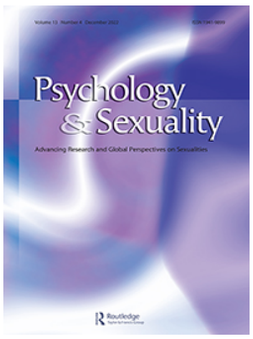

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REVIEW

Social Anxiety Among Sexual Minority Individuals: A Systematic Review

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ABSTRACT

Social anxiety is a prominent psychological concern within sexual minority populations. We systematically reviewed the related empirical literature in order to 1) describe the characteristics of studies assessing social anxiety among sexual minority individuals; 2) compare social anxiety levels across sexual orientation subgroups; 3) synthesise bivariate and multivariate associations related to social anxiety, and collate qualitative findings pertaining to social anxiety, among sexual minority populations; 4) identify psychological interventions that have been empirically tested to reduce social anxiety symptoms in sexual minority individuals. A search strategy was implemented across six databases, and 61 papers representing 46 unique studies were identified for inclusion. The vast majority of studies were cross-sectional, based in the USA, and more focused on sexual minority men than women. No included studies were qualitative in nature. Across studies, sexual minority individuals consistently appear at a higher risk for social anxiety symptoms than heterosexuals. Subgroup analyses within sexual minority subgroups are scarce; however, tentative evidence suggests that bisexual individuals are at greater risk for high social anxiety symptoms than gay/lesbian individuals. Minority stress processes, general social processes (e.g. social support), other internalising mental health symptoms, among other variables hold significant associations with social anxiety across the included studies. Empirical studies testing the efficacy of psychological interventions in this area are markedly lacking. Future studies should employ more diverse methodologies (i.e. experimental, longitudinal, and qualitative) to further elucidate the determinants and experience of social anxiety among sexual minority individuals and interventions to address them.

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Sexual minorities; lesbian/gay/bisexual; anxiety; mental health; systematic review

Introduction

Social anxiety disorder (SAD) is distinguished by a profound fear and/or avoidance of interpersonal and social evaluative situations in which an individual is subjected to possible scrutiny from others (American Psychiatric Association, 2013). These fears typically concern being negatively evaluated due to one's behaviour or from demonstrating anxiety symptoms (e.g. a quivering voice or blushing). Individuals diagnosed with SAD characteristically fear social interaction (e.g. engaging in small talk) and performance situations (e.g. delivering a presentation at work) and either actively

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avoid such situations or endure them with intense distress. SAD is associated with severe impairments across numerous domains in everyday life, namely, occupational, educational, and social (Aderka et al., 2012; Kessler, 2003). Moreover, SAD follows a chronic course if left untreated (Steinert et al., 2013).

With yearly and lifetime prevalence rates of 7.1% and 12.1% respectively, SAD represents a common psychological burden in the general population (Kessler et al., 2005). Within social anxiety research, there has been relatively little attention given to sexual orientation as demonstrated by Johnson and Anderson's (2016) finding that participants' sexual orientation is commonly overlooked in social anxiety treatment studies. Sexual orientation is primarily depicted as operating across three dimensions: identity, attraction, and behaviour (Laumann et al., 1994). Sexual minority individuals are represented by those who identify with a label other than heterosexual to describe their sexual orientation (e.g. lesbian, gay, bisexual, or queer), who experience same-gender or multiple-gender sexual attraction, or who have had same-gender sexual partners (Blondeel et al., 2018; Brennan et al., 2017). The first effort to systematically review the association between sexual orientation and SAD confirmed that sexual minority individuals are at an increased risk for SAD when compared to heterosexuals, particularly those who identify as bisexual (Campo-Arias et al., 2017). However, Campo-Arias et al. (2017) omitted data in studies that assessed more than one dimension of sexual orientation. For example, only Bostwick et al.'s (2010) social anxiety data across sexual identity subgroups (i.e. heterosexual, gay/lesbian, bisexual, and not sure/questioning) was included, despite the fact that social anxiety was also assessed across sexual attraction (i.e. only same-gender, mostly same-gender, equally females and males, mostly opposite-gender, and only opposite-gender) and sexual behaviour (i.e. only same-gender, both females and males, only opposite-gender, and never had sex) subgroups. Including social anxiety data across all sexual orientation dimensions, and stratifying results by sexual orientation subgroups, including identity, behaviour, and attraction may be more efficacious in representing the diverse experiences of individuals across the spectrum of sexual orientation in its entirety (Akibar et al., 2019).

The proportion of sexual minority participants in population-based prevalence studies is often very small. For instance, just 1.4% of participants in Bostwick et al.'s (2010) study indicated lesbian, gay, or bisexual identities. As a result, our knowledge of potential SAD disparities across sexual orientation subgroups (i.e. sexual identity, behaviour, and attraction subgroups) are based on small sub-samples of sexual minority individuals, which also makes explicating potential variability within sexual minority subgroups difficult (Meyer & Wilson, 2009). Therefore, it may prove advantageous to consult findings from studies using non-probability samples that have a larger proportion of sexual minority participants, given that they specifically recruit sexual minority individuals. In fact, non-probability studies seem to indicate a similar trend to population-based studies, in that sexual minority individuals report higher social anxiety symptoms than heterosexuals (e.g. Cohen, Blasey, et al., 2016), and bisexual individuals report higher social anxiety symptoms than their gay/lesbian counterparts (Wadsworth & Hayes-Skelton, 2015).

There has been no previous effort to collate data pertaining to both SAD prevalence and social anxiety symptoms (e.g. fear of negative evaluation) while stratifying sexual orientation subgroups by identity, behaviour, and attraction. This is especially pertinent given the evidence that high sub-clinical threshold social anxiety symptoms can also impair everyday functioning (Dell'Osso et al., 2003; Fehm et al., 2008). Undertaking this multidimensional approach acknowledges the potentially distinct experiences of sexual orientation subgroups across the sexual orientation spectrum (Akibar et al., 2019), and may guide a more focal search for determinants of any disparities in social anxiety across sexual orientation subgroups.

Theoretical standpoints based on sexual minority mental health and contemporary cognitive behavioural research offer reasons as to why social anxiety symptoms and SAD are elevated among sexual minority individuals. Preceded by Brooks's (1981) work on minority stress, Meyer's (2003) minority stress theory proposes that sexual minority individuals experience additional and unique stressors more than heterosexuals due to their sexual minority status (i.e. heterosexist discrimination,

internalised homonegativity, rejection sensitivity, and sexual identity concealment). Hatzenbuehler (2009) extended this theory and postulated that minority stress processes may negatively influence general psychological processes (i.e. cognitive, affective, and social), which in turn may lead to elevated mental health difficulties, including SAD, in sexual minority individuals. Indeed, recent research has highlighted that minority stress processes are salient determinants of social anxiety within this population (e.g. Feinstein et al., 2012; Mason & Lewis, 2016). Wong and Rapee (2016) highlight the important role of social processes (e.g. parent and peer relationships) as aetiological factors for high social anxiety symptoms. In fact, sexual minority individuals report more parental rejection (Balsam et al., 2005) and negative peer experiences (Friedman et al., 2011) than heterosexuals. These stigma-related social stressors may set the stage for sexual minority individual's anxious interpretation of the social world. Thus far, there has been no effort to collate quantitative evidence concerning the determinants and outcomes of social anxiety among sexual minority individuals, or to synthesise findings of qualitative studies in the area. As qualitative research has uncovered the lived experience of minority stress among sexual minority individuals (e.g. Bjorkman & Malterud, 2012; Holloway et al., 2015), synthesising qualitative evidence pertaining to social anxiety could also prove beneficial in elucidating richer aspects of this phenomenon.

Research evidence highlights effective psychological interventions for SAD in the general population, such as cognitive behavioural therapy (CBT; for meta-analysis see Mayo-Wilson et al., 2014). In addition, there has been recent progress in developing efficacious psychological interventions to reduce mental health difficulties among sexual minority populations (e.g. Pachankis et al., 2015; Pachankis, McConocha, et al., 2020). Despite high prevalence of social anxiety in sexual minority individuals (e.g. Kerridge et al., 2017), there have been no prior attempts to combine research evidence related to the efficacy of existing psychological interventions designed to address SAD in this population. Combining such findings would prove valuable in suggesting appropriate psychological interventions to test in potential future large-scale randomised controlled trials focused on sexual minority populations.

With an increasing body of research relevant to social anxiety among sexual minority individuals, synthesising this research evidence is important to gain a greater understanding of their lived experience of social anxiety, and help guide the search for determinants of social anxiety symptoms, and more effective population tailored treatments to address them. In order to build a thorough profile of the current research evidence, we aim to systematically review empirical research pertaining to social anxiety among sexual minority individuals.

The objectives were fourfold:

(1) Describe the characteristics of existing studies in the area, including sample characteristics and social anxiety measures used.
(2) Compare social anxiety levels across sexual orientation subgroups (i.e. stratified by dimension of sexual orientation assessed – identity, behaviour, and attraction, and nature of social anxiety assessment – SAD prevalence and social anxiety symptoms).
(3) Synthesise the range of quantitative associations involving social anxiety in the published literature, and collate qualitative evidence pertaining to social anxiety among sexual minority individuals.
(4) Identify psychological interventions that have been empirically tested to target social anxiety in sexual minority individuals.

Method

The Preferred Reporting Items for Systematic Reviews and Meta-analyses (PRISMA) guided the development of this systematic review (Moher et al., 2010).

Search Strategy

A search was carried out across six electronic databases (i.e. PsycINFO, Pubmed, Web of Science [Social Science Citation Index], CINAHL, Scopus, and Embase) to identify studies related to social anxiety in sexual minority individuals. As no publishing date limiters were used, the search included the earliest relevant papers up to the date the searches were run (i.e. 16 August 2019). The search strategy contained sexual minority search terms informed by a recent systematic review on sexual minority search terminology used in health research (J. G. L. Lee et al., 2016). Social anxiety search terms were developed through consulting a number of existing systematic reviews focusing on social anxiety (e.g. Heeren et al., 2015; Kashdan, 2007). The search strategy for PsycINFO is illustrated in Appendix A. A manual search of reference lists was conducted for all studies deemed eligible for inclusion to identify other studies that may not have been retrieved by the electronic database search.

Inclusion and Exclusion Criteria

Studies included in this systematic review: (1) were published in peer-reviewed journals; (2) were published in the English language; (3) were empirically based, containing original data and analysis (review papers were excluded); (4) included samples containing sexual minority participants; (5) reported social anxiety data pertaining to sexual minority populations separately (i.e. sexual minority data is not combined with non-sexual minority data or social anxiety data is not combined with other mental health data); (6a) provided statistical information pertaining to: (i) the prevalence of SAD in sexual minority subgroups, or (ii) social anxiety symptoms (e.g. fear of negative evaluation and social interaction anxiety) among sexual orientation subgroups, or (iii) bivariate or multivariate associations between social anxiety and other variables among sexual minority individuals, or (iv) the efficacy of psychological interventions targeting social anxiety among sexual minority individuals; or (6b) included a qualitative analysis focused on social anxiety among sexual minority individuals. All types of research designs were considered across quantitative, qualitative, and mixed method paradigms, and no exclusion criteria were applied with regard to geography or time of publication.

Data Extraction

Two authors (CM and RLV) independently screened titles and abstracts of papers. Next, both authors independently read and assessed the full texts of remaining papers according to the predetermined inclusion criteria. The authors then compared evaluations and resolved any discrepancies by consensus, and, if unresolved, other authors (PG and GK) were consulted and an agreement was reached through further discussion. The relevant data from each included study was extracted in line with the review objectives. This included study characteristics such as author(s), year of publication, location, study aim(s), sample size, sample composition (i.e. gender, sexual orientation, and ethnicity), and age (i.e. range, mean, and standard deviation when reported). Data pertaining to social anxiety (i.e. SAD prevalence or social anxiety symptoms) were also extracted. We also extracted bivariate and multivariate associations between social anxiety and other variables detailed in included studies. Lastly, we extracted data pertaining to the efficacy of psychological interventions addressing social anxiety (e.g. pre-test and post-test scores).

Quality Appraisal

All included papers were appraised for their quality using the Crowe Critical Appraisal Tool (CCAT), version 1.4 (Crowe, 2013). We chose the CCAT as the tool is designed to appraise the quality of diverse research designs (i.e. quantitative, qualitative, and mixed methods). The CCAT is comprised of eight different categories (e.g. data collection, results, and ethical matters) containing 22 items.

Each item is signified to be either 'Present', 'Absent', or 'Not Applicable'. Each category is then scored on a 6-point Likert-type scale (i.e. 0–5) and category scores are summed to produce a total score (range from 0 to 40). These scores are then converted to percentages. Assisted by the user guide, designed to sustain reliability, two reviewers (CM and RLV) independently critically appraised each article. The authors discussed any discrepancies in scores to reach an agreement.

Data Synthesis

In order to fulfil the second objective to compare social anxiety levels across sexual orientation subgroups, we stratified all data according to the dimension of sexual orientation assessed (i.e. identity, behaviour, and attraction) and nature of social anxiety assessment (i.e. SAD prevalence [12-

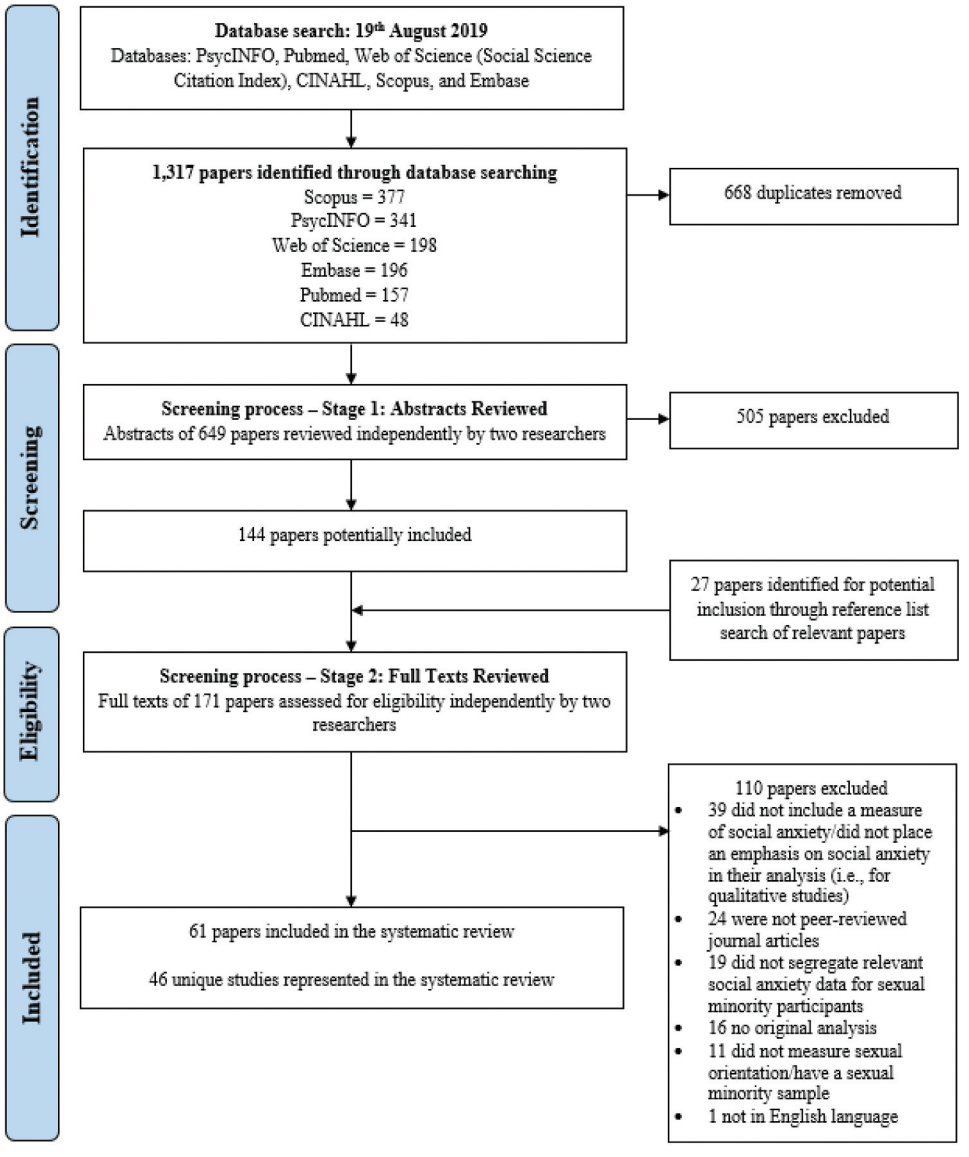

Figure 1. PRISMA flow diagram of article selection.

month/current and lifetime] and social anxiety symptoms). To achieve the third objective of synthesising the range of quantitative associations with social anxiety, all quantitative associations tested across included studies with social anxiety were thematically grouped (e.g. all associations related to rejection sensitivity, sexual identity concealment, and internalised homonegativity were grouped under a sexual minority stress processes theme). Relevant findings emerging from qualitative studies would have also been grouped in the same manner; however, all included studies used quantitative methods.

