peer pressure*" OR "peer influence*" OR "peer relation*" 3. Attitude* OR belief* OR view* OR perspective* 4. Rape OR "sexual assault" OR "sexual harassment" OR "sexual violence" 5. 1 AND 2 AND 3 AND 4 **6. New additions since last search**	22/01/2022	1. 288,540 2. 16,316 3. 259,060 4. 19,039 5. 20 **6. 9**
Limits: English. January 2020 – Present (2022).			
Search results: Total articles: **396** Removal of duplicates: **56** (340 excluded) Initial screening (titles and abstracts): **8** (48 excluded) Full articles accessed (SPIDER applied): **2** (6 excluded) Articles identified from reference lists: **0** (from review) Quality assessment: **0** (2 excluded)			

Appendix 2: Inclusion Screening Tool

Instructions

1. Yes, no or unsure for each criterion
2. Record inclusion decision (article must satisfy six criteria – items 1, 2, 6, 7, 8 and either 3, 4 or 5)
3. Record if additional references are to be retrieved

Study: **Author:** **Publication Date:** **Journal:**			
Design: **Sample:**			
1. Does the sample include men above the age of 17?	Yes	No	?
2. Does the study measure peer influence?	Yes	No	?
3. Does the study measure attitudes towards sexual assault?	Yes	No	?
4. Does the study measure behaviours of sexual assault?	Yes	No	?
5. Does the study measure bystander behaviours?	Yes	No	?
6. Is the relationship between peer influence and other outcomes (of sexual assault) evaluated?	Yes	No	?
7. Is the study available in English?	Yes	No	?
8. Was the study published between 1990 and 2022?	Yes	No	?

Appendix 3: Papers accessed in full and excluded after SPIDER framework was applied

Author (Date)	Title of article	Identified through	Reason for exclusion
Brown, Banyard & Moynihan (2014)	College students as helpful bystanders against sexual violence: Gender, race, and year in college moderate the impact of perceived peer norms	Electronic database search: PsycInfo	Includes both male and female participants however does not separate outcomes based on gender.
Casey, Masters & Beadnell (2020)	Social Norms: Are Sexually Aggressive Men More Likely to Misperceive Other Men's Sexual Desires and Behavior?	Electronic database search: Web of Science	Refers to 'other men' as a collective group, not peer influence. Examines casual/impersonal sex but no measure of sexual aggression. Explores whether own beliefs influence misperceptions about peers views, not influence of peers on own attitudes/ behaviours.
Gidycz, Warkentin & Orchowski (2007)	Predictors of Perpetration of Verbal, Physical, and Sexual Violence: A Prospective Analysis of College Men	Electronic database search: OVID	Measures verbal, physical and sexual aggression, doesn't focus on outcomes of sexual aggression. No specific measure of peer influence used.
Hassan, Roushdy & Sieverding (2021)	An application of the ecological model to sexual harassment in informal areas of Cairo, Egypt	Electronic database search: EMBASE	Includes participants under 17, not split into age categories; includes both male and female participants, outcomes not split
Kilmartin, Smith, Green, Heinzen, Kuchler & Kolar (2008)	A real time social norms intervention to reduce male sexism	Electronic database search: OVID	Provides intervention outcomes. Doesn't measure peer influence on outcome of sexual assault.
Norona, Borsari, Oesterle & Orchowski (2021)	Alcohol Use and Risk Factors for Sexual Aggression: Differences According to Relationship Status	Electronic database search: ProQuest Social Sciences	Explores relationship between attitudes of sexual aggression and relationship status and relationship status and perception of peer influence but not peer

			influence and sexual aggression.
Ouimette & Riggs (1998)	Testing a Mediational Model of Sexually Aggressive Behavior in Nonincarcerated Perpetrators	Electronic database search: ProQuest Social Sciences	Doesn't measure current peer influence on sexual assault. Only measures past antisocial peers as a mediating factor.
Peterson, Beagley, McCallum & Artime (2019)	Sexual Attitudes and Behaviors Among Men Who Are Victims, Perpetrators, or Both Victims and Perpetrators of Adult Sexual Assault	Electronic database search: OVID	Doesn't measure peer influence.
Potter & Stapleton (2012)	Translating Sexual Assault Prevention from a College Campus to a United States Military Installation: Piloting the Know-Your-Power Bystander Social Marketing Campaign	Electronic database search: Scopus	Doesn't measure peer influence.
Salazar, Daoud, Edwards, Scanlon & Vives-Cases (2020)	PositivMasc: masculinities and violence against women among young people. Identifying discourses and developing strategies for change, a mixed-method study protocol	Electronic database search: Web of Science	Study protocol, not an empirical paper.
Stoica (2021)	Examining the relationship between interest and involvement in fraternity membership and sexually coercive behaviors of college men	Electronic database search: PsycInfo	Explores influence of attitudes on selection of peers/interest in fraternity, not peer influence on outcomes of sexual assault.
Thompson, Swartout & Koss (2013)	Trajectories and Predictors of Sexually Aggressive Behaviors During Emerging Adulthood	Electronic database search: OVID	Same population/study as other paper (Thompson, 2015).
Thompson, Zinzow, Kingree, Pollard, Goree, Hudson-Flege & Honnen (2020)	Pilot trial of an online sexual violence prevention programme for college athletes	Electronic database search: PsycInfo	Measures intervention effects on peer influence. Doesn't measure peer influence on outcome of SA.
Vaynman, Margaret, Sandberg & Pedersen (2020)	'Locker room talk': Male bonding and sexual degradation in drinking stories	Electronic database search: PsycInfo	Explores impact of drinking on sexual assaultive behaviours & peer influence. Consent referred to as ambiguous.

Waterman, Wesche, Leavitt & Lefkowitz (2020)	Fraternity Membership, Traditional Masculinity Ideologies, and Impersonal Sex: Selection and Socialization Effects	Electronic database search: OVID	Doesn't measure sexual assault, attitudes towards sexual assault or bystander intervention.
Woodhams, Taylor & Cooke (2020)	Multiple Perpetrator Rape: Is Perpetrator Violence the Result of Victim Resistance, Deindividuation, or Leader-Follower Dynamics?	Electronic database search: OVID	Looks at female accounts of men's behaviour.
Zinzow & Thompson (2015)	Factors associated with use of verbally coercive, incapacitated, and forcible sexual assault tactics in a longitudinal study of college men	Electronic database search: OVID	Measures peer norms however doesn't provide outcome in results.

Appendix 4: Articles accessed in full and meeting the inclusion criteria for current review when SPIDER framework was applied

Author (Date)	Title	Design
Abbey & McAuslan (2004)	A Longitudinal Examination of Male College Students' Perpetration of Sexual Assault.	Correlational
Abbey, McAuslan, Zawacki, Clinton & Buck (2001)	Attitudinal, experiential, and situational predictors of sexual assault perpetration.	ANCOVA
Berry-Cabán, Orchowski, Wimsatt, Winstead, Klaric, Prisock, Metzger & Kazemi (2020)	Perceived and Collective Norms Associated with Sexual Violence among Male Soldiers	Correlational
Brown & Messman-Moore (2010)	Personal and perceived peer attitudes supporting sexual aggression as predictors of male college students' willingness to intervene against sexual aggression.	Regression
Dardis, Murphy, Bill & Gidycz (2016)	An Investigation of the Tenets of Social Norms Theory as They Relate to Sexually Aggressive Attitudes and Sexual Assault Perpetration: A Comparison of Men and Their Friends.	Dyadic design Correlational
Duran, Megias, & Moya (2018)	Male peer support to hostile sexist attitudes influences rape proclivity.	Regression
Edwards & Vogel (2015)	Young Men's Likelihood Ratings to Be Sexually Aggressive as a Function of Norms and Perceived Sexual Interest.	Experimental
Goodson, Franklin, & Bouffard (2020)	Male peer support and sexual assault: the relation between high-Profile, high school sports participation and sexually predatory behaviour.	Regression
Hall, Sue, Narang & Lilly (2000)	Culture-Specific Models of Men's Sexual Aggression: Intra- and Interpersonal Determinants.	MANOVA
Hipp, Bellis, Goodnight, Brennan, Swartout & Cook (2017)	Justifying Sexual Assault: Anonymous Perpetrators Speak Out Online.	Thematic analysis
Jewell & Brown (2013)	Sexting, catcalls, and butt slaps: How gender stereotypes and perceived group norms predict sexualized behaviour.	Correlational
Kaczkowski, Brennan & Swartout (2017)	In Good Company: Social Network Diversity May Protect Men Against Perpetrating Sexual Violence.	Regression
Kaya, Le, Brady & Iwamoto (2020)	Men Who Intervene to Prevent Sexual Assault: A Grounded Theory Study on the Role of Masculinity in Bystander Intervention.	Grounded theory

