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Full title: A review of evidence on the link between masculinity, loneliness, and suicide as observed in social media discussions.

Short Running Title: Male loneliness and suicide

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Abstract
This review explores qualitative studies that examined the relationship between loneliness and suicide among young men (18-25 years) as it is discussed on social media. In the 8 papers we identified, analyses validated the relationship between loneliness and suicide in social media discourses. The findings also show that attitudes towards masculinity and mental health prevent some men from discussing mental health issues, which increases loneliness; other men had opportunities to share their experiences openly, breaking preconceived gender rules. Thus, the conceptualizations of gender appeared to affect individuals' expression of their mental health online, with traditional masculine ideals seemingly restricting individuals from reaching out for support, increasing loneliness. Papers often discussed how gender norms negatively impacted the degree to which men felt their mental health issues and loneliness were ‘tellable’. However, there was emerging evidence that some online platforms permitted tellability of men’s mental health and loneliness issues. This review highlights the close relationship between loneliness and mental health, and how both are affected by all masculinities.

Keywords: hegemonic masculinity; loneliness; suicide; suicidal ideation; gender stereotypes; mental health
Meta-analytic evidence has shown that loneliness is linked to suicide ideation and behaviour (McClelland et al., 2020), with this relationship being strongest among young men (Ernst et al., 2021). Such findings counter gender-stereotypical “suicide myths” that lack of social connectedness has little to do with suicidality in men (Ernst et al.). Such quantitative analyses, using population samples like Ernst et al., are important, but what do qualitative studies tell us about this relationship. Given that gender is socially constructed, with clear stereotypes about how different genders should behave, it is likely that such stereotypes contribute to this stronger relationship among men. For example, stereotypes feed into ideals about how men and women should report on emotions; to some extent, that may make the relationship between loneliness and suicide stronger for men than women (Elchuk, McPhail & Olver, 2022; Vogel et al, 2014). In the current review, we explore qualitative research on the relationship between loneliness, suicide, and masculinity. We focus our review on how the relationships are discussed on social media, offering a novel and unique focus that informs our understanding through the voices of young men.

Suicide is often described as the silent killer, being a leading cause of death worldwide (World Health Organization, 2014) with approximately 800,000 people taking their own lives each year (World Health Organization, 2019). It is especially prevalent in the young adult population, being the second largest cause of death for those aged between 18 and 25 years (Ahuja et al., 2014; Aldrih., 2015; Heron., 2016). It is estimated that a young adult attempts to take their own life every one and a half hours (Drapeau & McIntosh, 2018);
suicide rates among young adults have also dramatically increasing over the last 20 years (Carlyle et al., 2018).

Suicide affects more men than women, with the suicide rate being 3 times higher than that of women in Australia (Australian Bureau of Statistics, 2018). That gender difference is globally representative meaning more men than woman die by suicide each year (World Health Organisation, 2014). Furthermore, it is those who identify as masculine (includes cisgender and transgender men) who are similarly disproportionately affected by suicide (Miranda-Mendizabal et al., 2019). Gender also intersects with minority status to predict death by suicide, with suicide causing the third most deaths among black men aged between 18-24 years in 2016 (Pathak, 2018).

Suicidal ideation and behaviour is consistently linked with loneliness in quantitative work (McClelland et al., 2020), and in qualitative content analysis of social media texts (Caryle et al., 2018; Cavazos-Rehg et al., 2017). Further, when using qualitative methods to explore how mental health is discussed on social media, Marcus et al., (2012) found that young adults with mental health issues reported a profound sense of loneliness due to a perceived lack of connection with others. In the same study, many young people reported online that they would hide their true feelings from others, including mental health professionals who were seen as having their own agenda and being unsupportive. Many young people hide how they feel because they are ashamed about the way others might react to their depression; many feel scared, furthering the sense of loneliness. Loneliness, then, is a salient topic in discussions of mental health and suicide online.