Results

Selection

Figure 1 illustrates the selection process. The initial searches of electronic databases yielded 1,317 papers, 668 of which were duplicates. The abstracts of the 649 unique papers were reviewed, and 505 papers were excluded at this stage. The full texts of the remaining 144 papers were reviewed, and 54 papers were deemed eligible for inclusion. Twenty-seven papers not retrieved by the electronic database search were identified for potential inclusion through manually searching the reference lists of the 54 papers, and seven of these were deemed eligible for inclusion. Overall, the full texts of the 171 papers were reviewed, and 110 papers were excluded as they did not fulfil the inclusion criteria (reasons for exclusion are outlined in Figure 1). In total, 61 papers detailing 46 unique studies were deemed eligible for inclusion in the systematic review (see Table 1).

Study Characteristics

The main characteristics of the 46 included studies and their respective quality appraisal scores are described in Table 1. In total, 12,407 sexual minority participants are represented in the included studies. Half (k = 23, 50%) of the included studies focused solely on men, 20 (43.5%) had samples consisting of both men and women, while just three (6.5%) focused solely on women. Seventeen studies (37%) included samples partially comprised of non-sexual minority individuals (i.e. heterosexual comparison groups), while the remaining 29 studies (63%) used samples consisting of solely sexual minority individuals. Forty-one studies (89.1%) reported a sample mean age; seventeen of these (41.5%) had a mean age less than 30, 15 (36.6%) between the ages 30 and 39, and nine (21.9%) had a mean age above 40. Thirty out of 37 studies (81.1%) that reported ethnicity/race had a majority of White participants, and in 26 of these studies (70.3%) the proportion of White participants was ≥70%. The studies were published over a 35-year period from 1984 to 2019. Twenty-seven (58.7%) of the included studies were published from 2010 onwards, 17 (37%) in the years 2000–2009, and just two (4.3%) prior to the 21st century. Thirty-six studies were based in the USA (78.3%), three in Canada, two in Italy and the Netherlands respectively, and one each in Switzerland, Israel, and the Philippines.

In terms of the methodology of the included studies, one used an experimental research design (Jacobson et al., 2016), another used a retrospective evaluation design (Reisner et al., 2011), two studies used a longitudinal design (Kurdek, 1996; Pachankis, Sullivan, Feinstein, & Newcomb, 2018; Pachankis, Sullivan, & Moore, 2018), two utilised a case study/case series design (Hart et al., 2014; Walsh & Hope, 2010), while all the remaining studies reported a cross-sectional design. There were no eligible studies using qualitative analyses. In total, 18 different measures were used to assess social anxiety, all of which are detailed in Table 1; the most frequently used measures include the Social Interaction Anxiety Scale (k = 10), the Brief Fear of Negative Evaluation scale (k = 10), the Liebowitz Social Anxiety Scale (k = 7), various versions of the Composite International Diagnostic Interview (k = 5), and the Social Phobia Scale (k = 4).

Table 1. Characteristics of Included Studies.

Study ID	Author(s); Location	Aim(s)	Recruitment and Sample Characteristics	Social Anxiety Measure(s); CCAT Score
1	Akibar et al. (2019); USA.	Examine the extent to which social anxiety differed by dimensions of sexual identity, attraction, romantic, and sexual history.	N = 1,133 emerging adults recruited through a participant pool system (i.e. to earn course credit), as well as from other university courses; age: 18–29 (20.24 ± 1.80); cisgender women (n = 873), cisgender men (n = 253), transgender men (n = 6), transgender women (n = 1); gay/lesbian (n = 50), bisexual (n = 83), pansexual (n = 23), asexual (n = 9), questioning/unsure (n = 22), heterosexual (n = 947); 46.8% White.	• Social Interaction Anxiety Scale (Mattick & Clarke, 1998) • Social Phobia Scale (Mattick & Clarke, 1998) • 73%
2	Baiocco et al. (2014); Italy.	Investigate differences between heterosexual and lesbian/gay young adults regarding best friendship patterns, wellbeing, and social anxiety.	N = 1,100 young adults recruited from LGBT organisations, a sporting organisation, and student societies; age: 18–26 (M_{women} = 21.36 ± 2.36; M_{men} = 21.48 ± 2.09); lesbian women (n = 169), heterosexual women (n = 504), gay men (n = 217), heterosexual men (n = 210).	• Social Anxiety subscale (Selfhout et al., 2009) of the revised version of the Screen for Child Anxiety-Related Emotional Disorders (Hale et al., 2005) • 63%
3	Balsam et al. (2015); USA.	Explore ethnic/racial differences in trauma exposure, sexual identity, mental health, and substance use in a non-probability national sample of young adult sexual minority women.	N = 967 young adult sexual minority women recruited through Facebook advertisements and Craigslist; age: 18–25 (20.90 ± 2.09); lesbian (n = 406), bisexual (n = 561); 75.5% White.	• Social Interaction Anxiety Scale • 75%
4	Batchelder et al. (2019); USA.	Test bivariate relationships between four clinical diagnoses (substance use disorder; major depressive disorder, posttraumatic stress disorder, and anxiety disorders) and their additive and interactive effects on three health indicators (i.e. high-risk sex, visiting the emergency room, and sexually transmitted infections) in HIV-negative MSM with trauma histories.	N = 290 HIV-negative MSM recruited through advertising and outreach to bars, clubs, cruising areas, and community venues in addition to social media and sexual networking apps; age: 18–67 (37.95 ± 11.68); 67.9% White.	• The Mini-International Neuropsychiatric Interview (Sheehan et al., 1998) • 88%
5	Blashill (2010); Blashill and Vander Wal (2009); USA.	Assess the relative uniqueness of components of male body image (i.e. muscle, body fat, and height dissatisfaction) in the prediction of indices of psychological distress (i.e. depression, eating restraint, eating concerns, and social anxiety) among gay men. Examine the role of negative affect and social anxiety in the relationship between gender role conflict and eating disorder symptomatology and body dissatisfaction.	N = 228 gay men recruited through online gay discussion and email lists; age: 18–75 (31.07 ± 12.66); 76.3% White.	• Brief Fear of Negative Evaluation Scale straightforwardly worded items (Leary, 1983) • 63%; 63%

(*Continued*)

Table 1. (Continued).

Study ID	Author(s); Location	Aim(s)	Recruitment and Sample Characteristics	Social Anxiety Measure(s); CCAT Score
5a	Blashill and Vander Wal (2010); USA.	Examine the mediational impact of gender role conflict on the relationship between social anxiety and depression.	N = 162 gay men recruited through online gay discussion and email groups; age: 18–75 (32.26 ± 13.01); 75.9% White.	• Brief Fear of Negative Evaluation Scale straightforwardly worded items • 60%
6	Bostwick et al. (2010); Hatzenbuehler et al. (2009); Hatzenbuehler et al. (2011); USA.	Examine the associations among 3 dimensions of sexual orientation (identity, attraction, and behaviour), lifetime and 12-month mood and anxiety disorders, and sex. Investigate the modifying effect of state-level policies on the association between lesbian, gay, or bisexual status and the prevalence of psychiatric disorders. Examine risk modifiers at the social/contextual level that may protect lesbian, gay, and bisexual individuals from the development of psychiatric disorders.	N = 34,653 adults recruited as part of a longitudinal population-based study; age: 20–24 (n = 2,183), 25–44 (n = 13,333), 45–64 (n = 11,960), ≥65 (n = 7,177); women (n = 20,089), men (n = 14,564); lesbian/gay (n = 335), bisexual (n = 242), questioning/not sure (n = 170), heterosexual (n = 33,598); 70.9% White.	• Alcohol Use Disorder and Associated Disabilities Interview Schedule-IV (Grant et al., 2001) • 75%; 85%; 73%
6a	J. H. Lee et al. (2015); USA.	Compare heterosexual and sexual minority men on the prevalence of diagnostic co-occurring psychiatric and drug use disorders among men with alcohol use disorder. Examine whether disparities in the prevalence of co-occurring disorders persist after adjustment for potential sociodemographic confounders.	N = 6,899 men with alcohol use disorder recruited as part of a longitudinal population-based study; age: 18–24 (n = 979), 25–44 (n = 3,039), 45–64 (n = 2,214), ≥65 (n = 667); sexual minority men (n = 176), heterosexual men (n = 6,732); 77.0% White.	• Alcohol Use Disorder and Associated Disabilities Interview Schedule-IV • 80%
6b	Mereish et al. (2015); USA.	Examine sexual orientation disparities in co-occurring psychiatric and drug use disorders between sexual minority women and heterosexual women with alcohol use disorders.	N = 4,342 women with alcohol use disorder recruited as part of a longitudinal population-based study; $age_{sexualminority}$: 18–24 (n = 33), 25–44 (n = 118), 45–64 (n = 36), ≥65 (n = 2); $age_{heterosexual}$: 18–24 (n = 576), 25–44 (n = 2,169), 45–64 (n = 1,175), ≥65 (n = 231); sexual minority (n = 191), heterosexual (n = 4,151); $race/ethnicity_{sexualminority}$ = 72.4% White; $race/ethnicity_{heterosexual}$ = 80.7% White.	• Alcohol Use Disorder and Associated Disabilities Interview Schedule-IV • 88%
7	Burns et al. (2012b, 2012a); USA.	Examine cognitions regarding perceived discriminatory events as moderators of the effect of these events on mental health, namely social anxiety. Examine relationships between gay men's attributions for discrimination and their satisfaction with social support.	N = 307 gay men recruited from listservs for LGB community, student and faculty groups, and snowball recruitment; age: 18–84 (31.6 ± 13.7); 75.6% White.	• Liebowitz Social Anxiety Scale (Liebowitz, 1987) • 90%; 83%

(*Continued*)

Table 1. (Continued).

Study ID	Author(s); Location	Aim(s)	Recruitment and Sample Characteristics	Social Anxiety Measure(s); CCAT Score
8	Cathey et al. (2014); USA.	Investigate whether perceived discrimination on the basis of ethnic group membership and/or sexual orientation predicts social anxiety and whether use of an avoidant coping method exacerbates social anxiety in response to discrimination.	$N = 439$ adults recruited through website advertisements, posts on email discussion lists, and snowball emailing; age: 18–82 (33.8 ± 11.6); women ($n = 302$), men ($n = 133$), transgender ($n = 4$); gay/lesbian ($n = 75$), bisexual ($n = 61$), heterosexual ($n = 303$); 75.3% White.	• Social Interaction Anxiety Scale • 55%
9	Cohen, Blasey, et al. (2016); USA.	Investigate the symptoms of generalised anxiety disorder, social anxiety disorder, panic disorder, posttraumatic stress disorder, and depression in sexual minority young adults relative to their heterosexual peers. Investigate sexual orientation concealment as a predictor of anxiety and related disorders.	$N = 314$ undergraduate students recruited from introductory psychology classes; age: 18.8 ± 1.10; sexual minority women ($n = 97$), heterosexual women ($n = 104$), sexual minority men ($n = 60$), heterosexual men ($n = 53$); gay ($n = 27$), lesbian ($n = 7$), bisexual ($n = 71$), queer ($n = 5$), questioning ($n = 47$), heterosexual ($n = 157$); 71.3% White.	• Social Phobia Diagnostic Questionnaire (Newman et al., 2003) • 73%
10	Cohen, Feinstein, et al. (2016); USA.	Examine the associations between rejection sensitivity and specific types of mood and anxiety disorder symptoms (depression, social anxiety, generalised anxiety, panic, and posttraumatic stress) among young gay and bisexual men and to examine the extent to which a latent transdiagnostic internalising factor mediated these associations.	$N = 101$ sexual minority men undergraduate students recruited from two universities; age: 21.41 ± 3.62; gay ($n = 76$), mostly gay ($n = 13$), bisexual ($n = 12$); 61.4% White.	• Social Phobia Diagnostic Questionnaire • 65%
11	Dyar et al. (2016); USA.	Develop a measure of sexual orientation rejection sensitivity for sexual minority women and to examine its preliminary reliability and validity.	$N = 300$ sexual minority women recruited from websites (e.g. Craigslist) as well as listservs and LGB Facebook groups; age 18–60 (26.8 ± 8.5); lesbians ($n = 113$), bisexual ($n = 106$), queer ($n = 69$), women identifying with other sexual identity labels ($n = 12$); 76.3% White.	• Brief Fear of Negative Evaluation Scale • 83%
12	Feinstein et al. (2012); USA.	Examine potential mechanisms through which experiences of discrimination influence depressive and social anxiety symptoms.	$N = 467$ sexual minority adults recruited through listservs and websites (e.g. Facebook, Craigslist) targeting LGB individuals; lesbian women ($n = 218$), gay men ($n = 249$); age: 18–72 (31.24 ± 11.67); 76.0% White.	• Brief Fear of Negative Evaluation Scale Revised version (Carleton et al., 2007) • 78%
13	Fletcher et al. (2018); USA.	Provide associations between current diagnostic mental health disorder and the severity of current substance use disorder among methamphetamine-using MSM.	$N = 285$ methamphetamine using MSM enrolled in a study designed to reduce methamphetamine use and sexual risk behaviours; age: 42.0 ± 11.0; gay ($n = 191$), other sexual identity ($n = 94$); 44% African American/Black, 25% Hispanic/Latino (% White not included).	• The Structured Clinical Interview for DSM-V (First et al., 2016) • 78%

(*Continued*)

Table 1. (Continued).

Study ID	Author(s); Location	Aim(s)	Recruitment and Sample Characteristics	Social Anxiety Measure(s); CCAT Score
14	Gilman et al. (2001); USA.	Examine the risk of psychiatric disorders among individuals with same-sex sexual partners.	N = 4,910 recruited as recruited as part of a population-based household survey; age: 15–54 (M_{WSW} = 32.7 ± 8.1; $M_{WSMonly}$ = 33.9 ± 9.9; M_{MSM} = 34.0 ± 8.5; $M_{MSWonly}$ = 33.5 ± 10.1); WSW (n = 51), WSM only (n = 2,475), MSM (n = 74), MSW only (n = 2,310); 77.0% White.	• Composite International Diagnostic Instrument DSM-III-R version (World Health Organization, 1990) • 68%
15	Hart, and Heimberg (2005); USA.	Examine whether the relationship between social anxiety and unprotected intercourse is mediated by decreased communication about condom use and lower social support.	N = 100 young sexual minority men recruited from LGB after school groups and LGB university societies; age: 16–21 (18.84 ± 1.49); gay (n = 86), bisexual (n = 14); 46% White.	• Social Interaction Anxiety Scale • Social Phobia Scale • 60%
16	Hart, James, et al. (2008); USA.	Examine associations between social anxiety and unprotected sexual transmission risk among HIV-positive men.	N = 206 HIV-positive men recruited from a large public HIV community clinic; age: 41.9 ± 6.6; MSM (n = 84), MSW (n = 52), abstinent (n = 70); 8% White.	• Liebowitz Social Anxiety Scale • Social Interaction Anxiety Scale • Social Phobia Scale • 60%
17	Hart et al. (2019); Canada.	Test the psychometric properties of the Gender Nonconformity Teasing Scale.	N = 298 equivalent numbers of HIV-positive and HIV-negative sexual minority men recruited through community venues, advertisements in print media, and from another research study; age interquartile range: 38.5–50 (Mdn = 44); gay (n = 271), bisexual (n = 27); 75.0% White.	• Social Interaction Anxiety Scale • Liebowitz Social Anxiety Scale • 80%
18	Hart et al. (2015); Canada.	Examine the psychometric properties of a measure of anxiety about being evaluated for one's overall appearance (i.e. Social Appearance Anxiety Scale) in a racially diverse sample of sexual minority men of colour.	N = 389 sexual minority men of colour recruited through sexual health services, community, health and social service agencies, hospital listservs, social media advertisements, and posters and flyers at bath houses, bars and clubs frequented by sexual minority men; age = 19–59 (33 ± 8.56); gay (n = 317), bisexual (n = 60, missing (n = 12); 0% White.	• Social Appearance Anxiety Scale (Hart, Flora, et al., 2008) • 83%
19	Hart et al. (2014); Canada.	Present a pilot of an integrated treatment designed for gay and bisexual men who report both social anxiety and risky sexual behaviour that addresses both problems concurrently.	N = 3 gay men recruited through gay venues and a gay newspaper; age: 26–40 (33.67 ± 7.09); 33.3% White.	• The Mini-International Neuropsychiatric Interview • Anxiety Disorders Interview Schedule-IV-Lifetime (Brown et al., 1994)- Social Phobia Section • Liebowitz Social Anxiety Scale • 73%

(*Continued*)

Table 1. (Continued).