Kingree & Thompson (2013)	Fraternity membership and sexual aggression: An examination of mediators of the association.	Correlational
Leone & Parrott (2019)	Misogynistic peers, masculinity, and bystander intervention for sexual aggression: Is it really just “locker-room talk?”.	Experimental
Loh, Gidycz, Lobo & Luthra (2005)	A Prospective Analysis of Sexual Assault Perpetration: Risk Factors Related to Perpetrator Characteristics.	Regression
Mikorski & Szymanski (2017)	Masculine Norms, Peer Group, Pornography, Facebook, and Men's Sexual Objectification of Women.	Regression
Muchoki & Wandibba (2009)	An interplay of individual motivations and sociocultural factors predisposing men to acts of rape in Kenya.	Content and discourse analysis
Murphy, Dardis, Wilson, Gidycz & Berkowitz (2016)	Predictors of Sexual Assault-Specific Prosocial Bystander Behavior and Intentions: A Prospective Analysis.	Regression
Pallotti (2020)	Masculine norms and men's bystander intentions: What is the role of male peer groups?	Correlational
Piccigallo, Lilley & Miller (2012)	"It's Cool to Care about Sexual Violence": Men's Experiences with Sexual Assault Prevention.	Grounded theory
Schwartz & Nogrady (1996)	Fraternity membership, rape myths, and sexual aggression on a college campus.	Correlational
Seabrook, Ward & Giaccardi (2018)	Why Is Fraternity Membership Associated With Sexual Assault? Exploring the Roles of Conformity to Masculine Norms, Pressure to Uphold Masculinity, and Objectification of Women.	Cross-sectional
Swartout (2013)	The Company They Keep: How Peer Networks Influence Male Sexual Aggression.	Correlational
Thompson, Kingree, Zinzow & Swartout (2015)	Time-varying risk factors and sexual aggression perpetration among male college students.	Regression
Treat, Corbin, Papova, Richner, Craney & Fromme (2021)	Selection and Socialization Accounts of the Relation Between Fraternity Membership and Sexual Aggression	Correlational

Appendix 5: Quality Assessment Tool - Quantitative Studies

Instructions

1. Apply quality framework to paper. Give scores of 0-2, NR or NA.
2. Work out total quality score out of a possible 44.
3. Score as low (0-21), medium (22-32) or high (33-44).

NB: Low scores equate to anything below 50% on the quality framework. Medium scores equate to anything between 50%-70% on the framework. Scores above 70% on the quality framework are scored as high.

Marking Criteria

Yes (2) = for that aspect of study design, the study has been conducted in a way to minimize risks

Don't know (1) = either unclear from the way the study is reported or the study may not have addressed all potential sources of bias

No (0) = aspects of study design whereby significant sources of bias may persist

NR (not reported) = the study has failed to report how they have or might have considered this aspect

NA (not applicable) = not applicable given the study design under review (e.g. comparisons)

* = Reverse coded (0 = yes)

Study Identified:						
Study Design:						
Assessed by:						
	Question	**Rating**				
Introduction						
1	Were the aims/objectives of the study clear?	2	1	0	NR	NA
Population and method of selection						
2	Is the population or source area well described? i.e. is it clear who the research is about? (e.g. country developed or undeveloped, setting in community, schools, location urban or rural, population demographics adequately described).	2	1	0	NR	NA
3	Was the sample population taken from an appropriate base so that it closely represents the target population under investigation? (Was method of selection and recruitment well described? What % of selected individuals	2	1	0	NR	NA

	agreed to participate? Were the inclusion/exclusion criteria appropriate?)					
4	Was the sample size justified?	2	1	0	NR	NA
5	Was selection bias minimized? (how)	2	1	0	NR	NA
Method						
6	Was the study design appropriate for the stated aim(s)?	2	1	0	NR	NA
7	Was the selection of variables based on sound theoretical basis? (i.e. how sound was theoretical basis for selecting the variables measured?)	2	1	0	NR	NA
8	Were the risk factor and outcome variables measured appropriate to the aims of the study?	2	1	0	NR	NA
9	Were the risk factor and outcome variables measured correctly using instruments/measurements that had been trialed, piloted or published previously?	2	1	0	NR	NA
10	Were the methods (including statistical methods) sufficiently described to enable them to be repeated?	2	1	0	NR	NA
11	How well were likely confounding variables identified and controlled? (were there confounding factors not considered or adjusted for? Was this sufficient to cause important bias?)	2	1	0	NR	NA
Results						
12	Were the outcome measures and procedures reliable? (subjective or objective measures? how reliable were they i.e. inter-rater reliability scores, internal consistency)	2	1	0	NR	NA
13*	Does the response rate raise concerns about non-response bias? Was information about non-responders described?	2	1	0	NR	NA
14	Were all important outcomes assessed? Were the results presented for all the analyses described in the methods?	2	1	0	NR	NA
Analyses						
15	Is it clear what was used to determine statistical significance? and/or precision estimates? (e.g., p-values, confidence intervals)	2	1	0	NR	NA
16	Was the study powered to detect an intervention effect (if there was one)?	2	1	0	NR	NA

	Is a power calculation presented? (e.g. a power of 0.8 is accepted standard)					
17	Were the analytical methods appropriate? Were important differences adjusted for?	2	1	0	NR	NA
Discussion						
18	Were the authors' discussions and conclusions justified by the results?	2	1	0	NR	NA
19	Were the limitations of the study discussed?	2	1	0	NR	NA
20	Were the findings generalizable to the target population?	2	1	0	NR	NA
Other						
21	Were there any funding sources or conflicts of interest that may affect the authors' interpretation of the results?	2	1	0	NR	NA
22	Was ethical approval or consent of participants attained?	2	1	0	NR	NA
Total score (out of 44):						

Yes (2)	**Partial (1)**	**No (0)**	**NR**	**NA**

Student ID: [redacted]

Appendix 6: Quality Appraisal Tool - Qualitative Studies

CASP's 10 questions - modified

Instructions

1. Rate out of 2 for each item.
2. Total the score out of 20.
3. Classify papers as low (0-10), medium (11-15), or high (16-20) based on scores.

Title of Paper/Reference:

Screening Questions

1. Was there a clear statement of the aims of the research? *Consider: what is the goal of the research and why is it important?*	Yes	No
2. Is a qualitative methodology appropriate? *Consider: if the research seeks to interpret or illuminate the actions and/or subjective experiences of research participants*	Yes	No
3. Is it worth continuing?	Yes	No

Detailed questions to assess bias

Questions	**Scores**			**Can't tell (CT)**	**Comments**
	Yes (2)	**Partial (1)**	**No (0)**		
Appropriate research design					
1. Was the research design appropriate to the aims of the research? *Consider: if the researcher has justified the research design*					
Sampling					
2. Was the recruitment strategy appropriate to the aims of the research? *Consider: if the researcher has explained how the participants were selected; why the participants selected were the most appropriate; if there is any discussion around recruitment e.g., why some chose not to take part*					
Data collection					

3. Were the data collected in a way that addressed the research issue? *Consider: if the setting for data collection was justified; if it is clear how data were collected; if the researcher has justified the methods chosen and if they are explicit e.g., if using interviews is there any information on how these were conducted; if the form of data is clear; if the researcher has discussed saturation of data*					
Reflexivity (research partnership relations/recognition of researcher bias)					
4. Has the relationship between researcher and participants been adequately considered? *Consider: if the researcher critically examined their own role, potential bias, and influence during: formulation of research questions; data collection, including sample recruitment, and choice of location; how the researcher responded to events during the study and whether they considered the implications of any changes in the research design*					
Ethical issues					
5. Have ethical issues been taken into consideration? *Consider: if there are sufficient details of how the research was explained to participants for the reader to assess whether ethical standards were maintained; if the researcher has discussed issues raised by the study e.g., informed consent, confidentiality, and how they handled the effects of the study on participants during and after the study*					
Data analysis					
6. Was the data analysis sufficiently rigorous? *Consider: if there's descriptions of analysis; clear how themes were arrived at; to what extent contradictory data were taken into account*					
Findings					

7. Is there a clear statement of findings? *Consider: if the findings are explicit; if there is adequate discussion of the evidence both for and against the researcher's arguments; if the researcher has discussed the credibility of their findings e.g., triangulation, respondent validation, more than one analyst*					
8. Are the findings discussed in relation to the original research questions?					
Value of the research					
9. How valuable is the research? *Consider: if the researcher discusses the contribution the study makes to existing knowledge or understanding e.g., current policy or practice; if they identify new areas where research is necessary; if the researchers have discussed whether, or how, the findings can be transferred to other populations or considered other ways the research may be used*					
Ethics of the research					
10. Have ethical issues been taken into consideration? *Include whether limitations have been discussed and any biases.*					
Quality assessment score (out of 20): **Number of 'can't tell' items:**					