Loneliness is “social pain” that arises when there is an incongruence between a person's desired and actual social connection (Caccioppo & Patrick, 2008). At all life stages,
it is accompanied by negative emotional states, such as sadness and anger (Yang, Petersen, & Qualter, 2021), and involves cognitive appraisal that one’s social relationships are deficit either in quantity or quality (Badcock et al., 2022). The relationship between loneliness and suicide is stronger among men than women, suggesting that loneliness is a particular problem for young men (Barreto et al., 2021; Ernst et al., 2021). This has led to speculation that traditional masculine socialisation and gender self-concept play a critical role in this relationship (Ernst et al., 2021). Despite this, there is little attempt to examine whether that is the case.

**Rationale for the Current Study**

Focusing on studies that used social media connect analysis, the current review seeks to further understand why the relationship between loneliness and suicide is stronger among men compared to women. We explored findings from qualitative studies to determine how relationships between loneliness, suicide, and masculinity, are discussed on social media. This affords unique insights, given that a higher percentage of social media users are within the age-range of those disproportionately affected by poor mental health (Ahuja et al., 2014; Aldrich, 2015; Heron, 2016).

Due to the relative novelty of the use of social media conversations as data, we decided to conduct a narrative review. This type of review meant we gained insights into the complexities of how loneliness, suicide, and masculinity played out in conversations in a naturalistic setting. Such depth would not have been achieved by the mechanistic approaches of systematic reviews because they lack critical interpretation of research (Greenhalgh, Thorne, Malterud, 2018). Further, the wide exclusion of studies in systematic
reviews means that most reviews fail to understand atypical or minority experience of a phenomena (Greenhalgh, et al., 2018), and those views are important if available when exploring lived experiences.

Given previous work as noted above, our review is focused on ‘masculinity’ and how it might be discussed during, or impact, online conversations about loneliness and suicide.

Discussions surrounding mental health, loneliness, and suicide on social media may act as a counter-narrative to prevailing gender stereotypes, with social media offering spaces for discussion that counter traditional masculine socialisation and gender self-concept.

Exploring how conceptions of gender are challenged through social media allows for greater insights into gender-based narratives surrounding masculinity, loneliness, and mental health. Thus, the current review provides an exploratory overview of studies that examine the experiences of loneliness and suicidality through an exploration of discussions on social media; it includes exploration of the perspectives of all men or people who identify as masculine.

We do not believe that any of the ‘masculinity’ theories (hegemonic vs non-hegemonic masculinity, inclusive masculinity) can be used in isolation to understand the stronger relationship between loneliness and suicide among men compared to women. Hegemonic approaches fail to acknowledge the reconfiguration of masculinity through positive practices to dismantle the gender hierarchy (Demetriou, 2001; Pringle & Markula, 2005). Inclusive approaches take the privileged perspective of those men who can enact a full range of gendered behaviours without consequence (De Boise, 2015). Neither approach considers the perspective of the LGBTQ+ community identified in relation to those masculinities. Therefore, a social constructivist definition of masculinity, grounded in the
portrayals of masculinity on social media was adopted for this review. This definition acts as a mechanism of "best-fit" when discussing the nuanced social construct of masculinity and its relationship with loneliness, mental health, and suicidality. In essence, we wanted to synthesise and summarise the key findings, and obtain a more representative picture of men's feelings around loneliness and suicidality on social media.