Study ID	Author(s); Location	Aim(s)	Recruitment and Sample Characteristics	Social Anxiety Measure(s); CCAT Score
20	Jacobson et al. (2016); Israel.	Examine the independent and interactive effects of gender atypicality and sexual orientation on levels of state anxiety immediately following a stressful social interaction task.	N = 36 men recruited through advertisements in universities, an LGBT association, and social media sites; age_{gay}: 26.83 ± 3.63, $age_{heterosexual}$: 24.72 ± 1.40; gay (n = 18), heterosexual (n = 18).	• Liebowitz Social Anxiety Scale • 60%
21	Kerridge et al. (2017); Rodriguez-Seijas et al. (2019); USA.	Present current nationally representative data on the prevalence, sociodemographic correlates, and risk of DSM-5 substance use disorders and other psychiatric disorders among sexual minorities relative to heterosexuals, and among sexual minorities by gender. Explore how possessing both racial/ethnic *and* sexual minority statuses is related to the prevalence of common psychiatric and substance use disorders.	N = 36,309 adults recruited as part of a longitudinal population-based survey; age: 18–29 (n = 8,126), 30–44 (n = 10,135), 45–64 (n = 12,242), ≥65 (n = 5,806); lesbian women (n = 265), bisexual women (n = 422), questioning/not sure women (n = 130), heterosexual women (n = 19,454), gay men (n = 321), bisexual men (n = 144), questioning/not sure men (n = 69), heterosexual men (n = 15,190); 66.1% White.	• Alcohol Use Disorder and Associated Disabilities Interview Schedule-V (Grant et al., 2011) • 83%; 88%
22	Kurdek (1996); USA.	Examine factors related to the deterioration of relationship quality in lesbian and gay couples over a period of five years.	N = 212, 106 gay/lesbian couples recruited through gay/lesbian periodicals, newsletters, and personal contacts; mean age at year $1_{lesbian\ women}$: 40.17, mean age at year $1_{gay\ men}$: 41.68; lesbian women (n = 92), gay men (n = 120); 93% White.	• Social anxiety sub-scale of the Self-Consciousness Scale (Fenigstein et al., 1975) • 60%
23	Lingiardi et al. (2012); Italy.	Propose a new measure of internalised sexual stigma for lesbians and gay men that assesses three dimensions of internalised homonegativity: identity, social discomfort, and sexuality.	N = 366 sexual minority adults recruited through internet advertisements and LGBT associations; age: 25.83 ± 5.50; lesbian women (n = 186), gay men (n = 180).	• The Social Phobia Inventory (Connor et al., 2000) • 68%
24	Mason and Lewis (2016); USA and Puerto Rico.	Examine social anxiety and body shame as sequential mediators of the association between minority stress and binge eating among young adult lesbian women.	N = 496 lesbian women recruited through Facebook advertising, LGBT websites, and organisations; age: 18–30 (21.92 ± 2.85); 77.2% White.	• The State Social Anxiety Questionnaire (Kashdan & Steger, 2006) • 90%
24a	Mason et al. (2017); Mason and Lewis (2019); USA.	Develop a model in which discrimination and disordered eating were connected via mediators of social support, affect (i.e. general negative affect and social anxiety), and weight discrepancy. Examine behavioural and health related patterns among lesbian women and elucidate how these patterns are associated with general discrimination, sexual minority stress, affect, and social support.	N = 436 lesbian women recruited through Facebook advertising, LGBT websites, and organisations; age: 18–30 (21.97 ± 2.88); 77.3% White.	• The State Social Anxiety Questionnaire • 83%; 73%

(*Continued*)

Table 1. (Continued).

Study ID	Author(s); Location	Aim(s)	Recruitment and Sample Characteristics	Social Anxiety Measure(s); CCAT Score
25	Meidlinger and Hope (2014); USA.	Describe the development and initial validation of a new outness scale. Explore the associations of the subscales of a new outness scale to minority stress constructs and psychological outcomes.	$N = 149$ sexual minority individuals recruited through LGB-affiliated listservs; age: 19–66 (28.93 ± 11.07); cisgender women ($n = 73$), transgender women ($n = 1$), cisgender men ($n = 73$), transgender men ($n = 2$); lesbian women ($n = 44$), mostly lesbian women ($n = 12$), bisexual women ($n = 18$), gay men ($n = 58$), mostly gay men ($n = 11$), bisexual men ($n = 6$); 87.2% White.	• Brief Fear of Negative Evaluation Scale • 75%
26	Meyer et al. (2008); USA.	Assess the prevalence of psychiatric disorders in ethnically diverse gay, lesbian, and bisexual individuals.	$N = 388$ sexual minority adults recruited by direction solicitation by outreach workers in diverse venues and snowball referrals; age: 18–29 ($n = 172$), 30–44 ($n = 171$), 45–59 ($n = 45$); women ($n = 195$), men ($n = 193$); lesbian/gay ($n = 318$), bisexual ($n = 70$); 34.0% White.	• Composite International Diagnostic Instrument DSM-IV Version • 60%
27	Mimiaga et al. (2009); Reisner et al. (2009); USA.	Assess the psychosocial and behavioural predictors of partner notification use after exposure to HIV/STIs among MSM. Assess the presence of post-traumatic stress disorder symptoms in response to stressful or traumatic life events and their impact on HIV risk behaviours and associated psychosocial variables among MSM.	$N = 189$ MSM (57% HIV-positive) recruited through a sexual health clinic and respondent-driven sampling; age: 19–66 (41.48 ± 8.47); 34.0% White.	• The Social Phobia Inventory • 68%; 65%
28	O'Cleirigh et al. (2015); O'Cleirigh et al. (2013) USA.	Identify the prevalence of psychiatric symptoms and substance abuse in HIV-positive MSM and to estimate the proportion of those who had been diagnosed within their primary medical care setting. Evaluate whether specific anxiety disorders increased the likelihood of sexual transmission risk behaviour in younger versus older HIV-positive MSM.	$N = 503$ HIV-positive MSM recruited through a community healthcare centre; age: 41.9 ± 8.3; 75.1% White.	• The Mini-Social Phobia Inventory (Connor et al., 2001) • 63%; 78%

(*Continued*)

Table 1. (Continued).

Study ID	Author(s); Location	Aim(s)	Recruitment and Sample Characteristics	Social Anxiety Measure(s); CCAT Score
29	Pachankis and Goldfried (2006); USA.	Examine the occurrence and correlates of social anxiety symptomatology in gay and heterosexual men.	$N = 174$ undergraduate men recruited from undergraduate psychology class and LGB university organisations; age_{gay}: 18–24 (20.4 ± 1.3), $age_{heterosexual}$: 18–24 (20.1 ± 1.7); gay ($n = 87$), heterosexual ($n = 87$); 73.6% White.	• Social Interaction Anxiety Scale • Social Phobia Scale • Fear of Negative Evaluation Scale (Watson & Friend, 1969) • Inventory of Anxiousness (Endler et al., 1962) modified version • 78%
30	Pachankis et al. (2008); USA.	Extend the rejection sensitivity construct to the mental health concerns of gay men through developing the Gay-Related Rejection Sensitivity Scale.	$N = 149$ sexual minority men recruited from a primarily gay public park in New York City; age: 35.46 ± 10.15; gay ($n = 140$), bisexual but mostly gay ($n = 7$), queer ($n = 2$); 77.9% White.	• Brief Fear of Negative Evaluation Scale • 80%
31	Pachankis, Sullivan, Feinstein, & Newcomb (2018); USA.	Investigate longitudinal trajectories of stigma (i.e. enacted, anticipated, internalised, and concealed); stress-sensitive mental health disorder symptoms (i.e. depression and social anxiety); and their associations across eight annual assessments in young sexual minority men.	$N = 128$ sexual minority men university students recruited from large public and private universities; age at T1: 18–27 (20.72 ± 2.08); gay ($n = 104$), bisexual but mostly gay ($n = 17$), bisexual ($n = 1$), queer ($n = 6$); 71.9% White.	• The Social Interaction Anxiety Scale • 83%
31a	Pachankis, Sullivan & Moore (2018); USA.	Utilise a longitudinal design across 7 years of sexual minority men's young adulthood to examine prospective associations among parental reactions to their sexual minority son's sexual orientation, unfinished business, and mental health.	$N = 113$ sexual minority men university students recruited from large public and private universities; age at T1: 18–27 (20.78 ± 2.08); gay ($n = 92$), bisexual but mostly gay ($n = 15$), bisexual ($n = 1$), queer ($n = 5$); 70.8% White.	• The Social Interaction Anxiety Scale • 80%
32	Potoczniak et al. (2007); USA.	Examine a model in which the relationship between social anxiety and two dimensions of ego identity (commitment and exploration) was expected to be mediated by social support and self-concealment.	$N = 347$ sexual minority individuals recruited through advertisements on various listservs, discussion groups, and Internet-based newsgroups; age: 18–74 (29.92 ± 10.87); lesbian women ($n = 98$), bisexual women ($n = 51$), gay men ($n = 160$), bisexual men ($n = 38$); 92.0% White.	• Social anxiety sub-scale of the Self Consciousness Scale Revised (Scheier & Carver, 1985) • 85%
33	Puckett et al. (2015); USA.	Examine the role of self-criticism and lack of connectedness with other sexual minorities in explaining the relation between internalised homonegativity and psychological distress.	$N = 436$ sexual minority adults recruited online via emailed advertisements to LGB groups and community organisations; mean age: 39.00; women ($n = 260$), transgender women ($n = 8$), men ($n = 136$), transgender men ($n = 6$), genderqueer ($n = 21$), other ($n = 5$); gay/lesbian ($n = 274$), bisexual ($n = 76$), queer ($n = 51$), questioning ($n = 14$), other ($n = 21$); 80.0% White.	• The Social Interaction Anxiety Scale – 6 (Peters et al., 2012) • 78%

(*Continued*)

Table 1. (Continued).

Study ID	Author(s); Location	Aim(s)	Recruitment and Sample Characteristics	Social Anxiety Measure(s); CCAT Score
33a	Puckett et al. (2016); USA.	Examine the role of gender expression in relation to minority stressors and mental health in cisgender sexual minority individuals.	N = 383 sexual minority adults recruited online via emailed advertisements to LGB groups and community organisations; age: 18–80 (39.3 ± 13.4); cisgender women (n = 251), cisgender men (n = 132); gay/lesbian (n = 261), bisexual (n = 64), queer (n = 30), questioning (n = 14), other (n = 14); 79.6% White.	• Social Interaction Anxiety Scale –6 • 70%
34	Reilly and Rudd (2007); USA.	Explore the relationship between social anxiety and appearance management behaviours, including both routine and non-routine, among gay and straight men.	N = 67 men recruited through a project website; age: 19–78 (34.00); gay (n = 34), heterosexual (n = 33); participants mostly White (% not included).	• Liebowitz Social Anxiety Scale • 43%
35	Reisner et al. (2011); USA.	Examine the initial efficacy of "40 & Forward," a manualised group intervention developed to reduce HIV sexual risk for gay and bisexual men age 40 and older who self-report problems with depression, isolation/loneliness, and social anxiety.	N = 84 sexual minority men recruited through word-of-mouth, community events, discussion lists and community based organisations; age: 40–79 (51.21 ± 7.43); 85% White.	• Social Interaction Anxiety Scale • Brief Fear of Negative Evaluation Scale • 83%
36	Rubio and Green (2009); Phillippines.	Examine potential differences between self-identified Filipino gay and heterosexual men in their endorsement of expectations of masculinity in the Philippines, their conformity behaviour relevant to these expectations, their experiences of gender role conflict, and their general mental health.	N = 810 male undergraduate students recruited on campus through flyer distribution; age: 18–30 (20.0 ± 1.53); gay (n = 43), heterosexual (n = 767); 0% White.	• Social Avoidance and Distress Scale (Watson & Friend, 1969) • 68%
37	Sandfort et al. (2001); The Netherlands.	Examine differences between heterosexually and homosexually active subjects in 12-month and lifetime prevalence of DSM-III-R mood, anxiety, and substance use disorders.	N = 5,998 individuals recruited as part of population based study; age: 18–64 (M_{WSW} = 38.6; $M_{WSMonly}$ = 40.0; M_{MSM} = 39.2; $M_{MSWonly}$ = 40.0); WSW (n = 43), WSM only (n = 3,077), MSM (n = 82), MSW only (n = 2,796).	• Composite International Diagnostic Instrument DSM-III-R version • 85%
38	Sandfort et al. (2014); The Netherlands.	Compare whether sexual orientation related disparities in the prevalence of psychiatric disorders are similar based on homosexual behaviour versus attraction and test whether, with increased acceptance of homosexuality, these disparities have diminished over time.	N = 5,328 individuals recruited as part of population based study; age: 18–64 (M_{WSW} = 38.8; $M_{WSMonly}$ = 40.9; M_{MSM} = 41.5; $M_{MSWonly}$ = 42.0); WSW (n = 57), WSM only (n = 2,832), MSM (n = 60), MSW only (n = 2,379).	• Composite International Diagnostic Instrument DSM-IV Version (Kessler & Üstün, 2004) • 75%
39	Schmitt and Kurdek (1984); USA.	Examine the relationship between social anxiety and measures of trait anxiety, self-concept, locus of control, repression-sensitisation, and depression.	N = 154 heterosexual undergraduate students recruited through an introductory psychology course, and gay/lesbian individuals recruited through a social network system; $age_{gay/lesbian}$: 33.00 ± 9.30, $age_{heterosexual}$: 19.92 ± 3.39; lesbian women (n = 11), heterosexual women (n = 53), gay men (n = 51), heterosexual men (n = 39).	• Social anxiety subscale of the Self-Consciousness Scale. • 40%

(*Continued*)

Table 1. (Continued).