Appendix 7: Quality assessment outcomes for studies identified for inclusion

(Quality scores in bold meet threshold for inclusion in current review)

Author (Date)	Aim	Quality score	Quality outcome
Quantitative papers (scored out of 44)			
Abbey & McAuslan (2004)	To explore the one-year incidence rate of sexual assault perpetration in a sample of male college students.	**38**	**H**
Abbey, McAuslan, Zawacki, Clinton & Buck (2001)	To distinguish between college men who had and had not committed sexual assault using a number of variables. To determine if men who had committed different types of sexual assault different in attributions and outcomes. To highlight ways in which alcohol contributed to sexual assault.	**35**	**H**
Berry-Caban, Orchowski, Wimsatt, Winstead, Klaric, Prisock, Metzger & Kazemi (2020)	To explores perceived and collective social norms pertaining to consent for sexual activity, comfort with sexism, stereotypes about rape, attitudes regarding relationships, and the use of dating apps	28	M
Brown & Messman-Moore (2010)	To test the importance of personal attitudes and perceived peer attitudes regarding sexual aggression in predicting college men's willingness to intervene against sexual assault.	**32**	**M**
Dardis, Murphy, Bill & Gidycz (2016)	To assess the tenets of social norms theory in relation to men's sexual aggression.	**33**	**H**
Duran, Megias, & Moya (2018)	To study the impact of perceived HS as a peer-group variable on men's self-reported rape proclivity. To assess whether men's self-reported proclivity toward sexual violence, which is affected by their own hostile sexist beliefs, is also influenced by perceptions of other men's support to HS.	**34**	**H**
Edwards & Vogel (2015)	To investigate two factors that have been linked with male engagement in forced sexual activity: how much a man perceives a woman as having interest in and intentions to engage in sexual acts (perception of sexual intent) and perceived peer norms regarding acceptability of using force/coercion to engage in a sexual act.	**38**	**H**
Goodson, Franklin, & Bouffard (2020)	To examine the relationship between participation in high-profile, HS team sports, informational support from peers, maladaptive attitudes, alcohol consumption, gender role traditionality, pornography consumption frequency, and sexual	**31**	**M**

	assault perpetration.		
Hall, Sue, Narang & Lilly (2000)	To examine the utility of intra- and interpersonal determinants of sexual aggression among Asian Americans (generally a collectivist group) and European Americans (generally individualists).	25	M
Jewell & Brown (2013)	To examine the role of endorsed stereotypes about men and women and perceived peer norms in predicting three types of typical sexualized behaviours (verbal, physical and indirect) among adolescents.	29	M
Kaczkowski, Brennan & Swartout (2017)	To examine how diversity of men's social networks might reduce their sexual violence, either directly or indirectly via their hostile attitudes toward women, when taking measures to account for perceptions of peer attitudes concerning sexual violence.	**34**	**H**
Kingree & Thompson (2013)	To examine attitudes (ie, hostility toward women, acceptance of rape myths), peer influences (ie, peer pressure to have sex, peer approval of forced sex), and risky behaviors (ie, high-risk alcohol use, number of sexual partners) as possible mediators of the association between fraternity membership and sexual aggression.	**31**	**M**
Leone & Parrott (2019)	To examine the extent to which bystander behaviour for sexual aggression is independently and jointly influenced by situational misogynistic peer norms and men's adherence to hegemonic male norms.	**39**	**H**
Loh, Gidycz, Lobo & Luthra (2005)	To assess the predictive value of perpetrator characteristics that contribute to the perpetration of sexual assault, including the impact of perceived peer attitudes and beliefs.	28	M
Mikorski & Szymanski (2017)	To examine the relations between three dimensions of traditional masculine gender role adherence and likelihood to sexually objectify women via body evaluation and making unwanted sexual advances.	**32**	**M**
Murphy, Dardis, Wilson, Gidycz & Berkowitz (2016)	To prospectively examine the extent to which men's own attitudes and behaviours and their perceptions of the attitudes and behaviours of males in the university predict both intentions to engage in prosocial bystander behaviour and self-reported engagement in prosocial bystander behaviour over 4- and 7- month follow-up periods.	30	M
Pallotti (2020)	To explore the relationships between men's endorsement of hostile masculine norms, acceptance of common rape myths, efficacy to intervene as bystanders, perceptions of peer norms and their own intentions to engage as bystanders in instances of sexual assault, and whether these relationships are moderated by men's affiliation with male-dominated peer groups.	**32**	**H**

Schwartz & Nogrady (1996)	To explore whether fraternity members will be more likely to accept rape myths than nonfraternity men.	21	L
Seabrook, Ward & Giaccardi (2018)	To explore whether masculine gender norms and pressure to uphold them mediate the relation between fraternity membership and acceptance of violence.	**32**	**M**
Swartout (2013)	To explore the relation between peer and individual attitudes towards women and sexual aggression and whether peer attitudes interact with peer network density to predict individual attitudes.	**32**	**M**
Thompson, Kingree, Zinzow & Swartout (2015)	To determine if changes in risk factors for sexual assault were related to changes in sexual assault likelihood.	**33**	**H**
Treat, Corbin, Papova, Richner, Craney & Fromme (2021)	Longitudinal study to enhance understanding of the well-established relation between fraternity membership and sexual aggression on college campuses.	28	M
Qualitative papers (scored out of 20)			
Hipp, Bellis, Goodnight, Brennan, Swartout & Cook (2017)	To examine the most salient features of perpetrators' justifications for sexual assault in Reddit.com users.	10	L
Kaya, Le, Brady & Iwamoto (2020)	To explore the social context in which intervention occurred including factors such as the social situation and relationship with the perpetrator and victim. To delineate aspects of masculinity that contributed to men's efficacy and willingness to engage in bystander behaviours.	**19**	**H**
Muchoki & Wandibba (2009)	To explore what the individual motivations that increase men's chances of raping women are and what the sociocultural factors are that may predispose men to raping women.	11	M
Piccigallo, Lilley & Miller (2012)	To explore what participants find effective about all-male antirape prevention programmes and how such programmes affect attitudinal change and provide pathways to behavioural change.	**17**	**H**

Appendix 8: Data Extraction Form

Title: Author: Year: Source: Study Location: Overall aims: **Population** Size of sample: Gender of sample: Ethnicity of sample: Age of sample: How sample was selected? **Context** Details regarding setting of study: How were peers defined? How were peer attitudes assessed? *(actual or perceived)* How was sexual assault defined/assessed? **Methods** How was data collected? *(self-report, observation)* What was the process? **Data Analysis** What analysis was used? **Outcomes**	

Was peer influence associated with acceptance of sexual assault? Direction (condoned/not condoned vs increased/decreased)?	Yes	No	N/A
Was peer influence related to bystander intervention? Direction (condoned/not condoned vs increased/decreased)?	Yes	No	N/A
Was peer influence related to perpetration of sexual assault? Direction (condoned/not condoned vs increased/decreased)?	Yes	No	N/A
Did perceived peer attitudes match actual peer attitudes? Conclusions drawn?	Yes	No	N/A
Evaluation Role of researcher? Implications: Limitations:			
Quality of study Journal rating: Number of citations:			

Quality framework score:	
Additional notes:	

Appendix 9: Participant Information Sheet

Does online engagement influence gender stereotypes and sexual beliefs?
Information Sheet

You are being invited to take part in a research study. Before you decide to take part, it is important you understand why the research is being carried out and what it will involve. Please read the following information carefully before deciding whether or not you wish to take part.

What is the study about?

The aim of this study is to investigate whether people's levels of engagement with online platforms relate to their views on gender, sexual knowledge and beliefs. This is due to social media platforms providing portrayals of sexuality and sexual norms, which can contribute to individual beliefs and knowledge around these topics. Given society spends much time on social media, it is important to gain an understanding of the advantages and disadvantages of this, particularly if online engagement may contribute to certain knowledge such as gender, sexuality and similar beliefs.

What will I need to do?

If you agree to take part, you will be asked to sign a consent form and to create a pseudonym code. This code will allow your responses to remain anonymous. You will be asked to complete a questionnaire which will take you approximately 15 minutes to complete. The questionnaire contains sensitive topics. You will be asked about your involvement with certain online groups and social media, demographic data so the researcher can define participant characteristics, and you will be asked questions about your sexual knowledge, experiences or beliefs. If you believe these topics could cause you distress, please do not continue or take part in this study. You can exit the questionnaire at any time by closing your internet browser should the topics make you uncomfortable. All responses you provide will remain anonymous.

Why I have been asked to take part?

You have been asked to participate in this research because you are a social media user, and so your engagement with social media can be measured in line with the aims of the study.

Do I have to take part?