**Methodology**

**Search Strategy**

In our narrative review, we adopted a rigorous approach to examine the evidence from previous studies about how young people discuss masculinity in relation to loneliness and suicide on social media. Ovid and Google Scholar were used to search the following databases for academic literature: MEDLINE, PsycARTICLES, PsycEXTRA,PsycINFO and PsycTESTS. The two search engines were chosen due to their functionality of suggesting similar articles to those searched, which facilitated a trail of related papers tailored to our research aims. For example, when we searched for ‘loneliness on social media’, other key terms that provided more on this same topic were suggested including ‘masculinity and loneliness’. This approach meant we could quickly compile a representative list of studies for review. In addition to compiling this list, we (1) searched the reference lists of those articles for additional relevant studies that may have been missed in the initial search, and (2) consulted experts in the field, who might be able to supplement the initial reference list with references of their own. This additional step reduced bias in the sample of reviewed papers.
The key words we used in our search were generated in relation to each of the key concepts of the study (powerlessness, disconnection, loneliness, social media, suicide, suicidal ideation, suicidality, adolescent, young adult, youth, masculinity, men’s health, male body image, hegemonic masculinity, and gender performance). Those keywords, in opposition to a systematic review, were not used in a prescriptive way and simply aided the formulation of the eligibility criteria of the studies reviewed.

**Eligibility Criteria**

The studies selected for inclusion in this review include participants between the ages of 18-25 years because that is the population of young adults most at risk of suicide (Center for Disease Control and Prevention Suicide Prevention, 2021). To examine how notions of masculinity helped explain the relationship between loneliness and suicide, included papers had to discuss loneliness, suicide, social media, and masculinity. The studies also had to be published since 2000 for inclusion in the review to ensure that the research represented contemporary directions within the field; we chose 2000 because that is the start of social media’s trending popularity (Spyer, 2017). Any papers that did not use social media posts or conversations as data were excluded from our list of papers to include in the review.

Initial screening identified 20 studies. Those were further reduced to 8 studies that used only qualitative methods in their analyses. Thus, eight papers are included in the current review.

**Data Analysis**

All 8 papers were read by the first author, FJ, for relevant details pertaining to the review. These details were then coded and extracted into a Microsoft Excel spreadsheet that was shared and reviewed by the research team. The coding scheme included the year
of publication, author, purpose of the study, sampling details (sampling strategy used, number of participants, participant characteristics), research design, data collection methods, data analysis, limitations, and general findings. Quality assessments of the included studies were conducted by FJ and LV who evaluated the strengths and limitations of the reviewed studies. Synthesis of findings across the studies was conducted by FJ and PQ. This enabled us to formulate a narrative, providing a nuance picture of how masculinity, loneliness, mental health, and suicide are discussed on social media.

**Results and Discussion**

The eight papers in the final review are as follows: 1. Schlchthort et al. (2018), 2. Schlchthort et al. (2019), 3. Ali & Gibson (2019), 4. Yeo (2021), 5. Clarke & Van Amerom (2008), 6. Mason et al. (2021), 7. Francis (2019), and 8. Caruso & Roberts (2018). Three themes were highlighted consistently across those studies, representing the lived experiences of masculine identifying young adults facing loneliness and suicidality: (1) links between masculinity, loneliness, and suicide in social media content; (2) positive presentations of masculinity and suicide on social media; and (3) further intersectionality in understanding masculinity, loneliness, and suicide.