Study ID	Author(s); Location	Aim(s)	Recruitment and Sample Characteristics	Social Anxiety Measure(s); CCAT Score
39a	Schmitt and Kurdek (1987); USA.	Examine the personality correlates of a positive gay identity (communicating one's sexual preference to others and being comfortable being gay) and involvement in a relationship.	*N* = 51 gay men recruited through a social network system; age: 32.78 ± 9.31 (used non-gay standardisation samples from other studies for comparison).	• Social anxiety subscale of the Self-Consciousness Scale • 48%
40	Schope (2004); USA.	Investigate the closet processes, locus of control, fear of negative evaluation, and discrimination in gay men.	*N* = 443 gay men recruited through gay community organisations, coming out groups and gay religious organisations; age: 40.00 ± 11.60; 91.0% White.	• Brief Fear of Negative Evaluation Scale • 43%
41	Schope (2005); USA.	Examine how gay men and lesbian women perceive the ageing process.	*N* = 183 sexual minority adults recruited through university organisations and at a Gay Pride parade; mean age: 37.68; lesbian women (*n* = 109), gay men (*n* = 74); 94.0% White.	• Altered version of Brief Fear of Negative Evaluation Scale designed to assess fear of negative evaluation from same-gender sexual minority individuals. • 40%
42	Shoptaw et al. (2003); USA.	Examine the prevalence of specific psychiatric comorbidity, lifetime sexually transmitted infections, and self-reported high-risk sexual behaviours at admission to treatment for methamphetamine dependent gay and bisexual men.	*N* = 162 methamphetamine dependent MSM (majority HIV-positive) recruited from gay-specific sex and drug-related venues; age: 18–65 (36.00 ± 6.00); 80.0% White.	• The Structured Clinical Inventory for DSM-IV (Spitzer et al., 1995) • 60%
43	Shulman and Hope (2016); USA.	Identify items in the Social Phobia and Anxiety Inventory that would be appropriate in assessing social anxiety for everyone, regardless of sexual orientation or gender identity.	*N* = 280 adults recruited through the Amazon Mechanical Turk system; age: 36.41 ± 12.80; cisgender women (*n* = 183), cisgender men (*n* = 87), transgender (*n* = 4), gender queer/gender fluid (*n* = 4), agender (*n* = 1); gay/lesbian (*n* = 35), bisexual (*n* = 42), other (*n* = 11), heterosexual (*n* = 189); 70.4% White.	• The Social Phobia and Anxiety Inventory (Turner et al., 1989) • 68%
44	Wadsworth and Hayes-Skelton (2015); USA.	Investigate levels of social anxiety in participants who identify as lesbian/gay, bisexual, and heterosexual, as well as those who endorse the write-in response option.	*N* = 180 adults recruited via a flier emailed and posted on campus in a northeastern university; age = 18–66 (27.53 ± 10.4); women (*n* = 108), men (*n* = 60), non-binary (*n* = 12); gay/lesbian (*n* = 43), bisexual (*n* = 55), queer (*n* = 5), questioning (*n* = 5), unspecified (*n* = 8), pansexual (*n* = 2), additional identities (n = 8), heterosexual (*n* = 54); 71.5% White.	• Liebowitz Social Anxiety Scale • 65%
45	Walsh and Hope (2010); USA.	Exemplify a specific application of evidence-based principles (shifting to sexual identity issues) to cognitive and behavioural treatment for social anxiety.	*N* = 1 23-year-old White gay man recruited from a university training clinic for problems with anxiety.	• Brief Fear of Negative Evaluation Scale • 75%

(*Continued*)

Table 1. (Continued).

Study ID	Author(s); Location	Aim(s)	Recruitment and Sample Characteristics	Social Anxiety Measure(s); CCAT Score
46	J. Wang et al. (2007); Switzerland.	Present a psychiatric epidemiological profile for five mood, anxiety, and alcohol/drug use disorders among a community sample of gay men.	$N = 571$ gay men and other MSM recruited though gay organisations, venues and chatrooms; age: ≤24 ($n = 96$), 25–34 ($n = 173$), 35–44 ($n = 194$), 45–54 ($n = 67$), ≥55 ($n = 28$).	• Composite International Diagnostic Instrument DSM-IV Version • 80%

Note. This table details the characteristics of the 46 included studies ($k = 46$) and papers ($k = 61$). Papers related to the same study that also use identical samples are presented on one row and are allocated one Study ID (e.g. Burns et al., 2012b, 2012a). Papers related to the same study that use different samples (i.e. one uses a subset of a larger sample detailed in another) are presented on unique rows; in these cases, the paper(s) detailing the largest sample are allocated a Study ID consisting of solely a number, whilst the other paper(s) are allocated a study ID consisting of a number and a letter (e.g. Puckett et al., 2015, 2016); CCAT = Crowe Critical Appraisal Tool; LGBT = Lesbian, gay, bisexual, and transgender; LGB = Lesbian, gay, and bisexual; MSM = men who have sex with men; MSW = men who have sex with women; WSW = women who have sex with women; WSM women who have sex with men.

Compare Social Anxiety Levels Across Sexual Orientation Subgroups

The findings of all studies comparing social anxiety levels across sexual orientation subgroups are outlined below. These findings are firstly stratified by sexual orientation dimension assessed (i.e. identity, behaviour, and attraction), and secondly by nature of social anxiety assessment (i.e. SAD prevalence [12-month/current and lifetime] and social anxiety symptoms). In accordance with the how the analyses of included studies were conducted, we present the results by gender for SAD prevalence (Tables 2, 3, 5, 6, and 7). We did not present the results by gender for studies assessing social anxiety symptoms across sexual orientation subgroups (Table 4) as many of these studies did not include distinct analyses by gender.

Sexual Identity

Six studies reported 12-month or current SAD prevalence in sexual identity subgroups (see Table 2). One of these studies provided analyses comparing current SAD prevalence between heterosexuals and sexual minority individuals (Cohen, Blasey, et al., 2016), and demonstrated significantly higher rates in the latter (i.e. all genders combined). When stratified by gender, only sexual minority women reported significantly higher SAD than their heterosexual counterparts (Cohen, Blasey, et al., 2016). Two studies provided analyses comparing 12-month SAD prevalence between heterosexuals and sexual minority individuals (i.e. all genders combined; Hatzenbuehler et al., 2009; Kerridge et al., 2017) and demonstrated significantly higher rates in the latter group. Also, Kerridge et al. (2017) reported higher 12-month SAD prevalence in bisexual and questioning/not sure women compared to heterosexual women, and in gay and bisexual men compared to heterosexual men. However, analyses focused solely on sexual minority identity subgroups (i.e. excluding the heterosexual group) revealed no significant differences between gay/lesbian, bisexual, and questioning/not sure participants (Kerridge et al., 2017).

Three studies reported lifetime SAD prevalence in sexual identity subgroups (see Table 3). In one study, sexual identity was significantly associated with lifetime SAD prevalence for both men and women; whilst all sexual minority groups reported higher rates than heterosexuals, specific analyses comparing SAD prevalence across sexual identity subgroups were not included (Bostwick et al., 2010). Further, in samples of individuals with alcohol use disorders, sexual minority women reported significantly higher SAD lifetime prevalence than their heterosexual counterparts (Mereish et al., 2015), whereas sexual minority men did not report significantly higher SAD lifetime prevalence than heterosexual men (J. H. Lee et al., 2015). Kerridge et al. (2017) found that sexual minority individuals (i.e. all genders combined) reported higher lifetime SAD prevalence than heterosexuals, bisexual and

Table 2. 12-month and Current SAD Prevalence Across Sexual Identity Subgroups.

	Overall					Women					Men				
Study	Hetero-sexual	Sexual minority	Gay/ Lesbian	Bi-sexual	Not sure	Hetero-sexual	Sexual minority	Lesbian	Bi-sexual	Not sure	Hetero-sexual	Sexual minority	Gay	Bi-sexual	Not sure
Burns et al. (2012b) [a]													12.4% 307		
Cohen, Blasey, et al. (2016) [a]	8.9% 156	22.3%** 157				11.5% 103	26.8%* 97				3.8% 53	15.0% 60			
Hatzenbuehler et al. (2009) [b, c, d]	2.5% 34,076	6.6%* 577													
Kerridge et al. (2017) [b, c]	2.7% 34,644		6.6%* 586	11.1%* 566	8.6%* 199	3.2% 19,454		5.9% 265	12.2%* 422	9.7%* 130	2.1% 15,190		7.1%* 321	8.1%* 144	7.0% 69
O'Cleirigh et al. (2013); O'Cleirigh et al. (2015) [a]												22.3% 503			
Wang et al. (2007) [b]												13.5% 571			

Note. The total number (n) of participants in each sexual identity subgroup is presented below their respective SAD prevalence rate (%). [a]Represents current SAD prevalence. [b]Represents 12-month SAD prevalence. [c]Analyses adjusted for sociodemographic characteristics. [d]When stratified by presence of state-level sexual minority protective policies, both sexual minority individuals living in states with and without protective policies were at higher odds of 12-month SAD than their heterosexual counterparts. [*]significantly higher than heterosexuals ($p < .05$), [**]significantly higher than heterosexuals ($p < .01$).

Table 3. Lifetime SAD Prevalence Across Sexual Identity Subgroups.

	Overall					Women					Men				
Study	Hetero-sexual	Sexual minority	Gay/ Lesbian	Bi-sexual	Not sure	Hetero-sexual	Sexual minority	Lesbian	Bi-sexual	Not sure	Hetero-sexual	Sexual minority	Gay	Bi-sexual	Not sure
Bostwick et al. (2010) [a]						7.9% 19,489		9.6% 145	18.2% 161	13.6% 101	5.8% 14,109		12.4% 190	14.2% 81	15.6% 69
J. H. Lee et al. (2015) [b, c]											8.1% 6,723	15.8% 176			
Mereish et al. (2015) [b, c]						14.2% 4,151	19.7%* 191								
Kerridge et al. (2017) [c]	3.5% 34,644		8.1%* 586	12.7%* 566	9.8%* 199	4.1% 19,454		6.6% 265	13.7%* 422	10.9%* 130	2.8% 15,190		9.3%* 321	10.2%* 144	7.9% 69
Meyer et al. (2008) [d]			21.1% 318	27.1% 70			20.5% 195					23.8% 193			

Note. The total number (*n*) of participants in each sexual identity subgroup is presented below their respective SAD prevalence rate (%). [a] Sexual identity was significantly associated with lifetime SAD for women ($p \leq .05$) and men ($p \leq .05$), however, subgroup analyses were omitted. [b] Sub-samples of Bostwick et al. (2010). [c] Analyses adjusted for sociodemographic characteristics. [d] Did not conduct subgroup analyses specific to SAD. *significantly higher than heterosexuals ($p < .05$).

Table 4. Means and Standard Deviations on Social Anxiety Screening Measures Across Sexual Identity Subgroups.

		Sexual identity subgroup								
Study	Measure	Heterosexual	Sexual minority	Gay/Lesbian	Mostly gay/ lesbian	Bisexual	Emerging identity	Not sure	Asexual	Pansexual
Akibar et al. (2019) [a]	SIAS, SPS	46.19 ± 29.20 947	57.67 ± 33.56*** 187	51.50 ± 30.99 50		60.04 ± 35.44* 83		59.81 ± 36.00 22	71.44 ± 27.60 9	55.08 ± 31.42 23
Baiocco et al. (2014) [b] – women	SCARED	3.69 ± 2.77 504		4.14 ± 2.62 169						
Baiocco et al. (2014) [b] – men	SCARED	3.04 ± 2.15 210		3.74 ± 3.14 217						
Jacobson et al. (2016)	LSAS	36.68 ± 19.0 18		26.72 ± 17.0 18						
Meidlinger and Hope (2014)	BFNE			36.46 ± 10.06 102	37.00 ± 9.77 23	40.13 ± 12.83 24				
Pachankis and Goldfried (2006) [a]	SIAS	18.71 ± 10.86 87		25.18 ± 12.58*** 87						
	SPS	15.56 ± 9.35 87		18.53 ± 11.82 87						
	FNE	11.75 ± 6.92 87		16.74 ± 8.20*** 87						
	IA	1.86 67		2.80*** 87						
Reilly and Rudd (2007)	LSAS	39.12 33		34.32 34						
Schmitt and Kurdek (1984) [c]	SCS	12.95* 92	11.19 62							
Shulman and Hope (2016) [a, d]	SPAI	83.26 ± 44.57		101.76 ± 42.96**						
Wadsworth and Hayes-Skelton (2015) [e]	LSAS-Fear	18.21 ± 12.00 54		18.49 ± 10.98 43		26.27 ± 11.85** 55	26.29 ± 11.46* 28			
	LSAS-Avoidance	17.84 ± 10.73 54		18.11 ± 9.94 43		25.93 ± 12.42** 55	23.92 ± 11.94 28			
	LSAS- Social	18.14 ± 12.31 54		17.96 ± 10.18 43		27.52 ± 13.16** 55	26.53 ± 13.24* 28			
	LSAS-Performance	17.87 ± 10.22 54		18.66 ± 11.10 43		24.49 ± 11.92* 55	23.33 ± 11.29 28			

Note. The total number (*n*) of participants in each sexual identity subgroup is presented below the *M* ± *SD*. SIAS = Social Interaction Anxiety Scale; SPS = Social Phobia Scale; SCARED = Screen for Child Anxiety-Related Emotional Disorders; LSAS = Liebowitz Social Anxiety Scale; BFNE = Brief Fear of Negative Evaluation Scale; FNE = Fear of Negative Evaluation Scale; IA = Inventory of Anxiousness; SCS = Self Consciousness Scale; SPAI = Social Phobia and Anxiety Inventory.[a] significantly greater social anxiety than heterosexual group. [b] statistical analyses across groups not provided. [c] significantly greater social anxiety than sexual minority group. [d] total number of participants included in analysis is 247, specific number in each sexual identity group not provided. [e] significantly greater social anxiety than heterosexual and gay/lesbian groups. *$p < .05$. **$p < .01$. ***$p < .001$.

Table 5. 12-month and Current SAD Prevalence Across Sexual Behaviour Subgroups.

	Women		Men	
Study	WSM only	WSW	MSW only	MSM
Batchelder et al. (2019) [a]				18.5%
				290
Fletcher et al. (2018) [a]				20.4%
				285
Gilman et al. (2001) [b, c]	9.1%	10.4%	6.3%	8.8%
	2,475	51	2,310	74
Mimiaga et al. (2009); Reisner et al. (2009) [a]				57.0%
				189
Sandfort et al. (2001) [b, c]	5.8%	7.0%	3.0%	7.3%
	3,077	43	2,796	82
Sandfort et al. (2014) [b, c]	3.9%	12.2%	2.7%	12.3%*
	2,832	57	2,379	60

Note. The total number (*n*) of participants in each sexual behaviour subgroup is presented below their respective SAD prevalence rate (%). WSM = women who have sex with men; WSW = women who have sex with women; MSW = men who have sex with women; MSM = men who have sex with men.[a] represents current SAD prevalence. [b] represents 12-month SAD prevalence. [c] Analyses adjusted for sociodemographic characteristics. *significantly higher than MSW only ($p < .05$).

Table 6. Lifetime SAD Prevalence Across Sexual Behaviour Subgroups.

	Women					Men				
Study	WSM only	WSMW	WSW only	WSW	Never had sex	MSW only	MSMW	MSM only	MSM	Never had sex
Bostwick et al. (2010) [a]	7.8%	15.5%	4.0%		11.1%	5.7%	13.8%	6.1%		11.8%
	18,904	445	177		334	13,534	302	342		249
Sandfort et al. (2001) [b]	9.5%			18.6%		5.5%			14.6%*	
	3,077			43		2,796			82	
Sandfort et al. (2014) [b]	10.3%			20.2%		6.6%			17.8%	
	2,832			57		2,379			60	

Note. The total number (*n*) of participants in each sexual behaviour subgroup is presented below their respective SAD prevalence rate (%). WSM = women who have sex with men; WSMW = women who have sex with men and women; WSW = women who have sex with women; MSW = men who have sex with women; MSMW = men who have sex with men and women; MSM = men who have sex with men.[a] Sexual behaviour was significantly associated with lifetime SAD for women ($p \leq .01$) and men ($p \leq .01$), however, subgroup analyses were omitted. [b] Analyses adjusted for sociodemographic characteristics. *significantly higher than MSW only ($p < .05$).

Table 7. 12-month and Lifetime SAD Prevalence Across Sexual Attraction Subgroups.

	Women						Men					
Study	Only men	Women/ women and men	Mostly men	Equally men and women	Mostly women	Only women	Only women	Men/ men and women	Mostly women	Equally men and women	Mostly men	Only men
Bostwick et al. (2010) [a, b]	7.8%		11.0%	13.4%	12.4%	6.5%	5.8%		9.8%	7.9%	7.0%	9.2%
	18,358		880	260	87	275	13,704		277	130	96	229
Sandfort et al. (2014) [c, d]	4.2%	15.3%*					2.9%	12.1%*				
	3,435	88					2,799	71				
Sandfort et al. (2014) [a, d]	10.4%	25.3%*					7.5%	20.1%*				
	3,435	88					2,799	71				

Note. The total number (*n*) of participants in each sexual attraction subgroup is presented below their respective SAD prevalence rate (%). [a] Lifetime prevalence. [b] Sexual attraction was significantly associated with lifetime SAD for women only ($p \leq .01$), however, subgroup analyses were omitted. [c] 12-month prevalence. [d] Analyses adjusted for sociodemographic characteristics. *significantly higher than opposite-gender attracted only ($p < .05$).

questioning/not sure women reported higher rates than heterosexual women, and gay and bisexual men reported higher rates than heterosexual men. While bisexual individuals reported higher lifetime SAD prevalence than gay/lesbian individuals in all three studies (Bostwick et al., 2010; Kerridge et al., 2017; Meyer et al., 2008), only Kerridge et al. (2017) tested the statistical significance between these two groups, and the difference was not significant.

Nine studies provided comparative data on social anxiety symptoms across sexual identity subgroups (see Table 4). Eight studies provided comparative data between heterosexuals and sexual minority individuals. In three of these studies, sexual minority individuals reported significantly higher social anxiety symptoms than heterosexuals (Akibar et al., 2019; Pachankis & Goldfried, 2006; Shulman & Hope, 2016). Further, in one study, bisexual and emerging identity individuals (e.g. pansexual and asexual identified individuals), but not gay/lesbian individuals, reported higher social anxiety symptoms than heterosexuals (Wadsworth & Hayes-Skelton, 2015). Two studies reported no significant difference in social anxiety symptoms between gay and heterosexual men (Jacobson et al., 2016; Reilly & Rudd, 2007), whereas one study reported significantly higher social anxiety in heterosexuals compared to gay/lesbian individuals (Schmitt & Kurdek, 1984). One study reported higher social anxiety symptoms in young sexual minority men and women compared to heterosexuals, but specific sexual identity subgroup analyses were not included (Baiocco et al., 2014). Bisexual individuals reported higher social anxiety symptoms than gay/lesbian individuals in all three studies that provided comparative data across multiple sexual minority subgroups (Akibar et al., 2019; Meidlinger & Hope, 2014; Wadsworth & Hayes-Skelton, 2015). However, the difference between groups was only significant in Wadsworth and Hayes-Skelton (2015), in which bisexual and emerging identity individuals reported higher social anxiety than gay/lesbian individuals.

Sexual Behaviour

Six studies reported 12-month or current SAD prevalence across sexual behaviour subgroups (see Table 5). Three of these studies provided analyses comparing 12-month SAD prevalence between both women who have sex with women (WSW) and women who have sex with men (WSM) only, and men who have sex with men (MSM) and men who have sex with women (MSW) only (Gilman et al., 2001; Sandfort et al., 2001, 2014). WSW reported higher 12-month SAD prevalence than WSM only in all three studies, however, the differences between groups were not significant. Among men, MSM reported higher 12-month SAD than MSW only in all three studies, and the difference was significant in one study (Sandfort et al., 2014).

Three studies reported lifetime SAD prevalence across sexual behaviour subgroups (see Table 6). In two studies (Sandfort et al., 2001, 2014), WSW and MSM reported higher lifetime SAD prevalence than WSM only and MSW only respectively. However, the differences between WSW and WSM only were not significant in either of these studies, and MSM's lifetime prevalence was significantly higher than MSW only in just one of these studies (Sandfort et al., 2001). In another study (Bostwick et al., 2010), sexual behaviour was significantly associated with lifetime SAD among women and men. Here, women who have sex with men and women (WSMW) reported the highest SAD prevalence, followed by women who never had sex, WSM only, and WSW only. Among men, men who have sex with men and women (MSMW) reported the highest lifetime SAD, followed by men who never had sex, MSM only, and MSW only.

Two studies provided comparative data on social anxiety symptoms across sexual behaviour subgroups. In one study focusing on HIV-positive men (Hart, James, et al., 2008), MSW (M = 12.68, SD = 5.90) reported significantly higher social anxiety symptoms than MSM (M = 9.17, SD = 7.41, $p < .05$). In an emerging adult sample, Akibar et al. (2019) found that sexual behaviour was significantly associated with social anxiety symptoms. Emerging adults who had same-gender sexual partners reported higher social anxiety symptoms than those who had exclusively opposite-gender partners ($p < .05$, Ms and SDs not reported). Further, those who never had sex (M = 55.08, SD = 29.95) and those who had sex with mostly opposite-gender partners (M = 57.21, SD = 36.34) reported higher social anxiety symptoms in comparison to individuals who had sex with exclusively opposite-

gender (M = 43.85, SD = 28.55) partners (Akibar et al., 2019). There were no more significant differences between the following sexual behaviour subgroups: exclusively same-gender partners (M = 50.22, SD = 33.02), mostly same-gender partners (M = 29.90, SD = 19.34), equal both gender partners (M = 55.00, SD = 30.74), and other (i.e. open-ended response that did not fit another category; M = 59.66, SD = 32.65).

Sexual Attraction

Two studies reported 12-month and/or lifetime SAD prevalence across sexual attraction subgroups (see Table 7). Sandfort et al. (2014) found that both 12-month and lifetime SAD rates were significantly higher in same-gender attracted men and women in comparison to their opposite-gender attracted counterparts. Further, Bostwick et al. (2010) demonstrated that sexual attraction was significantly associated with lifetime SAD for women, but not for men. Herein, women who are equally attracted to men and women reported the highest lifetime SAD prevalence, followed by mostly same gender-attracted women, mostly opposite-gender attracted women, exclusively opposite-gender attracted women, and exclusively same-gendered attracted women (Bostwick et al., 2010).

One study provided data on social anxiety symptoms across sexual attraction subgroups (Akibar et al., 2019). Here, individuals equally attracted to men and women (M = 60.41, SD = 34.09), and mostly opposite-gender attracted individuals (M = 56.25, SD = 31.49), reported significantly higher social anxiety symptoms than exclusively opposite-gender attracted individuals (M = 44.10, SD = 28.51). There were no more significant differences in social anxiety symptoms between sexual attraction subgroups: exclusively same-gender attracted (M = 49.12, SD = 34.08), and mostly same-gender attracted (M = 56.80, SD = 31.12).

Bivariate Associations Involving Social Anxiety Among Sexual Minority Individuals

The bivariate associations involving social anxiety symptoms, reported across 35 different studies, are detailed below. The correlates of social anxiety were thematically grouped into the following categories: sexual minority stress processes, general psychological processes (i.e. social and cognitive), internalising mental health symptoms, externalising mental health symptoms, body image and related variables, gender roles, sexual practices, socio-demographics, other discrimination (i.e. not based solely on sexual orientation), and other variables. The related bivariate correlation coefficients are detailed in Table 8. The data pertaining to bivariate associations (i.e. other than correlation coefficients) that are not reported in Table 8 are included in the text below.

Sexual Minority Stress Processes

Heterosexist Discrimination. Seven studies provided bivariate correlations between social anxiety and heterosexist discrimination among sexual minority women and men, demonstrating mixed findings. Three studies found significant positive correlations such that increased heterosexist discrimination was associated with increased social anxiety (Burns et al., 2012b, 2012a; Feinstein et al., 2012; Mason et al., 2017), three reported no significant correlations (Dyar et al., 2016; Pachankis, Sullivan, Feinstein, & Newcomb, 2018; Puckett et al., 2016), while Hart et al. (2019) reported both a non-significant relationship (i.e. with the Liebowitz Social Anxiety Scale) and significant positive relationship (i.e. with the Social Interaction Anxiety Scale) between antigay bullying during youth and social anxiety symptoms. Further, an additional study demonstrated both significant positive correlations (i.e. self-blame, importance, and global) and non-significant correlations(other blame and controllability) between attributions for heterosexist discrimination and social anxiety in gay men (Burns et al., 2012b, 2012a).

Internalised Homonegativity. Ten studies provided bivariate correlations between social anxiety and internalised homonegativity among sexual minority individuals. Nine of these studies reported significant positive associations, such that greater levels of internalised homonegativity

Table 8. Bivariate Correlations Involving Social Anxiety.

Theme	Sub-theme	Variable	Study	*r*
Sexual minority stress processes	Heterosexist discrimination	Current heterosexist discrimination	Burns et al. (2012b, 2012a)	.22**
			Dyar et al. (2016)	.02
			Feinstein et al. (2012)	.23***
			Mason et al. (2017)	.13**
			Pachankis, Sullivan, Feinstein, & Newcomb (2018) (cross-wave)	.10
			Puckett et al. (2016)	.01
		Antigay bullying during youth	Hart et al. (2019) – LSAS	.01
			Hart et al. (2019) – SIAS	.19***
	Attributions for heterosexist discrimination	Other blame attributions	Burns et al. (2012b, 2012a)	−.07
		Self-blame attributions	Burns et al. (2012b, 2012a)	.26**
		Importance attributions	Burns et al. (2012b, 2012a)	.21**
		Global attributions	Burns et al. (2012b, 2012a)	.29**
		Controllability attributions	Burns et al. (2012b)	−.03
	Internalised homonegativity	Internalised homonegativity	Burns et al. (2012b, 2012a)	.37**
			Dyar et al. (2016)	.15**
			Feinstein et al. (2012)	.24***
			Hart et al. (2019) – LSAS	.55***
			Hart et al. (2019) – SIAS	.59***
			Hart et al. (2015)	.19**
			Lingiardi et al. (2012) – lesbian women	.37**
			Lingiardi et al. (2012) – gay men	.47**
			Mason and Lewis (2016)	.29**
			Meidlinger and Hope (2014)	.30**
			Pachankis, Sullivan, Feinstein, & Newcomb (2018) (cross-wave)	.17
			Puckett et al. (2015)	.22**
	Sexual identity concealment	Concealment behaviour	Dyar et al. (2016)	.15**
			Meidlinger and Hope (2014) – OI	.36**
			Meidlinger and Hope (2014) – NOS-C	.45**
			Schmitt and Kurdek (1987)	.09
		Lack of openness	Mason et al. (2017)	.23**
			Meidlinger and Hope (2014)	.33**
			Pachankis and Goldfried (2006) – SIAS	.24*
			Pachankis and Goldfried (2006) – SPS	.23*
			Pachankis and Goldfried (2006) – FNE	.23*
			Pachankis and Goldfried (2006) – IA	.28*
			Pachankis, Sullivan, Feinstein, & Newcomb (2018) (cross-wave)	.30***
			Puckett et al. (2016)	.26**
		Lack of public knowledge	Meidlinger and Hope (2014)	.34**
		Concealment motivation	Dyar et al. (2016)	.22**
			Mason and Lewis (2016)	.28**

(*Continued*)

Table 8. (Continued).

Theme	Sub-theme	Variable	Study	*r*
	Sexual orientation related rejection sensitivity	Sexual orientation related rejection sensitivity	Cohen, Feinstein, et al. (2016)	.40***
			Dyar et al. (2016) – SMWRSS	.39**
			Dyar et al. (2016) – Adapted G-RRSS	.23**
			Feinstein et al. (2012)	.28***
			Meidlinger and Hope (2014)	.36**
			Pachankis et al. (2008)	.39**
			Pachankis, Sullivan, Feinstein, & Newcomb (2018) (cross-wave)	.23**
			Puckett et al. (2016)	.23**
	Sexual identity development	Years since coming out	Akibar et al. (2019)	.05
		Increased contact with LGB peers but reluctance to disclose to heterosexuals	Burns et al. (2012b)	.32**
		Acceptance concerns	Dyar et al. (2016)	.54**
			Mason and Lewis (2016)	.43**
		Difficulty processing sexual identity	Dyar et al. (2016)	.31**
			Mason and Lewis (2016)	.27**
		Comfort being gay	Pachankis and Goldfried (2006) – SIAS	−.28*
			Pachankis and Goldfried (2006) – SPS	−.24*
			Pachankis and Goldfried (2006) – FNE	−.25*
			Pachankis and Goldfried (2006) – IA	−.11
			Schmitt and Kurdek (1987)	−.28*
		Full integration into gay and straight culture	Burns et al. (2012b)	−.34**
		Salience of sexual orientation	Dyar et al. (2016)	.26**
		Centrality of sexual orientation	Dyar et al. (2016)	.18**
General psychological processes (Social)	Social support	Social support satisfaction	Burns et al. (2012a)	−.32**
			Hart and Heimberg (2005) – SIAS	−.41**
			Hart and Heimberg (2005) – SPS	.27**
			Meidlinger and Hope (2014)	−.22**
		Perceived social support (general)	Hart et al. (2015)	−.31**
			Potoczniak et al. (2007)	−.27**
		Perceived social support (family)	Mason et al. (2017)	−.30**
		Perceived social support (friends)	Mason et al. (2017)	−.30**
		Loneliness	Hart et al. (2019) – LSAS	.17**
			Hart et al. (2019) – SIAS	.23***
	Romantic relationships	Dissolution of relationship	Kurdek (1996)	.11
		Lack of relationship	Schmitt and Kurdek (1987)	.18
		Duration of relationship	Schmitt and Kurdek (1987)	−.15
		Not living with partner	Schmitt and Kurdek (1987)	.08
		Change in relationship positivity	Kurdek (1996)	−.07
		Change in relationship autonomy	Kurdek (1996)	−.09
	Parental relationships	Maternal unfinished business	Pachankis, Sullivan, & Moore (2018) (cross-wave)	.26**
		Paternal unfinished business	Pachankis, Sullivan, & Moore (2018) (cross-wave)	.20*
		Maternal rejection	Pachankis, Sullivan, & Moore (2018) (cross-wave)	−.10
		Paternal rejection	Pachankis, Sullivan, & Moore (2018) (cross-wave)	−.11

(*Continued*)

Table 8. (Continued).

Theme	Sub-theme	Variable	Study	*r*
General psychological processes (Cognitive)	General cognitive processes	Self-criticism	Puckett et al. (2015)	.41**
		Personal rejection sensitivity	Dyar et al. (2016)	.29**
		Positive self-concept	Schmitt and Kurdek (1984)	−.45**
		Internal locus of control	Schmitt and Kurdek (1984)	−.31**
		Dealing with threat through intellectualisation, obsession and ruminative worry	Schmitt and Kurdek (1984)	.48**
Internalising mental health symptoms	Generalised anxiety	Trait anxiety	Burns et al. (2012a)	.59**
			Hart et al. (2019) – LSAS	.47***
			Hart et al. (2019) – SIAS	.58***
			Schmitt and Kurdek (1984)	.48**
		Generalised anxiety disorder symptoms	Cohen, Feinstein, et al. (2016)	.61***
			Dyar et al. (2016)	.45**
			Hart et al. (2019) – LSAS	.41***
			Hart et al. (2019) – SIAS	.39***
			Hart et al. (2015)	.42**
	Depression	Depressive symptoms (general)	Blashill (2010); Blashill and Vander Wal (2009)	.56**
			Burns et al. (2012a)	.34**
			Cohen, Feinstein, et al. (2016)	.52***
			Dyar et al. (2016)	.37**
			Feinstein et al. (2012)	.38***
			Hart et al. (2019) – LSAS x CES-D	.47***
			Hart et al. (2019) – LSAS x HAM-D	.36***
			Hart et al. (2019) – SIAS x HAM-D	.37***
			Hart et al. (2019) – SIAS x CES-D	.55***
			Hart et al. (2015)	.31**
			Pachankis, Sullivan, Feinstein, & Newcomb (2018) (cross-wave)	.42***
			Puckett et al. (2015)	.49**
			Schmitt and Kurdek (1984)	.14
		Depressive symptoms (cognitions)	Burns et al. (2012a)	.49**
		Major depressive episode	Fletcher et al. (2018)	.67***
	Eating disorders	Eating disorder symptoms (cognitive, emotional, and behavioural)	Blashill (2010); Blashill and Vander Wal (2009)	.48**
			Hart et al. (2015)	.32**
			Mason et al. (2017)	.37**
		Binge eating	Mason and Lewis (2016)	.36**
		Loss of control	Mason et al. (2017)	.26**
		Overeating	Mason et al. (2017)	.14**

(*Continued*)

Table 8. (Continued).

Theme	Sub-theme	Variable	Study	*r*
	Internalising mental health (general)	Negative affect	Meidlinger and Hope (2014)	.62**
			Mason et al. (2017)	.60**
		Positive affect	Burns et al. (2012a)	−.51**
			Meidlinger and Hope (2014)	−.35**
		Psychological distress	Puckett et al. (2015)	.56**
		Suicide risk	Fletcher et al. (2018)	.50***
		Self-esteem	Pachankis and Goldfried (2006) – SIAS	−.33**
			Pachankis and Goldfried (2006) – SPS	−.41***
			Pachankis and Goldfried (2006) – FNE	−.58***
			Pachankis and Goldfried (2006) – IA	−.44***
	Other anxiety disorder symptoms	Panic disorder symptoms	Cohen, Feinstein, et al. (2016)	.39***
	Trauma-and stressor- related symptoms	Posttraumatic stress disorder symptoms	Cohen, Feinstein, et al. (2016)	.57***
	Obsessive-compulsive disorder	Obsessive-compulsive disorder	Fletcher et al. (2018)	.59***
Externalising mental health symptoms	Externalising mental health symptoms	Antisocial personality disorder	Fletcher et al. (2018)	.36***
		Alcohol abuse	Pachankis, Sullivan, & Moore (2018) (cross-wave)	.17
Body image and related variables	Body image	Body dissatisfaction	Blashill (2010); Blashill and Vander Wal (2009)	.51**
			Hart et al. (2015)	.56**
		Body Shame	Mason and Lewis (2016)	.49**
		Drive for muscularity	Hart et al. (2015)	.32**
	Body weight calculations	Ideal weight discrepancy	Mason et al. (2017)	.12*
		Body mass index	Mason and Lewis (2016)	.05
Gender roles	Gender nonconformity	Childhood gender nonconformity	Feinstein et al. (2012)	.10*
			Pachankis and Goldfried (2006) – SIAS	−.02
			Pachankis and Goldfried (2006) – SPS	.11
			Pachankis and Goldfried (2006) – FNE	.09
			Pachankis and Goldfried (2006) – IA	.35***
		Current gender nonconformity	Puckett et al. (2016)	.13**
		Masculinity nonconformity	Rubio and Green (2009)	.42***
		Belief men should not uphold traditional masculinity	Rubio and Green (2009)	.30
		Teasing related to childhood gender nonconformity	Hart et al. (2019) – LSAS	.25***
			Hart et al. (2019) – SIAS	.36***
	Gender role conflict	Restrictive emotionality	Blashill (2010); Blashill and Vander Wal (2009)	.42**
		Restrictive affection	Blashill (2010); Blashill and Vander Wal (2009)	.46**
		Work concern	Blashill (2010); Blashill and Vander Wal (2009)	.20**
		Success concern	Blashill (2010); Blashill and Vander Wal (2009)	.32**
	Gender rejection sensitivity	Gender rejection sensitivity	Dyar et al. (2016)	.33**

(*Continued*)

Table 8. (Continued).

Theme	Sub-theme	Variable	Study	*r*
Sexual practices	Condomless anal sex	Any condomless anal sex	Hart and Heimberg (2005) – SPS	.22*
			Hart and Heimberg (2005) – SIAS	–.02
		Condomless insertive anal sex	Hart and Heimberg (2005) – SPS	.21*
			Hart and Heimberg (2005) – SIAS	.05
		Condomless receptive anal sex	Hart and Heimberg (2005) – SPS	.20
			Hart and Heimberg (2005) – SIAS	.01
		Any anal sex (with or without a condom)	Hart and Heimberg (2005) – SPS	.07
			Hart and Heimberg (2005) – SIAS	-.13
	Other sexual practices	Sexual objectification	Hart et al. (2015)	.17**
		Pornography consumption	Hart et al. (2015)	.06
Socio-demographics	Age	Age	Blashill and Vander Wal (2009)	–.35***
			Burns et al. (2012a)	–.21**
			Mason et al. (2017)	–.15**
			Schope (2005) – lesbian women	–.25**
			Schope (2005) – gay men	–.21*
			Schmitt and Kurdek (1984)	–.30**
	Education	Education	Burns et al. (2012a)	–.27**
			Mason et al. (2017)	–.10*
Other discrimination	Current experiences of discrimination	Everyday discrimination	Mason and Lewis (2016)	.39**
		Experiences of racism	Hart et al. (2015)	.36**
		Heterosexist and ethnic discrimination combined	Cathey et al. (2014) – white	.35**
			Cathey et al. (2014) – ethnic minority	.17**
		Weight discrimination	Mason et al. (2017)	.23**
	Childhood discrimination	Experiences of childhood teasing	Hart et al. (2019)- LSAS	.33***
		Experiences of childhood teasing	Hart et al. (2019)- SIAS	.46***
Other variables	Quality of life	Quality of life	Meidlinger and Hope (2014)	–.39**
	Ego identity dimensions	Ego identity commitment	Potoczniak et al. (2007)	–.16**
		Ego identity exploration	Potoczniak et al. (2007)	.06
	Self-concealment	Self-concealment (not specific to sexual orientation)	Potoczniak et al. (2007)	.36**
	Personality	Neuroticism	Kurdek (1996)	.47**
	Community resilience	LGBTQ Community Connectedness	Puckett et al. (2015)	–.26**

Note. Additional information related to scales used is provided for studies that reported more than one correlation pertaining to the same relationship. LSAS = Liebowitz Social Anxiety Scale; SIAS = Social Interaction Anxiety Scale; OI = Outness Inventory (Mohr & Fassinger, 2000); NOS-C = Nebraska Outness Scale Concealment sub-scale (Meidlinger & Hope, 2014); SPS = Social Phobia Scale; FNE = Fear of Negative Evaluation Scale; IA = Inventory of Anxiousness; SMWSS = Sexual Minority Women's Rejection Sensitivity Scale (Dyar et al., 2016); G-RRSS = Gay-Related Rejection Sensitvity Scale (Pachankis et al., 2008); CES-D = Center for Epidemiologic Studies–Depression Scale (Radloff, 1977); HAM-D = Hamilton Depression Rating Scale (Hamilton, 1960, 1969). *$p < .05$. **$p < .01$. ***$p < .001$.

were associated with increased social anxiety (Burns et al., 2012b, 2012a; Dyar et al., 2016; Feinstein et al., 2012; Hart et al., 2019, 2015; Lingiardi et al., 2012; Mason & Lewis, 2016; Meidlinger & Hope, 2014; Puckett et al., 2015). The remaining longitudinal study found no cross-wave association between social anxiety and internalised homonegativity among sexual minority men (Pachankis, Sullivan, Feinstein, & Newcomb, 2018).

Sexual Identity Concealment. Seven studies provided bivariate correlations between social anxiety and sexual identity concealment among sexual minority men and women. Six of these studies found that higher levels of sexual identity concealment were significantly related to increased social anxiety (Dyar et al., 2016; Mason & Lewis, 2016; Mason et al., 2017; Meidlinger & Hope, 2014; Pachankis & Goldfried, 2006; Pachankis, Sullivan, Feinstein, & Newcomb, 2018; Puckett et al., 2016), while the remaining study demonstrated a non-significant correlation (Schmitt & Kurdek, 1987). Further, Schope (2004) found that gay men who concealed their sexual identity from parents, siblings, colleagues, past colleagues, past classmates, and neighbours reported higher social anxiety than their counterparts who were not concealed to these groups. However, no significant social anxiety differences were reported between gay men who concealed their sexual identity from friends and those who were not concealed to friends (Schope, 2004).

Sexual Orientation Related Rejection Sensitivity. Seven studies provided bivariate correlations between social anxiety and rejection sensitivity among sexual minority women and men, all of which demonstrated significant positive correlations such that heightened sexual orientation related rejection sensitivity was related to increased social anxiety (Cohen, Feinstein, et al., 2016; Dyar et al., 2016; Feinstein et al., 2012; Meidlinger & Hope, 2014; Pachankis et al., 2008; Pachankis, Sullivan, Feinstein, & Newcomb, 2018; Puckett et al., 2016).

Sexual Identity Development. Dyar et al. (2016) and Mason and Lewis (2016) reported significant positive correlations between both acceptance concerns and difficulties processing sexual identity, and social anxiety among sexual minority women. Additionally, Dyar et al. (2016) also found that salience and centrality of sexual orientation were significantly positively associated with social anxiety among sexual minority women. For gay men, identity acceptance (i.e. stage four of Cass, 1979 sexual identity formation theory: increased contact with other gay individuals, but averseness to disclose one's sexual orientation to heterosexuals) demonstrated a significant positive association with social anxiety, whereas identity synthesis (i.e. stage six of Cass, 1979 sexual identity formation theory: individual fully integrates into gay and straight cultures and perceives their sexual orientation to be just one facet of their identity) was significantly negatively correlated with social anxiety (Burns et al., 2012b). Two studies found significant inverse relationships between comfort being gay and social anxiety in gay men, such that increased comfort was related to less social anxiety (Pachankis & Goldfried, 2006; Schmitt & Kurdek, 1987). Lastly, Akibar et al. (2019) found no significant correlation between years since coming out and social anxiety.

General Psychological Processes (Social)

Social Support. Six studies provided bivariate correlations between social anxiety and social support among sexual minority women and men. Five of these studies showed significant negative relationships such that increased social support was linked to less social anxiety (Burns et al., 2012a; Hart et al., 2015; Mason et al., 2017; Meidlinger & Hope, 2014; Potoczniak et al., 2007). Hart and Heimberg (2005) demonstrated both a significant positive association (with the Social Phobia Scale) and a significant negative association (with the Social Interaction Anxiety Scale) between social anxiety and social support among sexual minority men. Hart et al. (2019) reported a significant positive correlation between social anxiety and loneliness in sexual minority men. Lastly, sexual minority individuals at higher risk of social isolation had a higher 12-month prevalence of SAD than those at lower risk (14.5% vs 3.9%; *OR* = 4.2 [1.9, 9.15]; Hatzenbuehler et al., 2011).

Romantic Relationships. Kurdek (1996) demonstrated non-significant correlations between social anxiety and romantic relationship processes (i.e. dissolution, involvement, and changes in positivity and autonomy) among gay and lesbian couples. Further, Schmitt and Kurdek (1987)

reported non-significant correlations between social anxiety and relationship involvement (i.e. months in relationships and living with a partner) among gay men.

Parental Relationships. Pachankis, Sullivan, and Moore (2018) reported non-significant correlations between social anxiety and parental rejection, and also found that higher parental unfinished business was significantly related to higher social anxiety among sexual minority men.

Friendship Networks. Baiocco et al. (2014) demonstrated that sexual minority young adults with heterosexual best friends ($M = 3.82$, $SD = 2.89$) reported significantly lower social anxiety than those with sexual minority best friends ($M = 4.48$, $SD = 2.66$), $F(1, 296) = 5.58$, $p < .05$. Further, those with opposite-gender best friends ($M = 3.31$, $SD = 2.36$) reported significantly lower social anxiety than those with same-gender best friends ($M = 4.71$, $SD = 2.92$), $F(1, 296) = 19.61$, $p < .001$ (Baiocco et al., 2014).

General Psychological Processes (Cognitive)

General Cognitive Processes. Three studies provided bivariate correlations between social anxiety and general cognitive processes. Among sexual minority individuals, studies found significant relationships between increased self-criticism (Puckett et al., 2015) and dealing with threat through intellectualisation, obsession, and rumination, (Schmitt & Kurdek, 1984) and heightened social anxiety. Dyar et al. (2016) reported a significant positive correlation between social anxiety and personal rejection sensitivity (i.e. not attributable to sexual identity) among sexual minority women. Additionally, Schmitt and Kurdek (1984) demonstrated significant inverse relationships between positive self-concept and an internal locus of control, and social anxiety.

Internalising Mental Health Symptoms

Generalised Anxiety. Six studies provided bivariate correlations between generalised anxiety symptoms and social anxiety among sexual minority women and men. All six studies found that higher generalised anxiety symptoms were significantly linked to heightened social anxiety (Burns et al., 2012a; Cohen, Feinstein, et al., 2016; Dyar et al., 2016; Hart et al., 2019, 2015; Schmitt & Kurdek, 1984).

Depression. Eleven studies provided bivariate correlations between depression and social anxiety, ten of which illustrated that increased depression was significantly related to heightened social anxiety among sexual minority individuals (Blashill, 2010; Blashill & Vander Wal, 2009; Burns et al., 2012a; Cohen, Feinstein, et al., 2016; Dyar et al., 2016; Feinstein et al., 2012; Fletcher et al., 2018; Hart et al., 2019, 2015; Pachankis, Sullivan, Feinstein, & Newcomb, 2018; Puckett et al., 2015). By contrast, Schmitt and Kurdek (1984) reported a non-significant correlation between the two constructs.

Eating Disorder Symptomatology. Three studies provided bivariate correlations between eating disorder symptomatology and social anxiety among sexual minority women and men, all of which indicated that increased eating disorder symptoms were significantly associated with heightened social anxiety (Blashill, 2010; Blashill & Vander Wal, 2009; Hart et al., 2015; Mason & Lewis, 2016; Mason et al., 2017).

Other Internalising Mental Health Symptoms. Studies found that social anxiety was significantly positively related to negative affect (Mason et al., 2017; Meidlinger & Hope, 2014), psychological distress (Puckett et al., 2015), panic, posttraumatic stress (Cohen, Feinstein, et al., 2016), suicide risk, and obsessive-compulsive disorder symptomatology (Fletcher et al., 2018). Two studies demonstrated significant negative correlations between positive affect and social anxiety, such that increased positive affect was associated with less social anxiety (Burns et al., 2012a; Meidlinger & Hope, 2014). Pachankis and Goldfried (2006) found a significant inverse relationship between social anxiety and self-esteem in gay men. For sexual minority men, attachment anxiety was associated with greater social anxiety ($b = 5.02$, $p < .001$; Pachankis, Sullivan, & Moore, 2018), and those screening for PTSD were more likely to have SAD than their non-symptomatic counterparts (67% vs 41%; $OR = 2.98$, $p < .001$; Reisner et al., 2009)

Externalising Mental Health Symptoms

Antisocial Personality Disorder. In sexual minority men, Fletcher et al. (2018) found a significant positive correlation between social anxiety and antisocial personality disorder symptomatology.

Substance Abuse. Pachankis, Sullivan, and Moore (2018) found no significant association between social anxiety and alcohol abuse among sexual minority men. In addition, Shoptaw et al. (2003) found that there was a higher prevalence of SAD in methamphetamine dependent MSM dependent on two or more substances other than methamphetamine (42.9%), compared to MSM dependent on one other substance (28.6%) and on methamphetamine only (15.9%). Finally, among methamphetamine using MSM, Fletcher et al. (2018) demonstrated a significant association between SAD and severity of methamphetamine use disorder ($\chi^2 = 8.4$, $p < .05$), marijuana use disorder ($\chi^2 = 20.0$, $p \leq .001$), and alcohol use disorder ($\chi^2 = 15.6$, $p < .01$). By contrast, no significant association between SAD diagnosis and severity of cocaine use disorder ($\chi^2 = 3.9$, $p = .31$) and inhalants use disorder ($\chi^2 = 6.4$, $p = .09$) was found within this group (Fletcher et al., 2018).

Body Image and Related Variables

Body Image. Two studies demonstrated significant positive correlations between variables associated with body dissatisfaction and social anxiety in sexual minority men (Blashill, 2010; Blashill & Vander Wal, 2009; Hart et al., 2015), whereas Mason and Lewis (2016) reported that higher body shame was significantly related to increased social anxiety in lesbian women.

Body Weight Calculations. Among sexual minority women, one study reported no significant correlation between BMI and social anxiety, while there was a significant relationship between increased ideal weight discrepancy and social anxiety (Mason & Lewis, 2016; Mason et al., 2017).

Gender Roles

Gender Nonconformity. Feinstein et al. (2012) demonstrated a significant positive correlation between childhood gender nonconformity and social anxiety among gay men and lesbian women, while Pachankis and Goldfried (2006) reported one significant positive correlation (Inventory of Anxiousness) and multiple non-significant (Social Interaction Anxiety Scale, Social Phobia Scale, and Fear of Negative Evaluation) correlations between childhood gender nonconformity and social anxiety in gay men. Heightened current gender nonconformity was significantly positively correlated with social anxiety in two studies (Puckett et al., 2016; Rubio & Green, 2009). Additionally, increased frequency of childhood teasing related to gender nonconformity was significantly positively related to social anxiety among sexual minority men (Hart et al., 2019).

Gender Rejection Sensitivity and Gender Role Conflict. Gender related rejection sensitivity was significantly positively correlated with social anxiety among sexual minority women (Dyar et al., 2016), whereas increased gender role conflict was significantly positively correlated with social anxiety among gay men (Blashill & Vander Wal, 2009, 2010).