It is up to you whether or not you take part. If you decide to take part, you will be asked to sign a consent form. You will create a pseudonym code so your identity can remain anonymous. If you decide not to take part in the research or to withdraw from the study after you have decided to participate, it will not affect you and your responses will be removed from the study. If you wish to withdraw your data after you have submitted your responses, you will have 14 days to do so. You can request to withdraw your data by e-mailing the researcher's supervisor (details below) with your pseudonym code within 14 days of completing the study.

Will my identity be disclosed?

All information disclosed within the questionnaires will be kept confidential, except where legal obligations would necessitate disclosure by the researchers to appropriate personnel. For example, if you choose to disclose something that suggests there is a risk of harm to

yourself or others, or if you disclose something that could be considered a serious criminal offence, then the researcher would need to pass this information on to a third party, such as the police. If you choose to withdraw your data after you have participated in the study, then you will not remain truly anonymous. You will need to e-mail the researcher's supervisor with your pseudonym code to withdraw your data, therefore your e-mail address can then be linked to your responses. However, to protect your identity from the researcher, you are asked to e-mail the researcher's supervisor to withdraw your data.

On completion of the questionnaire, you have the option to enter a prize draw to win a £25 or £50 Amazon voucher (or equivalent currency). This will require you to enter your e-mail address at the end of the study. However, if you do enter the prize draw, your responses cannot be linked to your e-mail address. Additionally, the research supervisor will access this information, protecting your anonymity from the researcher.

What will happen to the information?
All information collected during the research will be kept secure. You will be asked to create a pseudonym code to ensure your responses remain anonymous. It is anticipated that the research may, at some point, be published in a journal or report. However, should this happen, your identity will not be disclosed.

Who can I contact for further information?
If you require any further information about the research, please contact the researcher:
Kayleigh Dawson - [redacted]

Please make a note of the details of the researcher's supervisor, as you will need to contact the supervisor with your pseudonym code should you wish to withdraw your data after submitting your responses to the study:
Shola Apena-Rogers [redacted]

Some of the topics raised will be of a sensitive nature. If you choose to withdraw during the study but would still like to seek support, please visit: www.samaritans.org.uk.

Appendix 10: Participant debrief form

Does online engagement influence gender stereotypes and sexual beliefs?

Thank you for your participation in this research study. For this study, it was important to provide you with inaccurate information about some aspects of the study. Now that your participation is complete, I will describe the inaccurate information to you, why it was important, and provide you with the opportunity to decide whether you would like to have your data withdrawn from this study.

What you should know about this study

Prior to participating, you were informed that the aim of this research was to explore different types of online engagement and whether this affects the way in which you view gender stereotypes and your sexual experiences and beliefs. You were informed that the researcher was interested in gaining a better understanding of the influence of internet involvement and social engagement on people's views, as these may positively or negatively affect sexual knowledge. Whilst this is true, these were not the true aims of this research study. Sometimes when we are studying how people think about social issues (as in this experiment), we do not give people a full description of what we are studying. That way we are able to gather natural responses, as sometimes knowing the nature of the study can affect people's responses. Therefore, there are a few things about this experiment I would like to explain.

This research was concerned with male involvement in group chats and the impact this might have on an individual's attitudes towards women and sexual assault. Connections between 'lads' and sexist behaviour have often been portrayed in the media (Nichols, 2018). One context in which this 'laddish' culture may be observed is on social media, however the extent to which these behaviours occur in group chats is unknown. This research aimed to expand the knowledge on whether lad culture exists in group chats and whether individuals can begin to adopt the beliefs and norms of the group, impacting upon their attitudes towards women and towards sexual assault. The study is interested in collecting data from males over the age of 18 regarding their involvement in group chats, acceptance of sexual assault, sexual experiences and attitudes towards women. Data is also being collected from females regarding their acceptance of sexual assault and attitudes towards men, due to previous research suggesting that females recognise 'lad culture' is present in university settings and accept the existence of this (Craig, 2016), therefore the perspectives of both males and females on the issue of sexual assault are being explored.

As stated in the Information Sheet, no individually identifying information has been collected in this study and your anonymity has been preserved through the use of the pseudonym code you created. Your anonymity will be protected throughout the remainder of the study unless there is a risk of harm to yourself or others, or you have disclosed something that could constitute a serious criminal offence. No identifiable information will be presented in the report.

You may choose to withdraw the data you provided by e-mailing the researcher's supervisor with the pseudonym code you created at the start of the study: Dr Shola Apena-Rogers, [redacted]

If you have any other queries regarding the study, please e
mail [redacted]

Please do not disclose the purpose or research procedures to anyone who might participate in this study in the future, as this could affect the results of the study.

It is understood that some of the topics raised were of a sensitive nature. If you feel you have been affected in any way after completing the study, or if you found that some aspects of the study were distressing and you would like support or further information, please visit:
Rape Crisis England and Wales: http://rapecrisis.org.uk/
Victim Support: https://www.victimsupport.org.uk/
Samaritans: www.samaritans.org.uk
1 in 6: https://1in6.org/

Appendix 11: Participant consent form

Consent Form

Your participation in this research is voluntary. It is important that you read and understand each of the following statements prior to taking part.

I have been informed of the aims of the research and I understand that:

- The questionnaire will ask about sensitive topics, such as sexual experiences, and I should not participate in this research if I believe this may cause me distress
- I can exit the study at any time by closing my browser
- I have the right to withdraw my data within 14 days of completing the study and can do so by providing my pseudonym code to the researcher's supervisor
- I will not remain truly anonymous to the researcher's supervisor if I choose to withdraw my data, however steps have been taken to ensure I remain anonymous to the researcher
- The information collected will be kept secure and raw data will be destroyed after the research is complete
- Only the researcher and supervisor will have access to the data provided
- It is up to me to decide what I do or do not disclose when completing the questionnaire.
- If I choose to disclose something that could indicate there is a risk of harm to myself or others, or that could constitute a serious offence, then the researcher may be obliged to report this to other agencies (e.g., the police)
- My identity will be protected with a pseudonym code and no information could lead to me being identified in any written report/publication

○ I consent, begin the study

○ I do not consent, I do not wish to participate

Appendix 12: Pseudonym code instructions

Instructions of how to create your code word:
Before participating, please provide a code word following the instructions below. This code word is to ensure you remain anonymous and your responses are confidential and not linked to you in any way. This code word can be used to withdraw your data at a later stage so please make a note of this somewhere. It should consist of 10 characters and contain both numbers and letters.

a) The first 6 numbers of the code word is the date you started completing the survey in ddmmyy format. For example, if the date is 19th April 2020 then the first 6 numbers will be: 190420

b) Following this, please include the first 2 letters of your mother's maiden name in capital letters. For example, if her maiden name is Braun, then the next 2 characters of the code word will be: BR

c) Following this, please include the last two numbers of your house or mobile phone number. For example, if your phone number is 4469290 then the last two numbers of the code word will be: 90

The final code word should have the following format: **190420BR90**

Please provide your 10 digit code word in the box below (following the instructions above) and make a note of this.

Appendix 13: Involvement in Lads Group Chat Questionnaire (ILGCQ)

The following questions ask you to reflect on your experiences of using group chats. For the purposes of this research, a "group chat" refers to any phone or internet messaging platform/site which enables a private "chat" function in which messages are sent between 3 or more people. Platforms/sites could include Facebook messenger, Whatsapp, SMS etc. *(This does not include communication with others through comments or public social media feeds).*

Please answer the questions below, choosing the response that best reflects your own use of group chats.

1.

A) I am currently a member of a group chat

B) I have been a member of a group chat in the past 2 years

C) I have been a member of a group chat previously, but not in the past 2 years

D) I have never been a member of a group chat

2. (In the past/in the past 2 years/currently) I have been a member of a group chat that was:

A) Single sex (only male members if male, or only female members if female)

B) Mixed gender

3. I have (had) a group chat with (tick all that apply)

Friends Close friends Work colleagues Family

Strangers Teams/Clubs/Societies Mixed Other

Thinking of the group chat you use most regularly…

4. I usually read this group chat:

   A) At least once a day

   B) Every other day

   C) Weekly

   D) Monthly

   E) Less than monthly

5. I usually contribute to these group chats:

   A) At least once a day

   B) Every other day

   C) Weekly

   D) Monthly

   E) Less than monthly

The following questions are based on the group chat you are currently in/have been in in the past 2 years. When answering these questions, please reflect on the single-sex group chat you are a part of. Please answer as honestly as possible.

For each of the following statements, please indicate whether this occurs within your group chat, using the rating scales below:

1. It is difficult to make plans together

Never Rarely Sometimes Often Almost always

2. There is banter with each other*

Never Rarely Sometimes Often Almost always

3. Memes are shared

Never Rarely Sometimes Often Almost always

4. Alcohol and drinking are talked about*

Never Rarely Sometimes Often Almost always

5. You can seek support and advice from other members

Never Rarely Sometimes Often Almost always

6. Naked photos or videos of females are shared*

Never Rarely Sometimes Often Almost always

7. TV series and movies are discussed

Never Rarely Sometimes Often Almost always

8. Sports is mentioned*

Never Rarely Sometimes Often Almost always

9. Jokes are made

Never Rarely Sometimes Often Almost always

10. Women are rated*

Never	Rarely	Sometimes	Often	Almost always

11. Occasions are celebrated

Never	Rarely	Sometimes	Often	Almost always

12. Sexist jokes are made*

Never	Rarely	Sometimes	Often	Almost always

13. People read messages and do not reply

Never	Rarely	Sometimes	Often	Almost always

14. If someone is dating or having sex with someone, then all of the others know*

Never	Rarely	Sometimes	Often	Almost always

15. Food is talked about

Never	Rarely	Sometimes	Often	Almost always

16. Extreme images or videos (e.g., violence) are shared*

Never	Rarely	Sometimes	Often	Almost always

17. If our group chat messages became public, or were seen by others, I would be worried*

Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree

18. If someone was being inappropriate in the group chat, I would not feel comfortable with shutting down the conversation

Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree

* Item reflects relatable laddish behaviour/culture in group chats (based on pilot study). Only these items are scored.

The other 9 items are distractor items (also relatable features/behaviours of group chats based on pilot study, but not specific to/reflective of lad culture).

Appendix 14: Illinois Rape Myth Acceptance Scale – Subtle version (IRMAS-S)

Strongly disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Strongly agree
1	2	3	4	5

1. Women tend to misinterpret compliments as harassment when men are hitting on them.+
2. Sexual assault probably didn't happen if the woman has no bruises or marks.
3. Women like to lead men on for attention. +
4. If a woman is raped while she is drunk, she is not responsible for what happened.*
5. Women are too emotional to be in positions of power. +
6. Sometimes women who say they were raped agreed to have sex and then regret it.
7. There is no need for women to advocate for equal treatment anymore.+*
8. Women who say they were sexually assaulted sometimes just have emotional problems.
9. Women secretly enjoy being catcalled because it boosts their confidence. +
10. Men don't usually intend to force sex on a woman, but sometimes they get too carried away.
11. When women are raped, it's often because the way they said "no" was unclear.
12. If a man is drunk, he might rape someone accidentally.
13. If a woman sleeps around, eventually something bad is going to happen to her.
14. It is more acceptable for a man to have more sexual partners than a woman. +
15. Women who are caught cheating on their boyfriends or husbands sometimes claim they were raped.
16. Rape happens when a man's sex drive gets out of control.
17. Gender discrimination is no longer a problem in Western society. +
18. A woman can be raped even if she does not physically resist.*
19. Rape accusations can be used as a way of getting back at men.
20. If both people are drunk when having sex, rape can't happen.
21. Women want all of the privilege's men have but none of the responsibilities. +
22. If a man was drunk and didn't realize what he was doing, he cannot have committed rape.
23. If a woman starts making out, she should be not be surprised if a man assumes she wants to have sex.
24. It is more natural for men than women to want to have multiple sexual partners. +
25. If a woman goes home with a man after a party, it is her own fault if she has sex and doesn't want to.
26. Women who say they were raped sometimes led the man on and then had regrets.
27. When a woman says "no" during sex and the man doesn't stop, she was raped.*
28. It is not really rape if the rapist does not use a weapon.

29. When women go out wearing slutty clothes, they are asking for sexual advances from men.
30. If a woman wants to get ahead in life, she should act more like a man would. +
31. When men force women to have sex, it is usually because they cannot control their desire for sex.
32. If a woman doesn't physically fight back, she can't really say she was raped.

*denotes reverse scored

+ denotes sexism items

Appendix 15: Ambivalent Sexism Inventory (ASI)

Relationships Between Men and Women (Men)

Below is a series of statements concerning men and women and their relationships in contemporary society. Please indicate the degree to which you agree or disagree with each statement using the following scale:

0	1	2	3	4	5
Strongly disagree	Somewhat disagree	Slightly disagree	Slightly agree	Somewhat agree	Strongly agree

B(1) 1. No matter how accomplished be is, a man is not truly complete as a person unless he has the love of a woman.

H 2. Many women are actually seeking special favours, such as hiring policies that favour them over men, under the guise of asking for "equality."

B(P)* 3. In a disaster, women ought not necessarily to be rescued before men.

H 4. Most women interpret innocent remarks or acts as being sexist.

H 5. Women are too easily offended.

B(I)* 6. People are often truly happy in life without being romantically involved with a member of the other sex.

H* 7. Feminists are not seeking for women to have more power than men.

B (G) 8. Many women have a quality of purity that few men possess.

B(P) 9. Women should be cherished and protected by men.

H 10. Most women fail to appreciate fully all that men do for them.

H 11. Women seek to gain power by getting control over men.

B(I) 12. Every man ought to have a woman whom he adores.

B(1)* 13. Men are complete without women.

H 14. Women exaggerate problems they have at work.

H 15. Once a woman gets a man to commit to her, she usually tries to put him on a tight leash.

H 16. When women lose to men in a fair competition, they typically complain about being discriminated against.

B(P) 17. A good woman should be set on a pedestal by her man.

H* 18. There are actually very few women who get a kick out of teasing men by seeming sexually available and then refusing male advances.

B(G) 19. Women, compared to men, tend to have a superior moral sensibility.

B(P) 20. Men should be willing to sacrifice their own well-being in order to provide financially for the women in their lives.

H* 21. Feminists are making entirely reasonable demands of men.

B(G) 22. Women, as compared to men, tend to have a more refined sense of culture and good taste.

H = Hostile Sexism, B =Benevolent Sexism, (P) = Protective Paternalism, (G) = Complementary Gender Differentiation, (I) = Heterosexual Intimacy, * = reversescored item.

Appendix 16: Ambivalence towards Men Inventory (AMI)

Relationships about Men and Women (Women)

Below are a series of statements concerning men and women and their relationships in contemporary society. Please indicate the degree to which you agree or disagree with each statement using the scale below:

0	1	2	3	4	5
Strongly disagree	Somewhat disagree	Slightly disagree	Slightly agree	Somewhat agree	Strongly agree

B(M) 1. Even if both members of a couple work, the woman ought to be more attentive to taking care of her man at home.

H(S) 2. A man who is sexually attracted to a woman typically has no morals about doing whatever it takes to get her in bed.

B(G) 3. Men are less likely to fall apart in emergencies than women are.

H(S) 4. When men act to "help" women, they are often trying to prove they are better than women.

B(S) 5. Every woman needs a male partner who will cherish her.

H(G) 6. Men would be lost in this world if women weren't there to guide them.

B(S) 7. A woman will never be truly fulfilled in life if she doesn't have a committed, long-term relationship with a man.

H(G) 8. Men act like babies when they are sick.

H(P) 9. Men will always fight to have greater control in society than women.

B(M) 10. Men are mainly useful to provide financial security for women.

H(P) 11. Even men who claim to be sensitive to women's rights really want a traditional relationship at home, with the woman performing most of the housekeeping and childcare.

B(S) 12. Every woman ought to have a man she adores.

B(C) 13. Men are more willing to put themselves in danger to protect others.

H(S) 14. Men usually try to dominate conversations when talking to women.

H(P) 15. Most men pay lip service to equality for women, but can't handle having a woman as equal.

B(S) 16. Women are incomplete without men.

H(G) 17. When it comes down to it, most men are really like children.

R(G) 18. Men are more willing to take risks than women.

H(S) 19. Most men sexually harass women, even if only in subtle ways, once they are in a position of power over them.

B(M) 20. Women ought to take care of their men at home, because men would fall apart if they had to fend for themselves.

Note: The HM subscales are indicated by the following notation: H(P)Resentment of Paternalism, H(G) = Compensatory Gender Differentiation, H(S) = Heterosexual Hostility. The BM subscales are indicated by the following notation: B(M) – Maternalism, B(G) = Complementary Gender Differentiation, B(S) = Heterosexual Intimacy.

Student ID: [redacted]

Appendix 17: Sexual Experiences Survey – Short Form Perpetration (SES-SFP)

The following questions concern sexual experiences. We know these are personal questions, so we do not ask your name or other identifying information. Your information is completely confidential. We hope this helps you to feel comfortable answering each question honestly. Place a check mark in the box showing the number of times each experience has happened. If several experiences occurred on the same occasion--for example, if one night you told some lies and had sex with someone who was drunk, you would check both boxes a and c. The past 12 months refers to the past year going back from today. Since age 14 refers to your life starting on your 14th birthday and stopping one year ago from today.

	Sexual Experiences	**How many times in the past 12 months?**	**How many times since age 14?**
1.	**I fondled, kissed, or rubbed up against the private areas of someone's body (lips, breast/chest, crotch or butt) or removed some of their clothes without their consent *(but did not attempt sexual penetration)* by:**	0 1 2 3+	0 1 2 3+
a.	Telling lies, threatening to end the relationship, threatening to spread rumors about them, making promises about the future I knew were untrue, or continually verbally pressuring them after they said they didn't want to.		
b.	Showing displeasure, criticizing their sexuality or attractiveness, getting angry but not using physical force after they said they didn't want to.		
c.	Taking advantage when they were too drunk or out of it to stop what was happening.		
d.	Threatening to physically harm them or someone close to them.		
e.	Using force, for example holding them down with my body weight, pinning their arms, or having a weapon.		
2.	**I had oral sex with someone or had someone perform oral sex on me without their consent by:**	0 1 2 3+	0 1 2 3+
a.	Telling lies, threatening to end the relationship, threatening to spread rumors about them, making promises about the future I knew were untrue, or continually verbally pressuring them after they said they didn't want to.		
b.	Showing displeasure, criticizing their sexuality or attractiveness, getting angry but not using physical force after they said they didn't want to.		
c.	Taking advantage when they were too drunk or out of it to stop what was happening.		
d.	Threatening to physically harm them or someone close to them.		
e.	Using force, for example holding them down with my body weight, pinning their arms, or having a weapon.		
		How many times in the past 12 months?	**How many times since age 14?**
3.	**I put my penis (men only) or I put my fingers or objects (all respondents) into a woman's vagina without her consent by:**	0 1 2 3+	0 1 2 3+
a.	Telling lies, threatening to end the relationship, threatening to spread rumors about them, making promises about the future I knew were untrue, or continually verbally pressuring them after they said they didn't want to.		
b.	Showing displeasure, criticizing their sexuality or attractiveness, getting angry but not using physical force after they said they didn't want to.		
c.	Taking advantage when they were too drunk or out of it to stop what was happening.		
d.	Threatening to physically harm them or someone close to them.		

e.	Using force, for example holding them down with my body weight, pinning their arms, or having a weapon.		
4.	**I put in my penis (men only) or I put my fingers or objects (all respondents) into someone's butt without their consent by:**	0 1 2 3+	0 1 2 3+
a.	Telling lies, threatening to end the relationship, threatening to spread rumors about them, making promises about the future I knew were untrue, or continually verbally pressuring them after they said they didn't want to.		
b.	Showing displeasure, criticizing their sexuality or attractiveness, getting angry but not using physical force after they said they didn't want to.		
c.	Taking advantage when they were too drunk or out of it to stop what was happening.		
d.	Threatening to physically harm them or someone close to them.		
e.	Using force, for example holding them down with my body weight, pinning their arms, or having a weapon.		
5.	**Even though it did not happen, I TRIED to have oral sex with someone or make them have oral sex with me without their consent by:**	0 1 2 3+	0 1 2 3+
a.	Telling lies, threatening to end the relationship, threatening to spread rumors about them, making promises about the future I knew were untrue, or continually verbally pressuring them after they said they didn't want to.		
b.	Showing displeasure, criticizing their sexuality or attractiveness, getting angry but not using physical force after they said they didn't want to.		
c.	Taking advantage when they were too drunk or out of it to stop what was happening.		
d.	Threatening to physically harm them or someone close to them.		
e.	Using force, for example holding them down with my body weight, pinning their arms, or having a weapon.		

		How many times in the past 12 months?	**How many times since age 14?**
6.	**Even though it did not happen, I TRIED put in my penis (men only) or I tried to put my fingers or objects (all respondents) into a woman's vagina without their consent by:**	0 1 2 3+	0 1 2 3+
a.	Telling lies, threatening to end the relationship, threatening to spread rumors about them, making promises about the future I knew were untrue, or continually verbally pressuring them after they said they didn't want to.		
b.	Showing displeasure, criticizing their sexuality or attractiveness, getting angry but not using physical force after they said they didn't want to.		
c.	Taking advantage when they were too drunk or out of it to stop what was happening.		
d.	Threatening to physically harm them or someone close to them.		
e.	Using force, for example holding them down with my body weight, pinning their arms, or having a weapon.		
7.	**Even though it did not happen, I TRIED to put in my penis (men only) or I tried to put my fingers or objects (all respondents) into someone's butt without their consent by:**	0 1 2 3+	0 1 2 3+
a.	Telling lies, threatening to end the relationship, threatening to spread rumors about them, making promises about the future I knew were untrue, or continually verbally pressuring them after they said they didn't want to.		
b.	Showing displeasure, criticizing their sexuality or attractiveness, getting angry but not using physical force after they said they didn't want to.		
c.	Taking advantage when they were too drunk or out of it to stop what was happening.		
d.	Threatening to physically harm them or someone close to them.		
e.	Using force, for example holding them down with my body weight, pinning their arms, or having a weapon.		

8. I am: Female Male My age is _____ years and _____months.
9. Did you do any of the acts described in this survey 1 or more times? Yes No
If yes, what was the sex of the person or persons to whom you did them?
Female only
Male only
Both females and males
I reported no experiences
10. Do you think you may have you ever raped someone? Yes No

Appendix 18: Sexual Experiences Survey – Short Form Victimisation (SES-SFV)

The following questions concern sexual experiences that you may have had that were unwanted. We know that these are personal questions, so we do not ask your name or other identifying information. Your information is completely confidential. We hope that this helps you to feel comfortable answering each question honestly. Place a check mark in the box (_) showing the number of times each experience has happened to you. If several experiences occurred on the same occasion—for example, if one night someone told you some lies and had sex with you when you were drunk, you would check both boxes a and c. "The past 12 months" refers to the past year going back from today. "Since age 14" refers to your life starting on your 14th birthday and stopping one year ago from today.

How many times in	**How many times**
Sexual Experiences the past 12 months?	**since age 14?**

1. Someone fondled, kissed, or rubbed up against the private areas of my body (lips, breast/chest, crotch or butt) or removed some of my clothes without my consent *(but did not attempt sexual penetration)* by:

0 1 2 3+	**0 1 2 3+**

a. Telling lies, threatening to end the relationship, threatening to spread rumors about me, making promises I knew were untrue, or continually verbally pressuring me after I said I didn't want to.

_ _ _ _ _ _ _ _

b. Showing displeasure, criticizing my sexuality or attractiveness, getting angry but not using physical force, after I said I didn't want to.

_ _ _ _ _ _ _ _

c. Taking advantage of me when I was too drunk or out of it to stop what was happening.

_ _ _ _ _ _ _ _

d. Threatening to physically harm me or someone close to me.

_ _ _ _ _ _ _ _

e. Using force, for example holding me down with their body weight, pinning my arms, or having a weapon.

_ _ _ _ _ _ _ _

2. Someone had oral sex with me or made me have oral sex with them without my consent by:

a. Telling lies, threatening to end the relationship, threatening to spread rumours about me, making promises I knew were untrue, or continually verbally pressuring me after I said I didn't want to.

_ _ _ _ _ _ _ _

b. Showing displeasure, criticizing my sexuality or attractiveness, getting angry but not using physical force, after I said I didn't want to.

_ _ _ _ _ _ _ _

c. Taking advantage of me when I was too drunk or out of it to stop what was happening.

_ _ _ _ _ _ _ _

d. Threatening to physically harm me or someone close to me.

_ _ _ _ _ _ _ _

e. Using force, for example holding me down with their body weight, pinning my arms, or having a weapon.

_ _ _ _ _ _ _ _

3. A man put his penis into my vagina, or someone inserted fingers or objects without my consent by:

a. Telling lies, threatening to end the relationship, threatening to spread rumours about me, making promises I knew were untrue, or continually verbally pressuring me after I said I didn't want to.

_ _ _ _ _ _ _ _

b. Showing displeasure, criticizing my sexuality or attractiveness, getting angry but not using physical force, after I said I didn't want to.

_ _ _ _ _ _ _ _

c. Taking advantage of me when I was too drunk or out of it to stop what was happening.

_ _ _ _ _ _ _ _

d. Threatening to physically harm me or someone close to me.

_ _ _ _ _ _ _ _

e. Using force, for example holding me down with their body weight, pinning my arms, or having a weapon.

_ _ _ _ _ _ _ _

4. A man put his penis into my butt, or someone inserted fingers or objects without my consent by:

a. Telling lies, threatening to end the relationship, threatening to spread rumours about me, making promises I knew were untrue, or continually verbally pressuring me after I said I didn't want to.

_ _ _ _ _ _ _ _

b. Showing displeasure, criticizing my sexuality or attractiveness, getting angry but not using physical force, after I said I didn't want to.

_ _ _ _ _ _ _ _

c. Taking advantage of me when I was too drunk or out of it to stop what was happening.

_ _ _ _ _ _ _ _

d. Threatening to physically harm me or someone close to me.

_ _ _ _ _ _ _ _

e. Using force, for example holding me down with their body weight, pinning my arms, or having a weapon.

_ _ _ _ _ _ _ _

5. Even though it did not happen, someone TRIED to have oral sex with me, or make me have oral sex with them without my consent by:

a. Telling lies, threatening to end the relationship, threatening to spread rumours about me, making promises I knew were untrue, or continually verbally pressuring me after I said I didn't want to.

_ _ _ _ _ _ _ _

b. Showing displeasure, criticizing my sexuality or attractiveness, getting angry but not using physical force, after I said I didn't want to.

_ _ _ _ _ _ _ _

c. Taking advantage of me when I was too drunk or out of it to stop what was happening.

_ _ _ _ _ _ _ _

d. Threatening to physically harm me or someone close to me.

_ _ _ _ _ _ _ _

e. Using force, for example holding me down with their body weight, pinning my arms, or having a weapon.

_ _ _ _ _ _ _ _

6. Even though it did not happen, a man TRIED to put his penis into my vagina, or someone tried to stick in fingers or objects without my consent by:

a. Telling lies, threatening to end the relationship, threatening to spread rumours about me, making promises I knew were untrue, or continually verbally pressuring me after I said I didn't want to.

_ _ _ _ _ _ _ _

b. Showing displeasure, criticizing my sexuality or attractiveness, getting angry but not using physical force, after I said I didn't want to.

_ _ _ _ _ _ _ _

c. Taking advantage of me when I was too drunk or out of it to stop what was happening.

_ _ _ _ _ _ _ _

d. Threatening to physically harm me or someone close to me.

_ _ _ _ _ _ _ _

e. Using force, for example holding me down with their body weight, pinning my arms, or having a weapon.

_ _ _ _ _ _ _ _

7. Even though it did not happen, a man TRIED to put his penis into my butt, or someone tried to stick in objects or fingers without my consent by:

a. Telling lies, threatening to end the relationship, threatening to spread rumours about me, making promises I knew were untrue, or continually verbally pressuring me after I said I didn't want to.

_ _ _ _ _ _ _ _

b. Showing displeasure, criticizing my sexuality or attractiveness, getting angry but not using physical force, after I said I didn't want to.

_ _ _ _ _ _ _ _

c. Taking advantage of me when I was too drunk or out of it to stop what was happening.

_ _ _ _ _ _ _ _

d. Threatening to physically harm me or someone close to me.

_ _ _ _ _ _ _ _

e. Using force, for example holding me down with their body weight, pinning my arms, or having a weapon.

_ _ _ _ _ _ _ _

8. Did any of the experiences described in this survey happen to you one or more times?

Yes _ No _

9. What was the sex of the person or persons who did them to you?

I reported no experiences _ Female only _

Male only _ Both females and males _

10. Have you ever been raped?

Yes _ No _

Appendix 19: the Involvement in Lad Group Chats Questionnaire (ILGCQ)

Appendix 19a

Table 6. *List of 42 Q-sort statements (from Twitter analysis)*

1.	**I can rely on the lads in the group chat when I need advice**
2.	I would be worried if messages from the lads group chat were seen by people I work with
3.	I am sometimes unable to concentrate at work as I need to keep up with the lads group chat
4.	The group chat is about having banter with each other
5.	If one of us starts roasting/mocking another person in the group chat, we're all joining in
6.	We talk about betting and gambling in the lads group chat
7.	I only use the lads group chat when I'm bored
8.	I would share information about the person I'm dating in the group chat, even if I had promised them that I wouldn't
9.	The lads group chat is a place to celebrate occasions
10.	You might find out one of your friends has betrayed you in the lads group chat
11.	Stories are shared about people the lads have had sex with in the group chat
12.	The lads joke about having sex with each other's family members in the group chat
13.	The group chat is a good place to provide the lads with daily updates on life
14.	I would not want my family to see or hear the things that are said in the lads group chat
15.	If one of the lads is dating/having sex with someone, then all of the lads in the group chat know about it
16.	Lads use the group chat to rate women
17.	Food is discussed in the group chat
18.	If the lad's group chat messages were to become public, we would be in trouble
19.	I turn a blind eye to sexist banter in the group chat
20.	I turn a blind eye to racist banter in the group chat
21.	I would not feel comfortable with shutting down the lads' conversation in the group chat, even if I didn't agree with what they were saying
22.	The lads group chat is a place to share jokes
23.	I would find it easy to remove myself from the lads group chat
24.	The lads group chat is a great place to share memes
25.	Funny photos/videos are shared in the lads group chat
26.	Extreme/disturbing videos are shared in the lads group chat
27.	I often can't be bothered to read messages in the lads group chat
28.	It's common for the lads to read messages and not reply in the group chat
29.	The lads group chat is useful for making plans
30.	It's difficult to make plans together in the lads group chat

31.	There is talk of the pub in the lads group chat
32.	The lads make sexist jokes in the group chat
33.	The lads make rape jokes in the group chat
34.	Religion is discussed in the lads group chat
35.	Half-naked or naked photos received by girls we know are shared in the lads group chat
36.	Naked photos or videos of girls on the internet are sent in the lads group chat
37.	The display picture for the lads group chat has to be an explicit photo
38.	The group chat is a good place to seek and gain support from the lads
39.	We talk about sports in the lads group chat
40.	Lads share their toilet situations with each other, such as when they're pooing, in the group chat
41.	TV series and movies are a topic of the group chat
42.	The lads talk about alcohol and drinking in the group chat

Appendix 19b – Q-sort instructions

Our question to you is: "To what extent do the following statements relate to your own experiences of lad group chats". Please read the 42 statements below carefully. Split these statements up into three piles: a pile for statements that are most relatable to your own experiences, a pile for statements that are least relatable to your own experiences, and a pile for statements that are neither relatable/unrelatable to you. Please use the three boxes: "MOST RELATABLE", "NEUTRAL" and "LEAST RELATABLE".

Take the statements from the "MOST RELATABLE" pile and read them again. Select the two statements you most agree with based on your own experiences and place them in the last boxes on the right of the page, below the "9". Next, from the remaining cards in this pile, select the three statements that are relatable to your experiences and place them in the box below the "8". Follow this procedure for all cards from the "MOST RELATABLE" pile.

Next, take the statements from the "LEAST RELATABLE" pile and read them again. Just like before, select the two statements that are the least relatable to your own experiences and place them in the last box on the left of the page, below the "1". Follow this procedure for all cards from the "LEAST RELATABLE" pile.

Finally, take the remaining cards and read them again. Arrange the cards in the remaining open boxes on the page.

When you have placed all cards in the boxes, please go over your distribution once more and shift cards if you want to.

Appendix 19c - Q-grid example

Composite Q sort for Factor 1

-4	-3	-2	-1	0	1	2	3	4
You may find out your friend has betrayed you in the GC	I turn a blind eye to racist banter in the group chat	I'd share info re who I'm dating, even if I promised not to	Lads share toilet situations, ie when they poo, in the GC	reme/disturbing videos are shared in the lads group chat	The lads group chat is a great place to share memes	✳ We talk about sports in the lads group chat	✳✳► It's difficult to make plans together in the lads group chat	✳► If one of us mocks another in the GC, we're all joining in
Religion is discussed in the lads group chat	I often can't be bothered to read messages in the GC	✳✳◄ The GC is a good place to seek/gain support from the lads	I'd find it easy to remove myself from the GC	✳ If the GC messages became public, we'd be in trouble	Lads use the group chat to rate women	✳✳ There is talk of the pub in the lads group chat	The lads talk about alcohol and drinking in the group chat	The group chat is about having banter with each other
	✳◄ I'm unable to concentrate at work-I need to keep up with GC	✳◄ The lads group chat is a place to celebrate occasions	✳✳◄ Food is discussed in the group chat	I turn a blind eye to sexist banter in the group chat	Lads read messages and don't reply in the GC	Naked photos/videos of girls on the internet are sent	Funny photos/videos are shared in the lads group chat	
		There's jokes about sex with each others family in the GC	I can rely on the lads in the group chat when I need advice	The lads group chat is a place to share jokes	I'd be worried if messages from the GC were seen by work	✳✳► The lads make sexist jokes in the group chat		
		The lads group chat is useful for making plans	✳ The display picture for the GC has to be explicit	We talk about betting and gambling in the lads group chat	Stories about people the lads have had sex with are shared	I'd not feel comfortable shutting down the lads convo		
			(Half) naked photos received by girls we know are shared	✳✳ The GC is a good place to provide daily updates on life	If a lad dates/has sex with someone, all of the lads know			
			I only use the lads group chat when I'm bored	The lads make rape jokes in the group chat	I wouldn't want my family to see/hear things that are said			
				✳✳ TV series and movies are a topic of the group chat				

Legend

✳ Distinguishing statement at P< 0.05

✳✳ Distinguishing statement at P< 0.01

► z-Score for the statement is higher than in all other factors

◄ z-Score for the statement is lower than in all other factors

Lad group chat behaviours that were most relatable

	1	2	3	4
ing e hat	The lads group chat is a great place to share memes	✳ We talk about sports in the lads group chat	✳✳▶ It's difficult to make plans together in the lads group chat	✳▶ If one of us mocks another in the GC, we're all joining in
ame be	Lads use the group chat to rate women	✳✳ There is talk of the pub in the lads group chat	The lads talk about alcohol and drinking in the group chat	The group chat is about having banter with each other
d st e t	Lads read messages and don't reply in the GC	Naked photos/videos of girls on the internet are sent	Funny photos/videos are shared in the lads group chat	
up ce es	I'd be worried if messages from the GC were seen by work	✳✳▶ The lads make sexist jokes in the group chat		
ut d he hat	Stories about people the lads have had sex with are shared	I'd not feel comfortable shutting down the lads convo		
a	If a lad			

Appendix 20: Demographic Questionnaire

1. Please select your age category below.

- ○ Under 18 (1)
- ○ 18-24 years old (2)
- ○ 25-34 years old (3)
- ○ 35-44 years old (4)
- ○ 45-54 years old (5)
- ○ 55-64 years old (6)
- ○ 65-74 years old (7)
- ○ 75 years or older (8)

2. Which gender do you identify with?

- ○ Male (1)
- ○ Female (2)
- ○ Transgender (3)
- ○ Non-binary (4)
- ○ Prefer not to say (5)

3. What is your ethnic group? (select from drop-down)

- ○ White (English / Welsh / Scottish / Northern Irish / British) (1)
- ○ White (Irish) (2)

- ○ White (Gypsy / Irish Traveller) (3)
- ○ White (Other background) (4)
- ○ White and Black Caribbean (5)
- ○ White and Black African (6)
- ○ White and Asian (7)
- ○ Any other Mixed / Multiple ethnic background, please describe (8)
- ○ Indian (9)
- ○ Pakistani (10)
- ○ Bangladeshi (11)
- ○ Chinese (12)
- ○ Any other Asian background, please describe (13)
- ○ African (14)
- ○ Caribbean (15)
- ○ Any other Black / African / Caribbean background, please describe (16)
- ○ Arabic (17)
- ○ Any other ethnic group, please describe (18)
- ○ Prefer not to say (19)

3a. Please describe

_____

4. Which religion, if any, do you affiliate with? (select from drop-down)

- ○ Catholicism/Christianity (1)

- ○ Judaism (2)
- ○ Islam (3)
- ○ Buddhism (4)
- ○ Hinduism (5)
- ○ Other (6)
- ○ Prefer not to say (7)
- ○ None (8)

5. Which geographical area do you live in?
(please include the greater area, as opposed to the specific town/village/city, to protect your anonymity)

e.g., South Wales, Somerset, West Midlands, London, Ontario, Alaska, Western Cape

_____

6. What is the highest degree or level of education you have completed?

- ○ Some Secondary School/High School (1)
- ○ GCSE's (or equivalent) (2)
- ○ A-Levels (or equivalent) (3)
- ○ High School Diploma (4)
- ○ Bachelor's Degree (5)
- ○ Master's Degree (6)
- ○ Ph.D. or higher (7)
- ○ Trade School (8)
- ○ Apprenticeship (9)
- ○ Other (10)

- ○ Prefer not to say (11)

7. What is your sexual orientation?

- ○ Heterosexual/Straight (1)
- ○ Homosexual/Gay or lesbian (2)
- ○ Bisexual (3)
- ○ Other (4)
- ○ Prefer not to say (5)

8. What is your current relationship status?

- ○ Single (1)
- ○ In a relationship (2)
- ○ Living with a partner (3)
- ○ Engaged (4)
- ○ Married (5)
- ○ Divorced (6)
- ○ Widowed (7)

9. What is your current relationship status?

- ○ Single (1)
- ○ In a relationship (2)
- ○ Living with a partner (3)
- ○ Engaged (4)
- ○ Married (5)

- ○ Divorced (6)
- ○ Widowed (7)
- ○ Prefer not to say (8)

10. Have you ever had sexual relations with a partner?

- ○ Yes (1)
- ○ No (2)
- ○ To some extent (3)
- ○ Prefer not to say (4)

Appendix 21: Illinois Rape Myth Acceptance Scale (Payne et al., 1999)

Label	Number	Item
SA-3*	1	If a woman is raped while she is drunk, she is at least somewhat responsible for letting things get out of control.
WI-5*	2	Although most women wouldn't admit it, they generally find being physically forced into sex a real ''turn-on.''
MT-3	3	When men rape, it is because of their strong desire for sex.
TE-5*	4	If a woman is willing to ''make out'' with a guy, then it's no big deal if he goes a little further and has sex.
LI-4	5	Women who are caught having an illicit affair sometimes claim that it was rape.
FI-1	6	Newspapers should not release the name of a rape victim to the public.
LI-3	7	Many so-called rape victims are actually women who had sex and ''changed their minds'' afterwards.
WI-1*	8	Many women secretly desire to be raped.
DE-5	9	Rape mainly occurs on the ''bad'' side of town.
DE-4	10	Usually, it is only women who do things like hang out in bars and sleep around that are raped.
FI-2*	11	Most rapists are not caught by the police.
NR-1*	12	If a woman doesn't physically fight back, you can't really say that it was rape.
DE-2*	13	Men from nice middle-class homes almost never rape.
TE-1	14	Rape isn't as big a problem as some feminists would like people to think.
SA-2	15	When women go around wearing low-cut tops or short skirts, they're just asking for trouble.
LI-2*	16	Rape accusations are often used as a way of getting back at men.
NR-5	17	A rape probably didn't happen if the woman has no bruises or marks.
WI-4	18	Many women find being forced to have sex very arousing.
SA-4	19	If a woman goes home with a man she doesn't know, it is her own fault if she is raped.
MT-5	20	Rapists are usually sexually frustrated individuals.
FI-3*	21	All women should have access to self-defence classes.
DE-3*	22	It is usually only women who dress suggestively that are raped.
WI-2	23	Some women prefer to have sex forced on them so they don't have to feel guilty about it.
NR-3*	24	If the rapist doesn't have a weapon, you really can't call it a rape.
SA-6	25	When a woman is a sexual tease, eventually she is going to get into trouble.

TE-3	26	Being raped isn't as bad as being mugged and beaten.
DE-7*	27	Rape is unlikely to happen in the woman's own familiar neighbourhoods.
DE-1	28	In reality, women are almost never raped by their boyfriends
TE-2*	29	Women tend to exaggerate how much rape affects them.
MT-2	30	When a man is very sexually aroused, he may not even realize that the woman is resisting.
LI-1*	31	A lot of women lead a man on and then they cry rape.
FI-4*	32	It is preferable that a female police officer conduct the questioning when a woman reports a rape.
LI-5	33	A lot of times, women who claim they were raped just have emotional problems.
NR-2	34	If a woman doesn't physically resist sex—even when protesting verbally, it really can't be considered rape.
DE-6	35	Rape almost never happens in the woman's own home.
SA-5*	36	A woman who ''teases'' men deserves anything that might happen.
SA-8*	37	When women are raped, it's often because the way they said ''no'' was ambiguous.
TE-4	38	If a woman isn't a virgin, then it shouldn't be a big deal if her date forces her to have sex.
MT-1*	39	Men don't usually intend to force sex on a woman, but sometimes they get too sexually carried away.
FI-5	40	This society should devote more effort to preventing rape.
SA-1*	41	A woman who dresses in skimpy clothes should not be surprised if a man tries to force her to have sex.
MT-4*	42	Rape happens when a man's sex drive gets out of control.
SA-7	43	A woman who goes to the home or apartment of a man on the first date is implying that she wants to have sex.
WI-3	44	Many women actually enjoy sex after the guy uses a little force.
NR-4	45	If a woman claims to have been raped but has no bruises or scrapes, she probably shouldn't be taken too seriously.

Note: * Indicates IRMA-SF (short-form) items; item label prefix refers to the subscale corresponding to the item: SA, *She asked for it;* NR, *It wasn't really rape;* MT, *He didn't mean to;* WI, *She wanted it;* LI, *She lied;* TE, *Rape is a trivial event;* DE, *Rape is a deviant event;* FI, filler item (not scored).