**Theme 1: Links between masculinity, loneliness, and suicide in social media content**

The studies showed that loneliness and suicide are intrinsically linked in conversation among young people on social media, with notions of masculinity also evident in those conversations. First, Schlchthort et al. (2018, 2019) found masculinity impacted users' self-expression on-line on Twitter (2018) and Facebook (2019). This was typified by other
social media users encouraging men to open up and express their emotions. Female
commenters responded to issues of boys suppressing their emotions, whilst male
commenters often presented lived experiences of mental health issues. Despite this, there
was clearly some stigma present, with some commenters rejecting the idea of teaching
boys and men to cry, suggesting that it was natural for men not to express emotions,
suggesting that traditional masculine norms are prevalent on-line, and impact on-line
behaviour.
In both studies, Schlchthort et al found that, in general, discussions about traditional
masculine roles and expectations led to discussions about how best to support and help
men in need. Decisions surrounding how to help and support those who report loneliness,
but identify with masculine ideals, led to discussions on the impact of masculinity and
gender/roles more generally. These discussions related to masculinity and the social norms
by which men are expected to live their lives. Comments described and acknowledged the
pressures that men experience, including the pressures of raising boys, male identity crisis,
and feelings of frustration and isolation. Some commenters voiced their preference for
traditional gender roles, rejecting the idea of diversity in male response. These authors
connect the narrative of perceived isolation and lack of social support, key components of
loneliness, to user’s accounts of masculinity and suicide.
Another shared theme across Schlchthort et al.’s work was the presence of personal stories
on Twitter and Facebook, where men discussed their own journeys with mental health
issues or reflected on what happened to someone they knew. This produced several self-
reflective accounts of what it is to be a man struggling with mental health issues, and
highlighted the experiences of loneliness among men with mental health issues. Many of
the accounts involved men expressing their own journeys with mental health issues or reflecting on what happened to someone they knew— "I’ve lost 3 mates to suicide. Wish I noticed what they were going through. Don’t #Manup, seek help cuz there’re many out there #ABCManUp.”.

Themes consistent with those identified by Schlchterthor et al (2018, 2019) were reflected in Ali and Gibson’s (2019) thematic analysis of young people’s reasons for feeling suicidal. One major theme drawn out by Ali and Gibson’s analysis was that of experiencing loneliness and being socially disconnected. This theme reflected participants’ perceived isolation from peers and their family, with loneliness often being described as a permanent state that was linked to temporal expressions of suicide through self-harm and self-injurious behaviour. Another theme highlighted by Ali and Gibson (2019) was the experience of stigma linked to non-conforming masculine identities, and the impact of gender norms ascribed to the traditional male stereotype on experiences of loneliness and suicidality. These further cement the link between masculinity and how experiencing mental health problems can lead to heightened experiences of loneliness. Such work suggests that traditional masculine stereotypes that one should not talk openly about emotions or express the need for help, creates a sense of loneliness that increases the risk of suicide.

Ali and Gibson’s themes of helplessness and powerlessness provide further evidence that gendered norms can explain how masculinity is linked to loneliness and suicide. The theme of worthlessness was typified by participants’ depression, self-hatred related to their body, and their physical gender. This idea begins to explore the relation between those who
identify as masculine despite not being biologically male, and how masculinity impacts their mental health differently.

Work on ‘tellability’ on social media by Yeo (2021) shows that the risk of rejection that young people, especially young men, feel when discussing mental health, well-being, and loneliness causes many to engage in positive facework, a form of emotional labor whereby individuals project a positive exterior – they put on a brave face – given that their culture stigmatised mental ill-health and loneliness, particularly among men. Some young people who disclosed their loneliness and suicidality on-line found their anxieties confirmed.

Many participants in Yeo’s study said their posts had been met with unsympathetic responses, causing many to isolate themselves from others, ultimately leading to feelings of loneliness, and worsening mental health.

In all the work discussed above, we see that the traditional notion of masculinity means that those who identify as male and have mental health issues suffer from loneliness because they are not expected to seek help and support. That sense of isolation that comes from traditional views of masculinity may push men with mental health issues to suicide. Clarke and Van Amerom (2008) and Yeo (2021) provide more evidence for why masculinity, loneliness, and suicide are linked, but they highlight another reason that may work independently from the impact of traditional masculinity. First, Clarke and Van Amerom (2008) note that men in their study were not sceptical of the medicalised model of depression, which led them to readily blame their biology for their poor mental health. Placing blame on their biology made many of those men feel that there was nothing personal they could do to improve their mood, reflecting the theme of powerlessness that is echoed in other studies noted in this review. This acceptance of the biomedical view means
that, compared to women, men used fewer alternative or complementary therapies that rely heavily on being open, sharing, and talking about their feelings. Second, men often linked their depression to world events more than they did interpersonal relations. Men did not discuss how family, romantic, and platonic relationships, and lack of those, impacted their depression. Unlike women, men focused on how external circumstances caused their low mood, highlighting perceived isolation as important. This lack of perceived connection to others was explained as being other people’s fault and goes some way in understanding the consistent link between loneliness and suicidality. For men, it was this lack of control in relation to their loneliness that contributed to their thoughts of suicide; they saw no other way to change the current situation because it was outside of their control.