Sexual Practices

Condomless Anal Sex and Sexually Transmitted Infections. Hart and Heimberg (2005) reported significant positive correlations between social anxiety (Social Phobia Scale) and increased frequency of any condomless anal sex (i.e. insertive or receptive) and condomless insertive anal sex among sexual sexual minority men. However, Hart and Heimberg (2005) also found non-significant correlations between social anxiety and increased frequency of any condomless anal sex (Social Interaction Anxiety Scale), condomless insertive anal sex (Social Interaction Anxiety Scale), condomless receptive anal sex (Social Phobia Sclale and Social Interaction Anxiety Scale), and any anal sex with or without a condom(Social Phobia Sclale and Social Interaction Anxiety Scale). Among HIV-positive MSM, Hart, James, et al. (2008) found significant associations between condomless insertive anal sex with HIV-negative partners and social anxiety: Social Phobia Scale ($\chi^2 = 11.71$, $OR = 15.40$ [1.89, 125.77], $p = 0.01$), Liebowitz Social Anxiety performance sub-scale ($\chi^2 = 8.13$, $OR = 7.41$ [1.51, 36.34], $p = 0.01$), Liebowitz Social Anxiety interaction sub-scale ($\chi^2 = 5.53$, $OR = 4.71$ [1.17, 18.93], $p < 0.05$). In

methamphetamine dependent MSM, Shoptaw et al. (2003) reported those with SAD were significantly more likely to report lifetime syphilis than their counterparts without SAD (57.1% vs 18.9%, $\chi^2 = 5.96$, $p < .05$), no such differences were evident for HIV (85.7% vs 62.2%), chlamydia (14.3% vs 17.4%), genital gonorrhoea (42.9% vs 44.8%) and oral gonorrhoea (14.3% vs 10.3%). Further, compared to their counterparts without SAD, Shoptaw et al. (2003) found that methamphetamine dependent MSM with SAD reported a higher frequency of sexual partners in the last six months ($M_{SAD} = 84.7$, $SD = 117.1$; $M_{withoutSAD} = 43.2$, $SD = 77.7$), lower number of sexual partners in the last 30 days ($M_{SAD} = 5.1$, $SD = 4.0$; $M_{withoutSAD} = 10.4$, $SD = 21.9$), fewer instances of condomless insertive anal sex in the last 30 days ($M_{SAD} = 1.1$, $SD = 1.9$; $M_{withoutSAD} = 2.3$, $SD = 4.8$) and fewer instances of condomless receptive anal sex in the last 30 days ($M_{SAD} = 2.0$, $SD = 3.0$; $M_{withoutSAD} = 2.8$, $SD = 6.3$).

Other Sexual Practices. Experiences of sexual objectification, but not pornography consumption, were significantly positively correlated with social anxiety among sexual minority men (Hart et al., 2015). Also, Mimiaga et al. (2009) reported that, in comparison to their counterparts without SAD, MSM screening for symptoms of SAD were more willing to use public health services that notify their previous sexual partners should they contract HIV or a STI ($OR = 2.63$, $p < .01$).

Socio-demographics

Age. Nine studies included bivariate associations between social anxiety and age. Five of these studies provided bivariate correlations between age and social anxiety among gay men and lesbian women, all of which reported a significant relationship between younger age and heightened social anxiety (Blashill & Vander Wal, 2009; Burns et al., 2012a; Mason et al., 2017; Schmitt & Kurdek, 1984; Schope 2005). Meyer et al. (2008) found that sexual minority individuals aged 45–59 years (17.8%, $SE = 5.8$) reported lower lifetime SAD prevalence when compared to those aged 30–44 years (23.4%, $SE = 3.2$) and those aged 18–29 years (22.1%, $SE = 3.2$); however, related statistical analyses comparing SAD across age groups were omitted. O'Cleirigh et al. (2013) reported no significant difference in SAD prevalence between younger (aged 20–29) and older (aged 30+) MSM (33.3% vs 22.1%, $p = .12$), whereas J. Wang et al. (2007) demonstrated most cases of SAD had an onset in childhood and adolescence in sexual minority men (25^{th} *percentile* = 10 years, *Mdn* = 12 years, 75^{th} *percentile* = 17 years). Lastly, in a longitudinal study with sexual minority men, there was a significant linear increase over time in social anxiety; that is, social anxiety levels increased as participants got older ($b = 0.77$, $p < .001$; Pachankis, Sullivan, Feinstein, & Newcomb, 2018).

Ethnicity. Five studies, reporting mixed evidence, provided bivariate associations between ethnicity and social anxiety. Balsam et al. (2015) reported no significant difference in social anxiety across race/ethnicity groups in sexual minority women: African American ($M = 14.28$, $SD = 17.81$), Latina American ($M = 15.06$, $SD = 17.00$), Asian American ($M = 17.75$, $SD = 15.09$), White American ($M = 18.48$, $SD = 17.12$), $F(3, 920) = 2.52$, $p = .06$. O'Cleirigh et al. (2013) also found the proportion of HIV-positive MSM meeting the screening criteria for SAD did not differ significantly by ethnicity, $\chi^2(3) = 4.13$, $p = .25$. In a nationally representative sample, Rodriguez-Seijas et al. (2019) found that White sexual minority individuals (10.76%, $SE = 1.51$) reported significantly higher SAD compared to their Black (2.49%, $SE = 1.66$; $p < .05$) but not Hispanic (6.16%, $SE = 2.07$) sexual minority counterparts. Contrastingly, in another study, Latinx sexual minority individuals (27.3% $SE = 4.0$) reported higher lifetime prevalence of SAD than their White (20.5% $SE = 3.5$) and Black (18.8%, $SE = 3.5$) counterparts (Meyer et al., 2008); however, related statistical analyses comparing SAD across racial groups were omitted. Finally, Cathey et al. (2014) demonstrated that dual minority (i.e. ethnic and sexual minority) individuals ($M = 26.8$, $SD = 10.6$) reported the highest social anxiety followed by ethnic majority/sexual minority ($M = 24.1$, $SD = 11.7$), dual majority (i.e. ethnic and sexual majority; $M = 21.8$, $SD = 10.7$), and ethnic minority/sexual majority ($M = 17.1$, $SD = 9.4$).

Income. Sexual minority individuals at higher risk of economic adversity had a higher 12-month prevalence of SAD than those at lower risk (10.1% vs 4.6%; $OR = 2.4$ [1.1, 5.0]; Hatzenbuehler et al., 2011). Hart, James, et al. (2008) found that MSM with high social anxiety: Liebowitz Social Anxiety interaction sub-scale ($OR = 3.23$ [1.29, 8.11], $p < 0.05$), Liebowitz Social Anxiety performance sub-scale

(*OR* = 4.90 [1.90–12.64], $p < 0.01$), were more likely to have an income less than $10,000 per year. Sexual minority men from higher, compared to lower, socioeconomic backgrounds did not report significantly different social anxiety in a longitudinal study ($b = -5.00$, $p = .07$; Pachankis, Sullivan, Feinstein, & Newcomb, 2018).

Education. Two studies found significant inverse relationships between education and social anxiety, such that higher educational attainment was related to lower social anxiety (Burns et al., 2012a; Mason et al., 2017).

Gender. Schope (2005) highlighted significantly higher social anxiety related to interactions with same-gender sexual minority peers in gay men ($M = 34.0$, $SD = 9.6$) compared to lesbian women ($M = 28.9$, $SD = 9.3$), $p < .001$. Three studies reported no significant difference in social anxiety levels between lesbian women and gay men, although the related data was not included (Feinstein et al., 2012; Potoczniak et al., 2007; Wadsworth & Hayes-Skelton, 2015).

Discrimination (Not Solely Based on Sexual Orientation)

Four studies reported bivariate correlations between social anxiety and experiences of discrimination not based solely on sexual minority status. These studies reported significant positive correlations between heightened social anxiety and everyday discrimination among lesbian women (Mason & Lewis, 2016), weight discrimination among lesbian women (Mason et al., 2017), heterosexist and ethnic (combined measure) discrimination among sexual minority individuals (Cathey et al., 2014), experiences of racism among sexual minority men of colour (Hart et al., 2015) and childhood bullying among sexual minority men (Hart et al., 2019).

Other Variables (Not Thematically Grouped)

Among sexual minority individuals, Puckett et al. (2015) demonstrated that increased LGBTQ community connectedness was significantly associated with less social anxiety. Meidlinger and Hope (2014) also found that higher quality of life was significantly associated with reduced social anxiety. Additionally, neuroticism was positively correlated with social anxiety in gay and lesbian couples (Kurdek, 1996). Finally, Potoczniak et al. (2007) demonstrated that social anxiety was significantly positively correlated with general self-concealment, significantly negatively correlated with ego identity commitment, and not significantly correlated with ego identity exploration among sexual minority men and women.

Multivariate Associations Pertaining to Social Anxiety Among Sexual Minority Individuals

The multivariate associations between social anxiety and variables assessed in 13 included studies are summarised and the significant associations are thematised in Table 9.

Psychological Interventions Targeting Social Anxiety Among Sexual Minority Individuals

Three studies detailed psychological interventions aimed at reducing social anxiety among sexual minority individuals (Hart et al., 2014; Reisner et al., 2011; Walsh & Hope, 2010). Reisner et al. (2011) detailed a peer facilitator manualised group intervention, consisting of didactic discussions and social meals, that significantly reduced Social Interaction Anxiety Scale ($M = 30.83$, $SD = 13.31$ vs $M = 28.20$, $SD = 13.16$), $\chi^2 = 6.78$, $p < .01$ and Brief Fear of Negative Evaluation Scale scores ($M = 38.43$, $SD = 10.23$ vs $M = 35.65$, $SD = 9.28$), $\chi^2 = 10.01$, $p < .01$, from baseline to post-intervention in a group of gay and bisexual men over the age of 40. The remaining two studies used case study designs, and detailed individual CBT with sexual minority clients. Over the course of 50 LGB affirmative CBT sessions, Walsh and Hope (2010) demonstrated a significant reduction in scores on the Brief Fear of Negative Evaluation Scale (from 55, z [in comparison to socially anxious samples] = 0.76 to 31, $z = -1.71$) in a 23-year-old man coming to terms with being gay. Through the use of integrated CBT (i.e. tackling both social anxiety and condomless sex), Hart et al. (2014) showed reductions in pre-

treatment vs 3-month follow-up Liebowitz Social Anxiety Scale scores in three gay men (i.e. Client 1: 29 vs 0, Client 2: 78 vs 53, Client 3: 52 vs 45).

Discussion

This article systematically reviews the published literature pertaining to social anxiety among sexual minority populations. The preponderance of research has focused on men, is cross-sectional, and located in the United States. Based on the findings, qualitative studies on this topic are non-existent. Sexual minority individuals appear to experience heightened levels of social anxiety compared to their heterosexual counterparts. The scant research available assessing levels of social anxiety across sexual minority sub-populations suggests bisexual individuals report higher social anxiety than their gay/lesbian counterparts. Across the included studies, social anxiety was significantly correlated with an array of variables, namely minority stress processes, general social psychological processes, and other internalising mental health symptoms. Fewer studies incorporate social anxiety into multivariate or longitudinal analyses, meaning that our knowledge of its potential determinants and outcomes are constrained. Further, studies assessing the efficacy of psychological interventions targeting social anxiety among sexual minority populations are extremely limited for men, and non-existent for women.

Across the included studies, there was an observable trend of sexual minority individuals reporting higher social anxiety (SAD and social anxiety symptoms) than their heterosexual counterparts (e.g. Akibar et al., 2019; Cohen, Blasey, et al., 2016; Hatzenbuehler et al., 2009; Kerridge et al., 2017; Sandfort et al., 2014). Given the associations involving social anxiety and both increased minority stress processes (e.g. Feinstein et al., 2012) and diminished general psychological processes (e.g. Potoczniak et al., 2007) in sexual minority populations (see objective three findings), this sexual orientation disparity may offer support to the theoretical standpoints related to sexual minority stress (Hatzenbuehler, 2009; Meyer, 2003). There were some notable exceptions to this trend specific to sexual minority women. For instance, in nationally representative samples, the social anxiety disparity between lesbian and heterosexual women was narrow (Bostwick et al., 2010), and in some cases did not reach statistical significance (Kerridge et al., 2017). Further, in Bostwick et al.'s (2010) study, women only attracted to women were least at risk for lifetime SAD of any sexual attraction sub group. This is incongruent to Sandfort et al.'s (2014) findings that sexual minority women attracted to women/women and men are at a greater risk for 12-month and lifetime SAD than women only attracted to men. Indeed, this exemplifies how the divergence in studies' assessment of sexual orientation may yield different findings pertinent to SAD prevalence. This is observed in this case of examining social anxiety in relation to sexual attraction: Bostwick et al.'s (2010) nuanced assessment using five categories vs Sandfort et al.'s (2014) limited assessment grouping all sexual minority together using two categories.

A similar pattern emerged in terms of SAD disparities across sexual behaviour subgroups. Studies that grouped all sexual minority participants together (i.e. on the basis of having had any same-gender sexual partners), reported elevated rates of SAD in this group compared to those with solely opposite-gender sexual partners (Gilman et al., 2001; Sandfort et al., 2001, 2014). Although in some instances, smaller numbers of sexual minority participants appeared to preclude significant findings. Contrastingly, Bostwick et al. (2010) used four categories to decipher between sexual behaviour subgroups and demonstrated similar SAD prevalence in MSM only and MSW only, lower SAD prevalence in WSW only than WSM only, and the highest SAD prevalence in behaviourally bisexual individuals (MSMW and WSMW) within both gender groups. However, these results must be interpreted with caution. As noted by previous research (Bauer & Brennan, 2013), the number of sexual partners required to categorise WSMW and MSMW as behaviourally bisexual (i.e. two, a man and a woman) compared to that for classifying WSW and MSM as behaviourally homosexual (i.e. one, an opposite-gender partner) might confound the association between gender of sexual partners and social anxiety.

Table 9. Multivariate Associations Pertaining to Social Anxiety.

Study	Themes	Findings
Blashill (2010)	Body image and related variables	• The final hierarchical regression model explained 25% of the variance in social anxiety among gay men. • Significant predictors: Step 1 muscle dissatisfaction; Step 2 body fat dissatisfaction. • Non-significant predictors: Step 3 height dissatisfaction.
Blashill and Vander Wal (2009)	Body image and related variables; Gender roles; Internalising mental health symptoms	• In mediation models assessing social anxiety and depression as mediators of the association between gender role conflict and eating disorder symptomatology, social anxiety mediated the association between gender role conflict and eating disorder symptomatology. • In mediation models assessing social anxiety and depression as mediators of the association between gender role conflict and body dissatisfaction, social anxiety mediated the association between gender role conflict and body dissatisfaction.
Blashill and Vander Wal (2010)	Gender roles; Internalising mental health symptoms	• Gender role conflict mediated the association between social anxiety and depression among gay men.
Burns et al. (2012b)	Sexual minority stress processes	• The final hierarchical regression model explained 24% of the variance in social anxiety among gay men. • Significant predictors: Step 1 internalised homonegativity; Step 2 globality/importance attributed to discrimination; Step 3 heterosexist discrimination x globality/importance attributed to discrimination. • Non-significant predictors: Step 1 heterosexist discrimination, increased contact with other gay men but reluctance to disclose identity to heterosexuals, and full integration into gay and straight culture; Step 2 blame orientation, internal/external-circumstances attributions and controllable attributions.
Cohen, Blasey, et al. (2016)	Sexual minority stress processes; Socio-demographics	• The final hierarchical regression model explained 8.1% of the variance in social anxiety among sexual minority young adults. • Significant predictors: Step 1 gender (i.e. identifying as a woman); Step 2 sexual identity concealment.
Cohen, Feinstein, et al. (2016)	Sexual minority stress processes; Internalising mental health symptoms	• A structural equation modelling analysis revealed a significant direct effect of rejection sensitivity on social anxiety among sexual minority men when a latent transdiagnostic internalising factor was not included in the model; this direct effect became nonsignificant when the transdiagnostic internalising factor was held constant in the model, indicating the transdiagnostic internalising factor mediated the association between rejection sensitivity and social anxiety; 61.2% of the association between rejection sensitivity and social anxiety was explained by the association between rejection sensitivity and the transdiagnostic internalising factor.
Feinstein et al. (2012)	Sexual minority stress processes; Gender roles; Internalising mental health symptoms	• A path analysis model assessing internalised homonegativity and rejection sensitivity as partial mediators of the association between heterosexist discrimination (proceeded by the exogenous variable of childhood gender non-conformity) and internalising mental health symptoms (i.e. social anxiety and depression as separate outcome variables), explained 11% of variance in social anxiety among gay men and lesbian women. • Significant direct effects: internalised homonegativity → increased social anxiety; rejection sensitivity → increased social anxiety. • Significant indirect effects (controlling for depression): heterosexist discrimination → increased internalised homonegativity → increased social anxiety; heterosexist discrimination → increased rejection sensitivity → increased social anxiety.

(*Continued*)

Table 9. (Continued).

Study	Themes	Findings
Hart and Heimberg (2005)	Sexual practices	• After controlling for sociodemographic covariates, the final hierarchical logistic regression model assessing predictors of condomless insertive anal sex among young sexual minority men revealed: • Significant predictors: Step 2 measure social anxiety (i.e. SPS) • Non-significant predictors: Step 1 measures discussing condom use, refusing condomless intercourse, number of social supports and social support satisfaction.
Hart et al. (2015)	Body image and related variables; Internalising mental health symptoms; General psychological processes (Social); Other discrimination	• The final hierarchical regression model explained 46% of the variance in social appearance anxiety among sexual minority men. • Significant predictors: Step 2 generalised anxiety, muscle dissatisfaction, body fat dissatisfaction, and height dissatisfaction; Step 3 experiences of racism and less social support. • Non-significant predictors: Step 1 age, ethnicity, household income; Step 2 social desirability; Step 3 internalised homonegativity, sexual objectification, and eating disorder symptoms.
Hatzenbuehler et al. (2011)	Sexual minority stress processes; Socio-demographics; General psychological processes (Social)	• When adjusted for protective state policies towards sexual minority individuals, state-level attitudes towards sexual minority individuals, and sociodemographic variables, economic adversity and social isolation were positively associated with SAD, whereas state-level concentration of same-sex couples was not associated with SAD. • After stratifying on state-level concentration of same-sex couples, economic adversity was not associated with SAD among sexual minority individuals living in states with a low concentration of same-sex couples and those living in states with a high concentration of same-sex couples, whereas social isolation was significantly associated with SAD for sexual minority individuals living in states with low concentration of same-sex couples but not for those living in states with a high concentration of same-sex couples.
Mason and Lewis (2016)	Sexual minority stress processes; Body image and related variables; Internalising mental health symptoms; Other discrimination	• A structural equation modelling analysis assessing social anxiety and body shame as sequential mediators of the association between discrimination and proximal minority stress (i.e. composite variable consisting of internalised homonegativity, concealment motivation, acceptance concerns, and difficulty processing sexual identity) and binge eating, explained 31% of the variance in social anxiety among young lesbian women. • Significant direct effects: discrimination → increased social anxiety; proximal minority stress → increased social anxiety; social anxiety → increased body shame; social anxiety → increased binge eating. • Significant indirect effects: discrimination → increased proximal minority stress → increased social anxiety → increased body shame → increased binge eating; discrimination → increased proximal minority stress → increased social anxiety → increased binge eating; discrimination → increased social anxiety → increased binge eating.
Mason et al. (2017)	Sexual minority stress processes; Other discrimination; General psychological processes (Social); Internalising mental health symptoms	• A structural equation modelling analysis assessing social support, weight discrepancy, social anxiety and negative affect as sequential mediators of the association between discrimination (i.e. due to weight and sexual minority status) and disordered eating, explained 16% of the variance in social anxiety among young lesbian women and revealed: • Significant direct effects: weight discrimination → increased social anxiety; family social support → decreased social anxiety; friend social support → decreased social anxiety; social anxiety → increased eating disorder symptoms. • Significant indirect effects: heterosexist discrimination → decreased family social support → increased social anxiety → increased eating disorder symptoms; weight discrimination → decreased friend social support → increased social anxiety → increased eating disorder symptoms; weight discrimination → increased social anxiety → increased eating disorder symptoms.

(*Continued*)

Table 9. (Continued).

Study	Themes	Findings
Mason and Lewis (2019)	Internalising mental health symptoms; Externalising mental health symptoms; Physical activity	• Latent profile analysis revealed that lesbian women in the obese and binge eating, disordered eating and hazardous alcohol use, and disordered eating and high exercise classes reported higher social anxiety than those in the low health risk and moderate exercise, and low health risk and high exercise classes.
O'Cleirigh et al. (2013)		• After controlling for viral load, CD4+ count and current or past anti-retroviral therapy, logistic regression models demonstrated no main effect of SAD on condomless anal sex and the interaction of age and SAD did not significantly predict condomless anal sex.
Pachankis, Sullivan, Feinstein, et al. (2018)	Sexual minority stress processes; Socio-demographics	• After adjusting for socioeconomic status, a model assessing the contemporaneous associations of social anxiety with minority stress demonstrated that heterosexist discrimination, rejection sensitivity, and internalised homonegativity were significant contemporate correlates of social anxiety, whereas sexual identity concealment was not. • After adjusting for socioeconomic status, a model assessing the 1-year lagged associations of social anxiety with minority stress, demonstrated that heterosexist discrimination, rejection sensitivity, internalised homonegativity, and identity concealment were not significant predictors of social anxiety.
Pachankis, Sullivan, & Moore (2018)	General psychological processes (Social)	• In hierarchical linear regression models, maternal rejection explained 1.1% of variance in social anxiety, whereas the addition of maternal unfinished business explained 11.6% of social anxiety variance; further, paternal rejection explained 1.2% of variance in social anxiety, whereas the addition of paternal unfinished business explained 11.0% of social anxiety variance.
Potoczniak et al. (2007); USA	General psychological processes (Social); Other variables	• A structural equation modelling analysis assessing social support and self-concealment as partial mediators of the association between social anxiety and ego identity (commitment and exploration) revealed: • Significant direct effects: social anxiety → decreased social support; social anxiety → increased self-concealment. • Significant indirect effects: social anxiety → decreased social support → decreased ego identity commitment; social anxiety → decreased social support → decreased ego identity exploration; social anxiety → decreased social support → increased self-concealment.
Puckett et al. (2016)	Sexual minority stress processes; Gender roles; Socio-demographics	• After controlling for age, gender, and sexual orientation, mediation analysis assessing heterosexist discrimination, rejection sensitivity, concealment and internalised homonegativity as partial mediators of the association between gender nonconformity and social anxiety explained 20% of the variance in social anxiety. • Significant direct effects: gender nonconformity → increased social anxiety; rejection sensitivity → increased social anxiety; sexual identity concealment → increased social anxiety; internalised homonegativity → increased social anxiety; older age → decreased social anxiety. • Significant indirect effects: gender nonconformity → increased rejection sensitivity → increased social anxiety.

Note. The Themes column solely details significant multivariate associations pertaining to social anxiety. SAD = social anxiety disorder; SPS = Social Phobia Scale.

The limited amount of research that assessed social anxiety differences within sexual minority populations found that bisexual, and in some cases emerging identity individuals, report higher social anxiety than their gay/lesbian counterparts (Akibar et al., 2019; Meyer et al., 2008; Wadsworth & Hayes-Skelton, 2015). This finding coincides with a body of research that consistently illustrates that bisexual individuals are more at risk for negative mental health outcomes than their gay/lesbian counterparts (Feinstein & Dyar, 2017). Bisexual-specific minority stressors experienced by bisexual individuals such as experiences of discrimination due to bisexual identity and internalised binegativity might offer explanations for their elevated levels of social anxiety (Brewster & Moradi, 2010; Brewster et al., 2013; MacLeod et al., 2015). Indeed, bisexual individuals might experience specific processes such as negative stereotypes (Feinstein & Dyar, 2017) and bi-erasure within the sexual minority community through their interactions with gay/lesbian individuals (Heath & Mulligan, 2008), which could serve to increase their social anxiety levels.

As the objective three findings indicated, social anxiety is significantly associated with a vast array of variables among sexual minority individuals. The salience of minority stress processes is highlighted by their significant associations and complex interrelationships with social anxiety, as demonstrated in bivariate and multivariate analyses across included studies (e.g. Cohen, Blasey, et al., 2016; Mason & Lewis, 2016; Pachankis, Sullivan, Feinstein, & Newcomb, 2018; Puckett et al., 2016). Further, in line with the psychological mediation framework (Hatzenbuehler, 2009), Feinstein et al. (2012) highlighted proximal minority stress processes as mediators of the association between heterosexist discrimination and social anxiety; however, other aspects of this theoretical position (i.e. universal risk factors/general psychological processes as mediators) remain relatively unexplored.

There is some tentative evidence that general psychological process such as social support (Mason et al., 2017) and lack of self-criticism (Puckett et al., 2015), and community resilience processes such as connectedness to the LGBT community (Puckett et al., 2015) may encourage healthy social functioning in sexual minority individuals. Whether these variables or other coping mechanisms may protect sexual minority individuals from stigma related stress and subsequent social anxiety warrants further investigation. A more thorough examination of the potential role of general psychological processes and resilience variables (i.e. both individual- and community-level) would both add to the nascent body of research on protective factors for social anxiety among sexual minority populations, and answer recent calls to focus on resilience/strength-based variables in sexual minority individuals (De Lira & De Morais, 2018; Lyons, 2015).

Multiple studies found significant associations between body dissatisfaction and social anxiety among sexual minority individuals (Blashill, 2010; Hart et al., 2015; Mason & Lewis, 2016). Preoccupation with physical appearance may stimulate cognitive processes related to self-focus, that are known to maintain social anxiety (Wong & Rapee, 2016). These experiences may be particularly pertinent within sexual minority communities as both sexual minority women's (Clarke & Spence, 2013; Krakauer & Rose, 2002) and men's (Pachankis, Clark, et al., 2020) communities are known to uphold ideals pertaining to appearance. While there is tentative evidence establishing a link between social anxiety and condomless anal sex in sexual minority men (Hart & Heimberg, 2005; Hart, James, et al., 2008), there are a plethora of other variables related to condomless anal sex and STI epidemiology within this population (e.g. Shuper et al., 2014; H. Wang et al., 2018). Therefore, the potential mechanisms behind this relationship (e.g. whether social anxiety may be associated with insertive and/or receptive condomless anal sex) require further extrapolation through the utilisation of more sophisticated analyses.

The findings pertaining to socio-demographics coincide with research conducted with large, presumably mixed sexual orientation samples, in that lower educational attainment and younger age are associated with heightened social anxiety (Stein et al., 2017). While some of the included studies portraying White sexual minority individuals as most at risk for SAD (e.g. Rodriguez-Seijas et al., 2019) coincides with social anxiety research in the general population (Asnaani et al., 2010; Grant et al., 2005), this evidence was mixed. The consistent associations between social anxiety and other internalising mental health symptoms (primarily generalised anxiety and depression) comes

somewhat expected. These mental health difficulties are also elevated among sexual minority individuals, especially bisexual individuals, when compared to heterosexuals (Ross et al., 2018). Further, similar minority stress pathways are associated with all three internalising mental health symptoms (Cohen, Feinstein, et al., 2016; Puckett et al., 2015).

A comprehensive future investigation of social anxiety among sexual minority individuals should utilise both sexual minority- (Hatzenbuehler, 2009; Meyer, 2003) and social anxiety-specific theoretical frameworks (e.g. Wong & Rapee, 2016) to advance knowledge pertaining to the determinants and experience of social anxiety within this population. Such an approach could highlight the salient role of both sexual minority-specific (e.g. rejection sensitivity and sexual identity concealment) and general cognitive and behavioural processes (e.g. biased attentional processes and avoidance) in sexual minority individuals' experiences of social anxiety.

The knowledge base detailing interventions targeting social anxiety among sexual minority men is extremely limited, and this issue is exacerbated when focusing on sexual minority women. There is a discernible need to fill this empirical void among sexual minority women, and build upon the minimal evidence available for sexual minority men. Indeed, in line with a recent call to move empirical efforts towards evidence-based affirmative treatments among sexual minority individuals (Budge et al., 2017; Pachankis, 2018), conducting studies (i.e. ideally randomised controlled trials) testing the efficacy of LGB-affirmative CBT in reducing social anxiety symptoms may represent a beneficial starting point as this approach showed favourable results in tackling other mental health difficulties in sexual minority men and women (Pachankis et al., 2015; Pachankis, McConocha, et al., 2020).

Strengths and Limitations

The current review represents the most extensive effort to collate data pertaining to social anxiety among sexual orientation subgroups. Further, this paper represents the first effort to synthesise all variables potentially associated with social anxiety among sexual minority individuals. This is not only beneficial in aiding theoretical progression related to this phenomenon, but also may function as a pragmatic resource for practitioners working with sexual minority clients diagnosed with SAD. Lastly, our review underscores clear deficiencies in the current knowledge base, even though this is a burgeoning area of research as evidenced by a majority of included studies published in the recent years.

Despite its contribution to the knowledge base, the current review carries some limitations. We only included papers published in English; thus, there was a bias towards English speaking participants (i.e. namely those located in the United States), which might have impeded the detection of plausible cultural differences. This is important to acknowledge, as culture is an important aetiological factor of SAD (Wong & Rapee, 2016), and SAD prevalence varies greatly across countries (Stein et al., 2017), as do sexual minority individuals' experiences of minority stress (Pachankis & Bränström, 2018). Given the broad scope of objectives two and three, and the heterogeneity in assessments of sexual orientation and outcome measures, we decided not to use meta-analyses in this paper. However, the current review's synthesising of available research evidence would benefit future meta-analyses in the area. We also chose to include studies published in peer-reviewed journals only, meaning potentially relevant data from the grey literature has been omitted. The methodologies of included studies hinder the strength of the conclusions that can be drawn from this review. With the vast majority of studies employing cross-sectional designs, it is not feasible to ascertain whether minority stressors and other relevant variables (e.g. general psychological processes) have a casual influence on social anxiety for sexual minority individuals. Hence, we emphasise the need for more longitudinal and experimental studies in the area.

Conclusions

The findings presented above suggest that social anxiety levels are heightened in sexual minority populations compared to heterosexuals, perhaps even more so in those identifying as bisexual. Despite the large number of studies in this review, our knowledge of the determinants and outcomes of social anxiety among sexual minority populations remain somewhat limited; this paucity of knowledge is amplified when focusing on sexual minority women. Further, qualitative investigations in this area are completely lacking. Rigorous studies examining interventions targeting social anxiety for this population are also largely non-existent. Future empirical explorations should also employ more diverse research methodologies (e.g. longitudinal, experimental, and qualitative). Subsequently, the enhanced knowledge base generated from these study findings may allow the testing of more nuanced interventions aiming to alleviate social anxiety among sexual minority populations.

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Appendix A: PsycINFO Search Strategy

Field labels

- exp/ = exploded controlled term
- / = non exploded controlled term
- .mp = title, abstract, heading word, table of contents, key concepts, original title, tests & measures, mesh]

*= truncation of word for alternate endings

(1) Bisexuality/
(2) exp Homosexuality/
(3) Same Sex Intercourse/
(4) Same Sex Couples/
(5) Same Sex Marriage/
(6) Sexual Minority Groups/
(7) (queer* or LGB* or LGBTQ or LGBQ or LGBTQI or GLB or LGB or LGBT or GLBT or homosexual* or lesbian* or gay* or bisexual* or bi-sexual* or "sexual minorit*" or "sexual orientation*" or bicurious or lesbigay* or "men who have sex with men" or MSM or MSMW or "men loving men" or "same sex" or "same sex couple*" or "same sex relation*" or "women loving women" or "women who have sex with women" or WSW or "same gender loving" or "same-gender loving" or "same-gender-loving" or asexual* or demisexual* or pansexual* or polysexual* or polyamor*).mp.
(8) Social Anxiety/
(9) Social Phobia/
(10) ("social phobia*" or "social anxiety" or "social fear*" or "public speaking anxiety" or "performance anxiety" or "interaction anxiety" or "fear of negative evaluation" or "social sensitivity" or "taijin kyofusho" or "social distress" or "social avoidance" or "test anxiety").mp.
(11) 1 or 2 or 3 or 4 or 5 or 6 or 7
(12) 8 or 9 or 10
(13) 11 and 12