Yeo’s (2021) study showed that to increase ‘tellability’ of their mental and social health issues many men felt the need to clarify the credibility of their issues. For example, participants would often position themselves as helpless, powerless, passengers of their mental health issue or their perceived isolation, to gain support; they used the belief that differences in biology explained their mental illness or social difficulties to promote themselves as ineffective victims unable to change things. By heightening the credibility of their issues, participants attempted to absolve themselves of any blame. This emphasis on feelings of helplessness and powerlessness, while helping men avoid being seen as ‘unmanly’, may still have the effect of increasing suicidal risk, because individuals are not able to present their ‘true, authentic selves’, and that promotes perceived isolation.

The evidence above suggests two things. First, hegemonic masculinity and its focus on strength and unemotionality impacts may influence the mental health of men. Hegemonic masculinity means many men avoid the sharing of mental health problems, which
contributes to feelings of loneliness and leads to less help-seeking behaviour to appear ‘manly’ but puts men at risk of suicide. Second, because men are more likely to blame mental and social health issues on biology, and, thus, see them as uncontrollable, they are less likely to seek help when lonely, promoting suicide as a legitimate way of taking control. Given that evidence, the stronger relationship between loneliness and suicide for men compared to women may come from notions of hegemonic masculinity that still prevail, and men’s focus on mental and social health issues as biologically driven and, therefore, not tractable. These findings have implications for future research and support for youth identifying as masculine.

**Theme 2: Positive presentations of masculinity and suicide on social media**

Yeo (2021) showed that there are on-line testimonies from men who are survivors of suicide. Some men said that disclosing mental health issues on social media gave them confidence to open up, even in the face of traditional gendered stereotypes. Testimonies often took the form of recounting their voyage to wellness, with the majority reflecting a path out of distress through relief rather than restitution. Further, on Reddit (Mason et al.’s, 2021) and Twitter (Francis, 2019) men publicly shared details of their mental health conditions, including specific diagnoses, medications, and treatment plans (Francis, 2019) and reasons for not committing suicide (Mason et al, 2021). Both studies showed that men implicitly acknowledged the multiple ways they could disclose their mental health conditions and the options available to those who needed help, including exercise, talking therapy, and pharmaceutical therapy. In Mason et al., (2021) men often talked about something small that “snapped them out of it”, something ‘small’ that stopped
them from committing suicide. Thus, men shared progressive discussions surrounding suicide on social media, suggesting a move towards more inclusive masculinity.

The idea of tellability highlighted by Yeo (2021) was also noted by Caruso and Roberts (2017) who demonstrated that there were platforms on social media that afforded men spaces to discuss their mental health. The study found that many of the posts on the Body Positivity for Guys (BPfG) were constructed in opposition to the orthodox characteristics of hegemonic masculinity and represented a more inclusive style of masculinity. Many of the users regularly shared personal experiences of body image struggles that were met with emotional homosocial support from other male users leading to the formation of more attenuated masculinities. This response is echoed in other studies we have reviewed, perhaps suggesting that, when men are given “permission” to act in non-gendered ways and the tellability of the issues is increased, more inclusive, discursive, and attenuated masculinities are formed. Moreover, findings suggested that these inclusive attitudes extended towards gay men, trans-masculine men, and men of colour as well as contesting misogynistic attitudes. This was (1) highlighted in the prevalent use of “feminised” language in posts, such as “cute” and “pretty”, even by hetero-sexual users, and (2) by the way in which users discussed their issues in a way that did not align with the competing victims narrative that is often how men’s mental health is discussed (Yeo, 2021).

**Theme 3: Intersectionality in understanding masculinity, loneliness, and suicide**

Whilst this theme comes from only one study from our review, we have kept this as a separate theme given how important race and culture are to the concepts under investigation. Francis (2019) looked specifically at the conversations of black male twitter users, whose conversations acknowledged the impact of racial identity, culture, and
society on mental health and suicidality. Users mentioned some cultural and social factors affecting black men and their mental health including difficulties discussing mental health issues with family due to ideals surrounding masculinity and religion. Some men used the conversations to address how mental health is perceived as an issue that does not affect black communities, causing struggles when disclosing to family. Other users reflected that the belief within the religious black community that prayer can cure mental health problems encumbered some in seeking support due to the negative implications of the prayer-only approach. Additionally, users discussed how issues of masculinity prevented black men from being vulnerable. Given those findings, exploration of the intersections of race and gender in relation to mental health, loneliness, and suicide is warranted.

Conclusions
Our review explored studies that used communications on social media as data to investigate links around loneliness, suicide, and masculinity among youth ages 18-25 years. The review shows that there are consistent evidence that loneliness is an important feature of social media conversations surrounding suicide, supporting the quantitative literature that loneliness is linked significantly to mental health and suicidality; those conversations appear to be impacted by gender norms surrounding mental health and social problems.

To enable a more nuanced understanding of how loneliness and suicide are discussed on social media, our review focussed specifically on masculinity. The findings from this aspect of the review echoed much of what was present in the general literature, but furthered our appreciation of the impact that loneliness has on mental health of all masculinities. A consistent finding was that men were less likely to discuss mental health
issues than women online, suggesting that there may still be a form of stigma surrounding masculinity and mental health. Indeed, reports from numerous studies showed men raising issues of masculinity as a barrier preventing them from discussing suicide or loneliness on social media.

However, this was not always the case. Evidence from our review implies that there are social media platforms that encourage those who identify with masculine ideals to discuss their mental health in a safe space. This may indicate that, whilst there is a growing zeitgeist towards improved stigma towards masculinity and mental health, many men continue to feel that they are unable to break gender norms and discuss loneliness and suicide openly.

The narrative review summarises findings from studies that used social media conversations as data. Such data collection methods are not used often because conversations are limited as data. For example, collection and verification of demographic data are difficult, making exploration of the interconnection between age, culture, and race challenging. Further, there is a sense that people are more willing and justified to lie when communicating via e-mail or on-line than via pen and paper (Sharma et al., 2020), and they share lies more often than truths on-line (Serra-Garcia & Gneezy, 2021). Despite such limitations of social media as data, the evidence noted here provides important information about experiences that also hold true away from social media.

Ultimately, this review contributes valuable insights for future directions in this field. Indeed, these findings have implications for preventative mental health interventions for young adults who identify with masculinity. Our findings fit with what is observed off-line, making social media potential spaces for mental health and loneliness interventions.
Our review also has implications for future research. Conversations in the papers highlighted by our review emphasise how the experience of loneliness is idiosyncratic. To validate our findings, further research is advisable, including wider samples, other mental health issues, and social media platforms. Our review also suggests that future research should be conducted with a greater diversity of young adults who have differing levels of mental health. This will allow a broader range of insights into experiences of mental health and may benefit preventative interventions. Furthermore, our review demonstrates the utility of using a broader range of social media platforms such as Instagram. Using those platforms alongside blog pages may make the study of mental health through social media more representative. To conclude, it is crucial to identify the potential risk factors underlying loneliness and suicidality, even more so now we are faced with a global mental health pandemic. Exploring social media conversations may enable us to identify more socially constructed risk factors, as is suggested by the papers in our review. Such information could inform the design of preventative interventions and consequently reduce the number of young people lost to suicide.

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**Data Sharing Declaration:**

Not applicable because this is a review article.

**Declaration of interests**

☒ The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

☐ The authors declare the following financial interests/personal relationships which may be considered as potential competing interests: