Depression and Anxiety Across Gender and Sexual Minorities: A Finnish Population-Based Study

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Master's Thesis in Psychology

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Title: Depression and Anxiety Across Gender and Sexual Minorities: A Finnish Population-Based Study	
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Abstract: Substantial empirical evidence suggests that sexual and gender minority individuals suffer more from anxiety and depression than the heterosexual and cisgender majority population. Many previous studies have not, however, used representative population-based samples, thereby making the generalizability of the results questionable. Previous research in this field has also mainly focused on lesbian, gay, bisexual, and binary transgender individuals. This has created a knowledge gap, as there is a shortage of evidence about other sexual and gender minorities, such as emerging identity and non-binary individuals. Consequently, the present study examined differences in anxiety and depression within sexual and gender minorities, as well as compared to the heterosexual and cisgender majority in a large population-based Finnish sample (N = 8,589). Guided by minority stress and intersectionality theory, we also explored if individuals with a double minority status would report higher rates of anxiety and depression than individuals with a single minority status. Our results indicate that although minority individuals overall experience significantly higher rates of anxiety and depression than majority individuals, bisexual, emerging identity, and non-binary individuals reported the highest rates of anxiety and depression. Contrary to previous findings, our results did not, however, find any significant differences in anxiety and depression outcomes, between single and double minority individuals. In conclusion, our results suggest that even though Finland is a developed country with a relatively inclusive social climate, sexual and gender minority individuals are, nevertheless, disproportionately affected by mental health issues.	
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ÅBO AKADEMI – FAKULTETEN FÖR HUMANIORA, PSYKOLOGI OCH TEOLOGI

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Titel: Depression och ångest hos sexuella och könsminoriteter: en finsk populationsbaserad studie

Handledare: Marianne Källström och Annika Gunst

Abstrakt: Omfattande resultat från empiriska studier tyder på att sexuella och könsminoriteter lider mer av ångest och depression än den heterosexuella ciskönade majoritetsbefolkningen. Många av dessa studier har dock inte använt representativa populationsbaserade sampel, vilket gör generaliserbarheten av resultaten tvivelaktig. Största delen av forskningen inom detta område har också huvudsakligen fokuserat på lesbiska, homosexuella, bisexuella och binära transpersoner. Detta har skapat en kunskapslucka i litteraturen, då det råder en brist på information om de övriga sexuella och könsminoriteterna, såsom de ”uppkommande identiteterna” (emerging identities) och icke-binära individer. Målet med denna studie var därmed att undersöka skillnader i ångest och depression inom sexuella och könsminoriteter, liksom i jämförelse med den heterosexuella ciskönade majoriteten, i ett stort populationsbaserat finskt sampel (N = 8589). Utgående från minoritetsstress- och intersektionalitetsteori undersöktes också om individer med dubbel minoritetstillhörighet rapporterar högre ångest och depression än individer med enkel minoritetstillhörighet. Resultaten tyder på att minoritetsindivider överlag upplever signifikant mer ångest- och depression än majoritetsindivider. Av alla minoriteter rapporterade bisexuella, de uppkommande identiteterna och icke-binära individer de högsta nivåerna av ångest och depression. I motsats till resultat från tidigare studier fann vi emellertid inga signifikanta skillnader i ångest- och depression mellan individer med enkel och dubbel minoritetstillhörighet. Sammanfattningsvis tyder resultaten på att även om Finland är ett utvecklat land med ett relativt inkluderande socialt klimat, så lider sexuella och könsminoriteter signifikant mer av psykiska problem än den övriga befolkningen.

Nyckelord: sexuella minoriteter, könsminoriteter, depression, ångest

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Depression and Anxiety Across Gender and Sexual Minorities: A Finnish Population-Based Study

The World Health Organization estimated that in 2015 the prevalence of individuals suffering from depression worldwide surpassed 300 million (WHO, 2017). Depression has also been declared the foremost contributor to global disability, as well as the most significant contributor to committed suicides, resulting in close to 800,000 deaths per year worldwide (WHO, 2017). Anxiety disorders, with an estimated prevalence of 264 million in 2015, were also among the leading factors contributing to disability and to the global overall burden of disease (WHO, 2017). Substantial research, however, suggests that some societal groups, such as sexual and gender minorities, are disproportionately affected by mental health problems. In comparison to the heterosexual and cisgender majority, these minorities report higher rates of depression, anxiety, and suicidality, among other mental health issues (King et al., 2008; Lucassen et al., 2017; McNeil et al., 2017; Plöderl & Tremblay, 2015; Semlyen et al., 2016). Additionally, these minority individuals seem to be especially vulnerable to experiencing lower quality of life (Eres et al., 2020; Fredrick et al., 2020; Patrick et al., 2013) and even potentially premature mortality (Haas et al., 2011; Hottes et al., 2016; King et al., 2008; McNeil et al., 2017). However, the generalizability of the existing evidence about the mental health of sexual and gender minorities is somewhat uncertain, as so many previous studies in this field have used non-probability sampling (see e.g., Reisner et al., 2016). Consequently, the aim of the present study was to contribute to the literature by providing population-based evidence about the mental health of sexual and gender minorities in Finland, with special focus on the smaller less well-known minorities, such as the *emerging identities* and *non-binary* individuals.

Minority Stress and Intersectionality

The *minority stress theory* has been the most frequently applied explanation for the discrepancy between mental health outcomes in gender and sexual minorities and the majority population (Meyer, 1995, 2013). Considerable evidence suggests that these minorities experience high levels of victimization and discrimination (Boza & Nicholson Perry, 2014; European Union Agency for Fundamental Rights, 2020; Katz-Wise & Hyde, 2012; Livingston et al., 2020; Winter et al., 2016). Consequently, the minority stress theory proposes that sexual and gender minorities more frequently suffer from mental health problems due to chronic stress experienced as a result of a marginalized social status and accompanied institutionalized prejudice and stigma. The theory was originally developed to apply to the lesbian, gay, and bisexual population (Meyer, 2013). It has later been adapted and expanded by Hendricks and Testa (2012) and Testa and colleagues (2015) to better apply to the transgender population as well. This adaptation was made because while many of the stress processes are similar between the lesbian, gay, and bisexual population and the transgender population, there are also some key differences, for example regarding concealment (Testa et al., 2015). Transgender individuals may also experience an additional stressor, namely non-affirmation of gender identity. Non-affirmation means that one's own sense of gender identity is not affirmed by others (Testa et al., 2015). The minority stress theoretical framework has been supported by evidence from multiple studies (Balsam et al., 2013; Bränström, 2017; Eldahan et al., 2016; Fulginiti et al., 2020; Kelleher, 2009). Findings suggests that the higher prevalence of mental health problems in both gender and sexual minorities can be attributed to experienced minority stress in the form of discrimination (Hatzenbuehler et al., 2009; Kittiteerasack et al., 2020; McNeil et al., 2017; Price-Feeney et al., 2020), victimization (Baams et al., 2015; Burton et al., 2013; Duncan & Hatzenbuehler, 2014), concealment (Livingston et al., 2020; Prell & Traeen, 2018), internalized homophobia

and transphobia (Chodzen et al., 2019; Lee et al., 2019; Skerrett et al., 2016), and gender non-affirmation (Testa et al., 2017).

With the minority stress theory in mind, it is also useful to consider the mental health of sexual and gender minorities from an intersectional perspective. *Intersectionality theory* (Crenshaw, 1991) proposes that different social categories, such as gender identity and sexual orientation as well as race, ethnicity, and socioeconomic status, intersect to create multifaceted social inequalities and individual experiences of discrimination (Bowleg, 2012). In practice, this would mean that an individual belonging to more than one minority group would experience unique and cumulative intersectional discrimination, due to the combined negative effects of belonging to multiple minority groups. Evidence from several studies support the hypothesis that multiple minority statuses create an additive negative impact on sexual and mental health, due to experienced intersectional discrimination (Borgogna et al., 2019; Díaz et al., 2001; Whitman & Nadal, 2015; Zamboni & Crawford, 2007). On the other hand, some studies have also argued that individuals belonging to several minority groups might instead develop a greater resilience towards additional kinds of discrimination, and as a result be better equipped to cope with discrimination on the whole (Cyrus, 2017; Meyer, 2010). However, in a comprehensive systematic review, Vargas and colleagues (2020) summarized the existing evidence of the impact of multiple discrimination on mental health. They found little evidence for increased resilience and concluded that multiply discriminated groups were more prone to suffer from various mental health problems, due to intersectional discrimination.

Prevalence and Definitions

When collectively referring to the community of sexual and gender minorities one of the most frequently used umbrella terms is LGBTQ. This acronym stands for lesbian, gay, bisexual, transgender, and *queer,* or *questioning* (GLAAD, 2016). This is also the term

we have chosen to use throughout this study to refer to these minorities as a whole. The prevalence of individuals who identify as part of gender and sexual minorities is difficult to determine and the available statistics vary (Bailey et al., 2016). Statistics are affected by differences in operationalization of sexual orientation and gender identity, as well as differences in country-level structural stigma, policies, and laws, which affect the likelihood of disclosing one's identity (Pachankis et al., 2015, 2017). Sexual orientation can also fluctuate over the course of a lifetime and both sexual orientation and gender identity are always defined by the person themselves, and some might choose not to identify at all (Amnesty International, 2021).

In a review of nine population-based surveys, Gates (2011) estimated than around 3.5% of adults in the United States identify as gay, lesbian, or bisexual. Rahman and colleagues (2020) studied data from 191,088 individuals across 28 countries. The data was collected using the 2005 BBC internet survey. The researchers concluded that across countries on average 5.1% of men and 7.2% of women reported a bisexual identity, while 4.9% of men identified as gay and 2.1% of women identified as lesbian. It is, however, important to note that estimates of same-sex sexual behavior and lifetime same-sex sexual attraction are usually much higher than estimations of individuals who self-identify as gay, lesbian, or bisexual (Bailey et al., 2016). A Finnish population-based study even found that while only 3.1% of men and 1.2% of women reported same-sex sexual behavior in the past 12 months, as many as 32.8% of men and 65.4% of women reported that they potentially could engage in same-sex sexual behavior, provided that nobody would find out about it (Santtila et al., 2008).

During the past few decades new sexual orientation categories have emerged in addition to the traditional ones (i.e., lesbian, gay, and bisexual). These newer sexual orientations are, for example, *pansexual, demisexual,* queer, questioning, and *asexual*. These categories have collectively been described as emerging identities (Borgogna et al., 2019),

due to their new status. Pansexuality refers to sexual or romantic attraction to an individual regardless of their gender expression, gender identity, or biological sex (Rice, 2015, as cited in Morandini et al., 2017). Demisexual refers to an individual who experiences sexual attraction only after forming a strong emotional bond (Hille et al., 2020; Mosbergen, 2013). Queer is an older term which traditionally has been considered derogatory. It has, however, been reclaimed by LGBTQ activists, and it is nowadays often used as a hypernym to describe an array of non-heterosexual identities (Morandini et al., 2017). Questioning refers to those individuals who are unsure about how they identify regarding their sexual orientation and/or gender identity (Outright Action International, 2019). In the present study questioning will specifically refer to individuals who are unsure of or questioning their sexual orientation. Finally, asexuality, which is defined as the lack of sexual attraction to anyone or anything (Hille et al., 2020; Yule et al., 2013), is also sometimes included under the emerging identities umbrella (Borgogna et al., 2019).

Reliable prevalence estimates of individuals identifying with the emerging identities (i.e., pansexual, demisexual, queer, questioning, and asexual) are limited and many studies have used convenience samples with varying estimations (Galupo, Lomash, et al., 2017; Morandini et al., 2017). However, a study from New Zealand examining self-identified sexual orientation, using a nationally representative sample of 18,261 individuals, found that 0.5% of individuals identified as pansexual, 0.3% identified as asexual, and less than 0.1% identified as queer (Greaves et al., 2017). In addition, a Swedish cross-sectional population-based study with a sample of 28,029 individuals found that of their participants 1.1% of men and 0.9% of women reported that their sexual orientation was something else than heterosexual, gay, lesbian, or bisexual (Lindström et al., 2020). On the other hand, Borgogna and colleagues (2019) studied a large sample of 43,632 college students in the US and found that in total 4.3% of their participants reported an emerging sexual identity. However, the

study by Borgogna and colleagues (2019) is hardly representative for the general population, as the sample consisted only of students.

The term transgender is most frequently used as an umbrella term (American Psychological Association, 2018), encompassing both binary transgender individuals (i.e., a person whose gender identity does not match the one given to them at birth, but who identifies as either distinctly male or female), as well as those identifying outside or between the gender binary (i.e., those who identify as non-binary*, genderfluid, gender nonconforming, genderqueer*, *two-spirit* and *agender*). In the United States, it has been estimated that approximately 0.3% of the general population identify as transgender (Gates, 2011). The opposite of transgender is cisgender (i.e., a person whose gender identity aligns with the sex assigned at birth; American Psychological Association, 2018). In the present study, we chose to use the term non-binary to describe all identities outside or between the gender binary. However, even though agender is often included among the non-binary identities, we chose to regard them as separate, as agender specifically refers to the absence of gender identity (Butler, 2012, as cited in Galupo et al., 2019).

There is a shortage of reliable prevalence estimates especially of individuals who identify as non-binary and agender. Some studies have, however, provided estimates that could be indicative of the prevalence in the general population. For example, one population-based study examining Finnish adolescents found that 3.3% of respondents identified as both male and female or as neither of them, which can be interpreted as reflecting non-binary and/or agender identity (Kaltiala-Heino & Lindberg, 2019). Van Caenegem and colleagues (2015) in turn, reported results from two population-based studies conducted in Flanders, Belgium. They concluded that 0.7% of men and 0.6% of women experienced gender incongruence (i.e., identifying stronger with the other sex than with the sex assigned at birth), which can be interpreted as reflecting a binary transgender identity. Meanwhile, 2.2% of men

and 1.9% of women experienced gender ambivalence, which can be interpreted as non-binary gender identity. In studies using convenience samples to examine the transgender population estimations have been much higher. For example, the 2015 U.S Transgender Survey summarizing the experiences of 27,715 transgender individuals, found that approximately 35% of respondents identified as non-binary or genderqueer, which was roughly the same amount as transgender women and men (James et al., 2016). Likewise, a Scottish study using a convenience sample to examine the mental health of transgender individuals concluded that almost a quarter of the participants identified as non-binary (Mcneil et al., 2012).

In conclusion, there is a shortage of comprehensive and reliable population-based prevalence estimates in this field of research overall, but especially regarding individuals who identify with the emerging sexual identities (i.e., pansexual, demisexual, queer, questioning, and asexual), as well as non-binary and agender individuals. Furthermore, many existing studies have based their results on non-representative samples, thereby inflating prevalence estimates (Borgogna et al., 2019; James et al., 2016; Mcneil et al., 2012).

The Mental Health of Sexual Minorities

Over the decades, most of the existing research on this topic has focused primarily on the mental health of lesbian, gay, and bisexual individuals. Evidence strongly suggests that this population consistently reports higher levels of depression, anxiety, and suicidal ideation as well as a greater risk for substance misuse and dependence, in comparison to the heterosexual majority (Bostwick et al., 2010; Bränström, 2017; Chakraborty et al., 2011; Hatzenbuehler, 2011; King et al., 2008; Lucassen et al., 2017; Marshal et al., 2008; Plöderl & Tremblay, 2015). Previous findings also suggests that bisexual individuals may be especially vulnerable to psychological suffering, in comparison to lesbian and gay individuals (Björkenstam et al., 2016; Bostwick et al., 2010; Oswalt & Wyatt, 2011; Whitlock et al., 2011). Researchers believe this to be due to double discrimination, in the form of stigma

experienced by bisexual people, from both within the LGBTQ community as well as from outside of it (Colledge et al., 2015; Dodge et al., 2016; Roberts et al., 2015).

Research findings about the mental health of those who identify as part of the emerging identities are in short supply. Borgogna and colleagues (2019) attempted to fill this knowledge gap and their findings suggested that while all sexual minority participants reported higher levels of anxiety and depression than heterosexual participants, those who identified as an emerging identity had the highest rates of anxiety and depression. The overall largest discrepancies were found between pansexual and heterosexual individuals for depression, and demisexual and heterosexual participants for anxiety. In accordance with the minority stress theory, the researchers hypothesized that the poorer mental health outcomes of the emerging identity groups, in comparison to the other sexual minorities, could be attributed to their minority status within the LGBTQ community. Other researchers have also reported similar results (McNair & Bush, 2016). Regarding the mental health of asexual individuals, the evidence is varied. Yule and colleagues (2013) found that asexual individuals were more likely than heterosexual individuals to report anxiety and mood disorders, as well as suicidal ideation. Borgogna and colleagues (2019) also found that asexual participants had elevated anxiety and depression scores, in comparison to heterosexual individuals. However, other studies have not found any significant differences between asexual individuals and non-asexual individuals on mental health outcomes (Walton et al., 2016).

Studies examining the mental health of lesbian, gay, and bisexual individuals exclusively have for the most part been methodologically robust, and many have used population-based representative samples (Björkenstam et al., 2016; Bostwick et al., 2010; Bränström, 2017; King et al., 2008; Lucassen et al., 2017). However, this is not the case for those few studies that have attempted to research the emerging sexual minorities. Many of these studies have, for example, specifically targeted LGBTQ individuals (Brotto et al., 2010;

McNair & Bush, 2016; Walton et al., 2016), while others have recruited participants through online discussion boards and websites (Yule et al., 2013). This lack of population-based studies examining the mental health of the emerging sexual identities makes the generalizability of the existing evidence questionable, futher emphasizing the need for more reseach in this field.

The Mental Health of Gender Minorities

The psychological wellbeing of the transgender population has also been studied actively, especially during the past decade; however, population-based studies are few (Reisner et al., 2016). Many studies, especially older ones, have also been methodologically flawed. These studies have had small sample sizes and have also often neglected to include a cisgender comparison group (see e.g., Hepp et al., 2005). The majority of studies have also generally solely focused on binary transgender individuals, and most studies have examined individuals seeking gender-confirming medical interventions, thereby making generalizations to the overall transgender population difficult (Dhejne et al., 2016). Nonetheless, the existing evidence from systematic literature reviews and meta-analyses strongly suggests that transgender individuals consistently report higher rates of mental health problems than the general public, especially regarding risk for suicidality, anxiety, and depression (Adams & Vincent, 2019; McNeil et al., 2017; Reisner et al., 2016; Valentine & Shipherd, 2018). Some studies have, on the other hand, found that these high levels of psychopathology subside after initiating a gender-affirmation process (also referred to as gender transitioning), although rates continue to be higher than in the cisgender population, even after transitioning (Hughto et al., 2020). It is, however, important to note that due to the absence of population-based research in this field, the studies included in the abovementioned reviews and meta-analyses (Adams & Vincent, 2019; McNeil et al., 2017; Reisner et al., 2016; Valentine & Shipherd, 2018) (Adams & Vincent, 2019; Marshal et al., 2011; McNeil et al., 2017; Reisner et al.,

2016; Valentine & Shipherd, 2018) mostly used convenience samples. Most of the studies included were also conducted in a clinical setting and did not include a cisgender comparison group.

Only during the past few years has evidence emerged of the mental health of those who identify outside the gender binary. In a systematic review by Scandurra and colleagues (2019), results overall suggested that non-binary individuals reported more negative health outcomes than cisgender participants. However, when comparing non-binary and binary transgender individuals, the results were somewhat varied. A couple of studies in the review found that non-binary individuals reported less suicide attempts, higher life-satisfaction (Rimes et al., 2019), and more body satisfaction in comparison to binary individuals (Jones et al., 2019). However, other studies in the review found that non-binary individuals experienced more negative mental negative health outcomes, such as depression, non-suicidal self-injury, anxiety, and eating disorders, in comparison to binary transgender individuals. Yet again is important to note that all included studies in the review used a non-probability sample design.

From a minority stress perspective, non-binary individuals may experience greater unique stress and accompanied stigma and discrimination, due to representing a newly established minority group within the LGBTQ community. Furthermore, non-binary individuals challenge the binary gender norm and may, therefore, experience additional unique stress, stigma, and discrimination. Moreover, although agender individuals have been recognized in the literature (Pulice-Farrow et al., 2020; Richards et al., 2016), few studies have specifically investigated the mental health of these individuals. One study found that agender individuals were less likely to engage in non-suicidal self-injury than binary transgender individuals (Morris & Galupo, 2019), however, there is an absence of reliable evidence. Overall, there is a great need for representative studies that separately examine the

mental health of agender, non-binary, and binary transgender individuals, in order to gain more reliable evidence about the wellbeing of these minority groups.

The Present Study

Although the mental health of sexual and gender minority individuals has been studied quite actively, there is still a deficiency of comprehensive population-based evidence. Most on the existing population-based studies have mainly focused on the mental health of lesbian, gay, and bisexual individuals (see e.g., Björkenstam et al., 2016; Bränström, 2017; King et al., 2008), with considerably fewer studies focusing on binary transgender individuals. Furthermore, even fewer studies have examined the mental health of the smaller sexual and gender minority groups using large representative samples. Many studies in this field are, therefore, vulnerable to different kinds of selection biases. One example of this is Berkson's bias (Berkson, 1946), which indicates that analyzing non-population-representative subsamples can introduce bias into a study and even reverse the true association between the variables of interest, leading to false results. Consequently, our aim with the present study was to fill the knowledge gap in the literature by providing population-based evidence of the mental health of sexual and gender minorities in Finland, focusing especially on the smaller less well-known minorities, such as the emerging identities and non-binary individuals. To our best knowledge, the present study is the first of its kind to analyze the wellbeing of both sexual and gender minorities within the same population-based sample. Our final aim with the present study was to explore the prevalence of different sexual orientations and gender identities in the Finnish population, due to the shortage of population-based estimates in the literature.

Considering the findings of previous studies, we hypothesized that:

1) Sexual minority individuals will report higher levels of depression and anxiety than heterosexual individuals.

2) Bisexual individuals will report higher levels of depression and anxiety than gay and lesbian individuals.
3) Emerging identity individuals (pansexual, demisexual, queer, and questioning) as well as asexual individuals, will report higher levels of depression and anxiety than gay, lesbian, or bisexual individuals.
4) Minority gender identity individuals (binary transgender, non-binary, and agender) will report higher levels of depression and anxiety than cisgender individuals.
5) Non-binary and agender individuals will report higher levels of depression and anxiety than binary transgender individuals.

Finally, with regard to both intersectionality theory as well as minority stress theory, we hypothesized that:

6) Individuals with a double minority status (i.e., those who belong to a sexual minority as well as a gender minority), will report higher levels of depression and anxiety than individuals with a single minority status.

Additionally, due to the lack of reliable, population-based prevalence estimates of especially emerging identity and non-binary identifying individuals, we also wanted to explore how prevalent these identities and orientations were in the Finnish population overall.

Method

Participants

The participants in the present study were a subset of a large population-based sample of adults from Finland, known internationally as the Genetics of Sexuality and Aggression sample (GSA sample). For a full description of the sample and the data-collection procedure see Tybur and colleagues (2020). The data collection was conducted through an online survey, which Finnish twins and their siblings were invited to complete between November 2018 and January 2019. The participants were all native Finnish speakers and over

the age of 18. The survey included a broad range of questions regarding themes such as sexuality, relationships, and mental health. All in all, 33,211 invitations to participate in the study were sent out. In total 9,564 individuals responded to the survey, making the response rate 28.8%, and out of the respondents, 9,319 individuals (97.0%) consented to their data being used for scientific purposes. Out of this final group of participants, a total of 8,605 people had filled out the anxiety and depression related questions relevant for the present study. However, another 16 participants were removed at this stage due to missing, invalid, or incomprehensible answers on the sexual orientation and/or gender identity questions, which makes the final number of participants included in the present study 8,589 individuals. The mean age of the participants was 30.13 years (*SD* = 8.10).

Ethical Review

Prior to commencing the data collection process, the research plan was reviewed by the Ethics Review Board of Åbo Akademi University. The data collection involved no invasive procedures and participants were aware that participation was voluntary and that they could stop answering at any given time without providing an explanation. In accordance with the declaration of Helsinki the participants also provided written informed consent prior to answering the survey.

Operationalization of Sexual Orientation

To operationalize sexual orientation the participants were asked the question "How would you describe your sexual orientation?" and then given the following alternatives: heterosexual, gay/lesbian, bisexual, and other. If the participant chose the alternative other, they were given the option to freely describe their sexual orientation in a textbox. After this followed a manual review of the answers and the re-categorization of them into more descriptive categories. In the same process those with missing, uninterpretable, or inadequate answers were removed (e.g., answers such as "mystery" and "perv").

Following Borgogna and colleagues (2019), responses that indicated multiple orientations (such as “asexual demisexual”) were categorized according to the first sexual orientation they had mentioned (n = 12). However, participants who described themselves as heterosexual as well as some other minority category (n = 3; such as “heterosexual asexual”), were coded according to the sexual minority they had stated, thereby diverging from the rule mentioned above. This is because we reasoned that these participants had deliberately not chosen the alternative “heterosexual” but had instead wanted to further define their sexual orientation in the write-in box. Answers such as “mostly heterosexual”, “heterosexual but sometimes interested in people of the same sex”, and “bicurious” (n = 20), were, however, coded as heterosexual as these answers still implied a heterosexual orientation and did not fit into any other category. Some participants had also described their sexual orientation as well as their romantic preference (n = 8; e.g., “asexual demiromantic”). These answers were all coded according to the sexual orientation mentioned. Those participants who gave answers such as “I am attracted to the person, regardless of their gender” were interpreted as pansexual (n = 3). Answers such as “I do not have a sexual orientation”, “I do not want to define my sexual orientation”, and “I do not know/ I am not sure” were difficult to categorize. For this reason, we included a category called questioning/undefined, in which we included answers expressing uncertainty of one’s identity as well as unwillingness to define one’s identity (n = 28).

After the re-categorization the final sexual orientation categories were heterosexual (n = 7,570), gay/lesbian (n = 231), bisexual (n = 626), pansexual (n = 58), asexual (n = 62), questioning/ undefined (n = 28), demisexual (n = 10) and queer (n = 4). Collectively we will refer to pansexual, questioning/undefined, demisexual, and queer as emerging identities, and in the statistical analyses the emerging identity groups were analyzed as a whole, due to small individual sample sizes. Although asexual individuals are sometimes

included under the emerging identities umbrella, they were analyzed separately in the present study since the sample size was large enough. The distribution of sexual orientation and gender identity of the participants is illustrated in Table 1.

Table 1

Distribution of Sexual Orientation and Gender Identity of the Participants

	Heterosexual	Gay/ Lesbian	Bisexual	Pansexual	Asexual	Questioning/ Undefined	Demisexual	Queer	Total
Cisgender	7,562	220	597	47	46	28	8	3	8,511
Transgender Man	2	4	8	2	3	0	0	0	19
Transgender Woman	2	0	5	0	0	0	0	0	7
Non-binary	0	7	10	5	10	0	2	1	35
Agender	4	0	6	4	3	0	0	0	17
Total	7,570	231	626	58	62	28	10	4	8,589

Operationalization of Gender Identity

To operationalize gender identity the participants were first presented with the statement “According to the population registry your gender is male/female” (depending on the gender listed in the registry). To this statement participants could answer either “Yes, this is correct and in line with my gender identity.” or “No, I do not identify as male/female.” (depending on the specified gender in the registry). After this the participants were presented with the follow-up question “Which of the alternatives describes your gender identity best?”. The response options depended on the gender stated in the population registry, for individuals assigned male at birth the alternatives were: man, transgender man, transgender woman, and other. For individuals assigned female at birth the options were respectively: woman, transgender woman, transgender man, and other. In the present study transgender woman was

interpreted as synonymous to male-to-female transgender, and transgender man as synonymous to female-to-male transgender. If the participant chose the alternative "other", they were given the option to freely describe their gender identity in a textbox. After this followed a manual review of the answers and the re-categorization of them into more descriptive categories. In the same process, those with missing, uninterpretable, or inadequate answers were removed (e.g., answers such as "attack helicopter" and "human").

In the present study, we used the term binary transgender (n = 26) to collectively describe those who identified as either transgender women or transgender men. We used the term non-binary to describe those participants who described themselves as "non-binary" (n = 20), "bigender" (n = 1), "genderqueer" (n = 3), "genderfluid" (n = 2). Those participants who described themselves as "genderqueer woman" (n = 1), "non-binary femme" (n = 1), and "non-binary masculine" (n = 3) were also included in the non-binary category, as were answers such as "physically female but spiritually something in between" and "a bit of both" (assuming they meant both male and female; n = 2). Finally, those who described their gender identity as "demi" and "demi man" (n = 2) were also included in this category, as *demigender* is sometimes considered to be an alternative umbrella term used to describe non-binary gender identities (Adams & Vincent, 2019). We used the term agender for those who described their gender identity as "agender/no gender" (n = 12) and "undefined" (n = 3). The two participants who described themselves as "gender neutral" were also interpreted as agender in the present study.

After the re-categorization, the final gender identity categories were cisgender (n = 8,511), transgender man (n = 19), transgender woman (n = 7), non-binary (n = 35), and agender (n = 17). In the statistical analyses, the categories transgender man and transgender woman were combined under the collective name binary transgender, due to small sample sizes.

Measures

Anxiety and depression were measured with the Brief Symptom Inventory-18 (BSI-18). The BSI-18 consists of 18 items and it is a shortened version of the original instrument consisting of 53 items (Derogatis & Melisaratos, 1983). The BSI-18 is a self-report inventory using a 5-point scale (ranging from 1 = not at all, to 5 = extremely). For the purpose of the present study, we included only the subscales measuring anxiety and depression, with six items per subscale. Higher scores on the subscales indicated more symptoms. The six items measuring depression were then summarized into one composite variable, and the same was done for the six items measuring anxiety. On each of the composite variables, the lowest obtainable score was 6 and the highest was 30. The internal consistency was good for both the depression (Cronbach's $\alpha = 0.87$) and the anxiety (Cronbach's $\alpha = 0.88$) measures.

Statistical Analyses

We used IBM SPSS Statistics 26.0 for Windows to conduct the statistical analyses. A Generalized Estimating Equations (GEE) multilevel regression model was used to examine the differences in depression and anxiety between the sexual orientation and gender identity groups. Because the data consisted of responses from twins and their siblings, the GEE analysis was chosen as it allows for controlling for between-subjects dependence arising due to the genetic relatedness of the subjects. Age was included as a covariate in all analyses. To investigate the first hypothesis, we conducted a GEE analysis with the variable sexual orientation as the independent variable, with the categories heterosexual (n = 7,570) and sexual minority (n = 1,019). This variable was created to be able to compare all sexual minorities collectively to heterosexual individuals. To investigate the second and third hypotheses, we used another more differentiated sexual orientation variable, with the categories heterosexual (n = 7,570), gay/lesbian (n = 231), bisexual (n = 626), emerging identity (n = 100), and asexual (n = 62). This differentiated variable was created to compare

the minorities with each other, as well as to heterosexual individuals. When investigating the fourth hypothesis, we used a gender identity variable, with the broad categories cisgender (n = 8,511) and gender minority (n = 78), as the independent variable. This variable was created in order to analyze differences more broadly between majority and minority individuals. Furthermore, to investigate the fifth hypothesis, we used a gender identity variable with the categories cisgender (n = 8,511), binary transgender (n = 26), non-binary (n = 35), and agender (n = 17) as the independent variable. This variable was created in order to compare the gender minorities with each other, as well as to cisgender individuals, and to gain more specific knowledge of these separate minority groups. Additionally, to study the differences in depression and anxiety according to minority status, we created a new minority status variable with three levels; 1 = no minority status (n = 7,562), 2 = single minority status (n = 957), and 3 = double minority status (n = 70). To investigate the sixth hypothesis, the newly created minority status variable was used as the independent variable, to explore if individuals with a double minority status would report higher levels of anxiety and depression, than individuals with a single minority status.

Results

Prevalence Estimates

In the present study we wanted to explore how prevalent different sexual orientations and gender identities were in the Finnish population overall. We found that of our sample, 88.13% identified as heterosexual, 2.68% as gay/lesbian, and 7.28% as bisexual. The remaining 1.16% identified as part of the emerging identities (here including asexual individuals). Of these 1.16% identifying with the emerging identities; 0.67% identified as pansexual, 0.72% as asexual, 0.32% as questioning/undefined, 0.11% as demisexual, and 0.04% as queer. Regarding gender identity, we found that of our sample, 99.09% identified as

cisgender. Of the 0.91% of individuals who identified as non-cisgender, 0.30%, identified as binary transgender, 0.40% as non-binary and 0.20% as agender.

Sexual Orientation and Depression and Anxiety

We found that sexual minority participants collectively reported significantly higher rates of depression (M = 14.20, SE = 0.19) than heterosexual participants (M = 11.96, SE = 0.06). See Table 2 for estimated marginal means and see Table 3 for results from the GEE analyses comparing sexual minorities to heterosexual individuals. Sexual minority participants also collectively reported significantly higher rates of anxiety (M = 12.63, SE = 0.18) than heterosexual individuals (M = 10.58, SE = 0.06), thereby supporting the first hypothesis. When comparing the rates of depression of the sexual minority groups separately to the rates of heterosexual individuals, all minority groups reported significantly higher depression rates. Whereas, when comparing the rates of anxiety of the sexual minority groups separately to the rates of heterosexual participants, asexual individuals were the only group that did not report significantly higher rates of anxiety (M = 11.64, SE = 0.74).

Comparing the results of the sexual minorities with one another, the results showed that bisexual individuals reported significantly higher levels of depression (M = 14.62, SE = 0.24) than gay and lesbian participants (M = 12.81, SE = 0.35). See Table 4 and Table 5 for pairwise comparisons of mean differences between the sexual minority groups on depression and anxiety scores. Bisexual participants also reported higher rates of anxiety (M = 12.97, SE = 0.23) than gay and lesbian participants (M = 11.72, SE = 0.34), thereby supporting the second hypothesis. Furthermore, emerging identity individuals also reported significantly higher levels of both depression (M = 15.01, SE = 0.59) and anxiety (M = 13.20, SE = 0.63) than gay and lesbian individuals, thereby partially supporting the third hypothesis. On the other hand, no significant differences in rates of depression were found between the gay and lesbian group and the asexual group (M = 13.83, SE = 0.78). Likewise, no significant

differences were found in rates of anxiety between the gay and lesbian group and the asexual group (M = 11.64, SE = 0.74). There were also no significant differences between bisexual, emerging identity, and asexual individuals in rates of either depression or anxiety.

Table 2

Estimated Marginal Means of Depression and Anxiety

		Depression			Anxiety		
Sexual Orientation	*N*	*M*	*SE*	*Range*	*M*	*SE*	*Range*
Heterosexual	7,570	11.96	0.06	6 – 30	10.58	0.06	6 – 30
Sexual Minority	1,019	14.20	0.19	6 – 30	12.62	0.18	6 – 30
Gay/-Lesbian	231	12.81	0.35	6 – 29	11.72	0.34	6 – 30
Bisexual	626	14.62	0.24	6 – 30	12.97	0.23	6 – 30
EI	100	15.01	0.59	6 – 30	13.20	0.63	6 – 29
Asexual	62	13.83	0.78	6 – 27	11.64	0.74	6 – 30
Gender identity							
Cisgender	8,511	12.20	0.06	6 – 30	10.80	0.05	6 – 30
Gender Minority	78	14.95	0.65	6 – 30	13.50	0.66	6 – 29
Binary Transgender	26	13.73	1.09	6 –26	11.79	0.87	6 – 25
Non-binary	35	16.50	0.91	8 – 30	15.46	1.03	6 – 29
Agender	17	13.64	1.49	6 – 28	12.09	1.39	6 – 26
Single Minority Status	957	14.15	0.19	6 – 30	12.56	0.19	6 – 30
Double Minority Status	70	14.94	0.67	6 – 30	13.59	0.69	6 – 29

Note. M = mean, SE = standard error, *Range* = minimum – maximum of range. EI = emerging identity. The means presented in this table are estimated marginal means from the Generalized Estimating Equations analysis. The Generalized Estimating Equations analysis had age as a covariate.

Table 3

Comparing Sexual Minorities to Heterosexual Individuals on Anxiety and Depression

	Wald χ^2 (1)	β	95% CI	*SE*	*p*
Depression					
Sexual Minorities Collectively	132.83	2.23	1.85 – 2.61	0.19	$p < .001$
Gay/-Lesbian	5.71	0.84	0.15 – 1.53	0.35	$p = .017$
Bisexual	120.27	2.66	2.19 – 3.14	0.24	$p < .001$
EI	26.61	3.05	1.89 – 4.20	0.59	$p < .001$
Asexual	5.75	1.87	0.34 – 3.39	0.78	$p = .016$
Anxiety					
Sexual Minorities Collectively	117.25	2.04	1.67 – 2.41	0.19	$p < .001$
Gay/ Lesbian	11.25	1.14	0.48 – 1.81	0.34	$p = .001$
Bisexual	102.54	2.40	1.92 – 2.85	0.24	$p < .001$
EI	17.13	2.61	1.38 – 3.85	0.63	$p < .001$
Asexual	2.03	1.06	-0.40 – 2.51	0.74	$p = .154$

Note. Results from Generalized Estimating Equations Analysis. Heterosexual participants were the comparison group in all comparisons in this table. *SE* = standard error. EI = emerging identity. CI = confidence interval.

Table 4

Pairwise Comparisons of Depression Rates by Sexual Orientation

Comparison group (A)	Other orientations (B)	Mean difference (A - B)	*SE*	*p*	95% CI
Gay/ Lesbian	Heterosexual	0.84	0.35	$p = .017$	0.15 – 1.53
	Bisexual	-1.82	0.42	$p < .001$	-2.64 – 1.00
	EI	-2.20	0.68	$p = .001$	-3.54 – 0.87
	Asexual	-1.02	0.84	$p = .221$	-2.67 – 0.62
Bisexual	Heterosexual	2.66	0.24	$p < .001$	2.19 – 3.14
	Gay/ lesbian	1.82	0.42	$p < .001$	1.00 – 2.64
	EI	-0.39	0.63	$p = .540$	-1.62 – 0.85
	Asexual	0.79	0.81	$p = .325$	-0.79 – 2.37
EI	Heterosexual	3.05	0.59	$p < .001$	1.89 – 4.20
	Gay/ lesbian	2.20	0.68	$p = .001$	0.87 – 3.54
	Bisexual	0.39	0.63	$p = .540$	-0.85 – 1.62
	Asexual	1.18	0.98	$p = .228$	-0.74 – 3.10
Asexual	Heterosexual	1.87	0.78	$p = .016$	0.34 – 3.39
	Gay/ lesbian	1.02	0.84	$p = .221$	-0.62 – 2.67
	Bisexual	-0.79	0.81	$p = .325$	-2.37 – 0.79
	EI	-1.18	0.98	$p = .228$	-3.10 – 0.74

Note. Pairwise comparisons of mean differences in depression rates from the Generalized Estimating Equations analysis. *SE*= standard error. EI = emerging identity. CI = confidence interval.

Table 5

Pairwise Comparisons of Anxiety Rates by Sexual Orientation

Comparison group (A)	Other minorities (B)	Mean difference (A - B)	*SE*	*p*	95% CI
Gay/ Lesbian	Heterosexual	1.14	0.34	$p = .001$	0.48 – 1.81
	Bisexual	-1.24	0.41	$p = .002$	-2.04 – -0.45
	EI	-1.47	0.71	$p = .039$	-2.90 – - 0.08
	Asexual	0.09	0.80	$p = .915$	-1.48 – 1.66
Bisexual	Heterosexual	2.39	0.24	$p < .001$	1.92 – 2.85
	Gay/ lesbian	1.24	0.41	$p = .002$	0.45 – 2.04
	EI	-0.23	0.66	$p = .733$	-1.53 – 1.07
	Asexual	1.33	0.77	$p = .085$	-0.19 – 2.85
EI	Heterosexual	2.61	0.63	$p < .001$	1.38 – 3.85
	Gay/ lesbian	1.47	0.71	$p = .039$	0.08 – 2.87
	Bisexual	0.23	0.66	$p = .733$	-1.07 – 1.53
	Asexual	1.56	0.97	$p = .110$	-0.35 – 3.47
Asexual	Heterosexual	1.06	0.74	$p = .154$	-0.40 – 2.51
	Gay/ lesbian	-0.09	0.80	$p = .915$	-1.66 – 1.48
	Bisexual	-1.33	0.77	$p = .085$	-2.85 – 0.19
	EI	-1.56	0.97	$p = .110$	-3.47 – 0.35

Note. Pairwise comparisons of mean differences in anxiety rates from the Generalized Estimating Equations analysis. *SE*= standard error. EI = emerging identity. CI = confidence interval.

Gender Identity and Depression and Anxiety

Gender minority participants collectively reported significantly higher rates of depression (M = 14.95, SE = 0.65) than cisgender participants ($M = 12.20$, $SE = 0.06$), as well

as significantly higher rates of anxiety (M = 13.50, SE = 0.66) than cisgender participants (M = 10.80, SE = 0.05), thereby supporting the fourth hypothesis. However, when comparing the results of each minority group separately to the rates of cisgender individuals, only non-binary individuals had significantly higher rates of depression (M = 16.50, SE = 0.91) in comparison to cisgender participants. Non-binary individuals were also the only gender minority to report higher rates of anxiety (M = 15.46, SE = 1.03) than cisgender individuals. See Table 6 for results from the GEE analyses comparing gender minorities to cisgender individuals.

Table 6

Comparing Gender Minorities to Cisgender Individuals on Anxiety and Depression

	Wald χ^2 (1)	β	95% CI	*SE*	*p*
Depression					
Gender Minorities Collectively	17.45	2.75	1.46 – 4.04	0.66	$p < .001$
Binary Transgender	1.96	1.53	-0.61 – 3.66	1.09	$p = .161$
Non-binary	22.20	4.29	2.51 – 6.08	0.91	$p < .001$
Agender	0.91	1.43	-1.50 – 4.36	1.49	$p = .338$
Anxiety					
Gender Minorities Collectively	16.86	2.70	1.41 – 4.00	0.66	$p < .001$
Binary Transgender	1.28	0.99	-0.73 – 2.70	0.87	$p = .259$
Non-binary	20.56	4.66	2.65 – 6.67	1.03	$p < .001$
Agender	0.86	1.29	-1.43 – 4.01	1.39	$p = .353$

Note. Results from Generalized Estimating Equations Analysis. Cisgender participants were the comparison group in all comparisons in this table. *SE*= standard error. CI = confidence interval.

When comparing the gender minority groups with each other, the difference in depression rates between non-binary (M = 16.50, SE = 0.91) and binary transgender

individuals (M = 13.73, SE = 1.09) was close to being significant. The difference between non-binary (M = 15.46, SE = 1.03) and binary transgender individuals (M = 11.79, SE = 0.87) on anxiety was statistically significant, with non-binary individuals experiencing more anxiety. On the other hand, we found no significant differences in depression rates between binary transgender and agender participants (M = 13.64, SE = 1.49). Similarly, there were no significant differences in anxiety rates between binary transgender and agender participants (M = 12.09, SE = 1.39), thereby partially contradicting the fifth hypothesis. However, surprisingly, the results showed that non-binary individuals experienced significantly higher rates of anxiety (M = 15.46, SE = 1.03), in comparison to agender individuals (M = 12.09, SE = 1.39). Finally, age, which was included as a covariate, also had a significant effect in all analyses. See Table 7 and Table 8 for pairwise comparisons of mean differences between the gender minorities on depression and anxiety scores.

Table 7

Pairwise Comparisons of Depression Rates by Gender Identity

Comparison group (A)	Other identities (B)	Mean difference (A - B)	*SE*	*p*	95% CI
Binary Transgender	Cisgender	1.53	1.09	$p = .161$	-0.61 – 3.66
	Non-binary	-2.77	1.43	$p = .053$	-5.57 – 0.04
	Agender	0.09	1.81	$p = .958$	-3.45 – 3.64
Non-binary	Cisgender	4.29	0.91	$p < .001$	2.51 – 6.08
	Binary Transgender	2.77	1.43	$p = .053$	-0.04 – 5.57
	Agender	2.86	1.77	$p = .105$	-0.60 – 6.32
Agender	Cisgender	1.43	1.49	$p = .338$	-1.49 – 4.36
	Binary Transgender	-0.09	1.81	$p = .958$	-3.64 – 3.45
	Non-binary	-2.86	1.77	$p = .105$	-6.32 – 0.60

Note. Pairwise comparisons of mean differences in depression rates from the Generalized Estimating Equations analysis. *SE*= standard error.

Table 8

Pairwise Comparisons of Anxiety Rates by Gender Identity

Comparison group (A)	Other orientations (B)	Mean difference (A - B)	*SE*	*p*	95% CI
Binary Transgender	Cisgender	0.99	0.87	$p = .259$	-0.73 – 2.70
	Non-binary	-3.67	1.34	$p = .006$	-6.29 – -1.05
	Agender	-0.30	1.65	$p = .856$	-3.54 – 2.94
Non-binary	Cisgender	4.66	1.03	$p < .001$	2.65 – 6.67
	Binary Transgender	3.67	1.34	$p = .006$	1.05 – 6.29
	Agender	3.37	1.69	$p = .046$	0.05 – 6.69
Agender	Cisgender	1.29	1.39	$p = .353$	-1.43 – 4.01
	Binary Transgender	0.30	1.65	$p = .856$	-2.94 – 3.54
	Non-binary	-3.37	1.69	$p = .046$	-6.69 – -0.05

Note. Pairwise comparisons of mean differences in anxiety rates from the Generalized Estimating Equations analysis. *SE*= standard error.

Minority Status and Depression and Anxiety

When comparing individuals with a double minority status ($M = 14.94$, $SE = 0.67$) to those with a single minority status ($M = 14.16$, $SE = 0.19$) no significant differences in rates of depression were found (*Mean difference* = 0.79, $SE = 0.70$, 95% CI [-0.58 – 2.16], $p = .260$). Likewise, there was no significant difference between participants with a double

minority status (M = 13.60, SE = 0.69) and participants with a single minority status (M = 12.56, SE = 0.19) on anxiety scores (*Mean difference* = 1.03, SE = 0.71, 95% CI [-0.36 – 2.43], p = .145).

Discussion

The present study was, to our knowledge, the first of its kind to examine differences in rates of anxiety and depression, both between the gender and sexual minorities, as well as compared to the heterosexual cisgender majority, within the same large population-based sample. The mental health of these minorities was studied from an intersectional minority stress perspective. Based on the minority stress theory (Meyer, 1995, 2013) and previous international findings (Borgogna et al., 2019; Chakraborty et al., 2011; King et al., 2008; Marshal et al., 2011), we expected that sexual and gender minority individuals overall would report higher rates of depression and anxiety than majority individuals, due to experienced chronic stress as a result of a marginalized social status and accompanied institutionalized prejudice and stigma. Furthermore, we hypothesized that there would be differences between the minority groups, regarding experienced rates of anxiety and depression. Based on previous findings, we hypothesized that bisexual individuals would report higher rates of both anxiety and depression than lesbian and gay individuals. Furthermore, we hypothesized that the less well-known sexual and gender indentities, such as emerging identities, non-binary, and agender individuals, would report higher levels of anxiety and depression, in comparison to individuals belonging to other identities. Finally, based on intersectionality theory, we also hypothesized that individuals belonging to both a sexual and gender minority, would report higher levels of anxiety and depression than individuals beloning to only one minority, due to the combined negative effects of the multiple minorities.

Main Findings and Interpretations

Of our sample 88.13% identified as heterosexual, 2.68% as gay/lesbian, and 7.28% as bisexual. These prevalence estimate of 9.96% of individuals in total identifying as lesbian, gay, or bisexual in our sample is somewhat higher than previous estimations. For example, Gates (2011), in a review of nine population-based studies, found that on average 3.5% of adults in the USA identified as lesbian, gay, or bisexual. In the current study the remaining 1.16% of individuals identified as part of the emerging identities (here including asexual individuals). Of these individuals identifying with the emerging identities, 0.67% identified as pansexual, 0.72% as asexual, 0.32% as questioning/undefined, 0.11% as demisexual, and 0.04% as queer. These estimates are largely in line with those few population-based prevalence estimates that have been presented in the literature (Greaves et al., 2017; Lindström et al., 2020).

Regarding gender identity, we found that of our sample 99.09% identified as cisgender, while the remaining 0.91% identified as transgender. Of those who identified as transgender, 0.30% identified as binary transgender, 0.40% as non-binary, and 0.20% as agender. These estimates are somewhat in line with the few population-based prevalence estimates of gender identity in the literature. For example, in the review by Gates (2011), it was estimated that about 0.3% of the general US population identified as transgender. However, Van Caenegem and colleagues (2015) on the other hand, reported substantially higher prevalence estimates from two Belgian population-based studies. They concluded that in total 1.3% of participants identified as binary transgender and 4.1% of participants identified as non-binary. More population-based studies are, however, needed to obtain more comprehensive evidence about the prevalence of these identities in the general population.

In accordance with the hypotheses and findings from previous studies (Chakraborty et al., 2011; Eres et al., 2020; King et al., 2008; Marshal et al., 2011; McNeil et al., 2017), our results overall suggest that sexual and gender minorities experience

significantly higher rates of anxiety and depression, in comparison to cisgender and heterosexual individuals. These results are also in line with previous findings from other Nordic countries (Björkenstam et al., 2016; Frisell et al., 2010). Consequently, the results of the present study indicate that even though Finland is a developed country with a free and relatively well-functioning health care system (OECD, 2005), as well as a relatively inclusive and tolerant social climate (Social Progress Imperative, 2020), there is still progress to be made as sexual and gender minorities are disproportionally affected by mental health issues. Besides, even though Finland has a tolerant social climate by global comparison (Social Progress Imperative, 2020), there is, nevertheless, evidence of structural discrimination against the LGBTQ community. An example of this is the Finnish law which states that transgender individuals desiring to legally transition and correct the gender stated in the population registry, are required to present evidence of sterilization, which has been argued to be a flagrant violation of human rights (Seta ry., n.d.).

In accordance with the hypotheses, our results also imply that certain minorities seem to be especially vulnerable to experiencing higher levels of anxiety and depression. These were, bisexual, emerging identity (i.e., pansexual, demisexual, questioning/undefined, and queer), and non-binary individuals. Our findings suggest that bisexual individuals experience significantly higher rates of anxiety and depression than heterosexual, lesbian, and gay individuals. Bisexual individuals did not, however, report higher rates of anxiety and depression than emerging identity or asexual participants. Moreover, our results suggest that individuals who identify as pansexual, demisexual, queer, or questioning, or who refrain from defining their sexual identity, suffer more from depression and anxiety than the more established lesbian, gay, and bisexual minority groups. Our findings also suggest that individuals with a non-binary gender identity report significantly higher levels of anxiety than binary transgender individuals, and higher levels of both depression and anxiety than agender

individuals. Many previous studies have studied the transgender community as a whole (Adams & Vincent, 2019; Connolly et al., 2016; McNeil et al., 2017), but the results of the current study illustrate the need to differentiate between the transgender identities, in order to gain more specific information about the separate subgroups.

These discrepancies in mental health outcomes between minorities are consistent with previous findings (Borgogna et al., 2019; McNair & Bush, 2016). As emerging identity and non-binary individuals constitute minorities within the LGBTQ community they may, experience additional minority stress from both within and from outside the community, which could explain the elevated depression and anxiety scores. Additionally, the emerging identities and non-binary gender identities possess a relatively new status, as it is only during the past decades that they have become more frequently endorsed (Galupo, Ramirez, et al., 2017; Morandini et al., 2017). This could potentially contribute to increased minority stress in these groups, as they might face more widespread skepticism and ignorance concerning their identities, as well as more discrimination and harassment, which ultimately could result in more negative health outcomes (Pulice-Farrow et al., 2020). On the other hand, bisexual individuals made up the largest group of all the minorities, but our results indicate that they experience higher levels of anxiety and depression than many other minority groups. These findings are, however, in line with previous evidence suggesting that bisexual individuals suffer more from mental health issues, than lesbian and gay counterparts (see e.g., Bostwick et al., 2010). The higher levels of psychopathology in this population are thought to be a result of experienced social stress, due to negative social attitudes such as monosexism (i.e., the belief that individuals can only be heterosexual, gay, or lesbian), biphobia (prejudice against bisexual individuals), as well as discrimination from both within and outside the LGBTQ community (Colledge et al., 2015; Dodge et al., 2016; Roberts et al., 2015).

Another interesting result in the present study was that we found no significant differences in depression or anxiety between cisgender, binary transgender, and agender individuals. This was surprising and contradictory to previous findings, as considerable evidence suggests that especially binary transgender individuals more often suffer from mental health problems than cisgender individuals (see e.g., Borgogna et al., 2019; McNeil et al., 2017). However, our findings could be a result of the methodology and sample used in the current study. Unlike many previous studies (see e.g., studies included in review by Dhejne et al., 2016), we did not use targeted sampling of LGBTQ individuals, the sample was not collected clinical setting, nor was the survey advertised as a LGBTQ or transgender health study. In conclusion, due to the general lack of research on non-treatment-seeking transgender individuals in the general population, it is possible that these individuals might not suffer from mental health issues as much as previous evidence has suggested. However, future research is needed to establish how frequent mental health issues are in the binary transgender and agender population overall.

On the other hand, our results clearly indicate that non-binary individuals suffer more from anxiety and depression than other non-cisgender groups, which is in line with previous findings (Borgogna et al., 2019; Lefevor et al., 2019; Reisner & Hughto, 2019). This should be taken into consideration in health care services in general, as well as in specific gender minority interventions. More future research about non-binary individuals is also needed to better understand the specific needs of this population. Furthermore, our findings also suggest that asexual individuals experience significantly higher levels of depression, but not anxiety, compared to heterosexual individuals. These results are partly in line with previous findings, suggesting higher rates of mental health problems in asexual individuals (Borgogna et al., 2019; Yule et al., 2013). However, previous studies have mostly used different non-probability sampling methods (see e.g., Yule et al., 2013), thereby making the

generalizability of the results questionable. The results of the present study are, therefore, much-needed as they contribute to the literature by providing population-based evidence.

Contrary to previous findings (Borgogna et al., 2019), the results of the current study suggest that individuals belonging to both a sexual and gender minority (double minority status) do not suffer from higher rates of anxiety or depression, in comparison to those identifying as either a sexual or gender minority (single minority status). These non-significant results could be a result of the smaller sample size of the double minority status group. However, as Cyrus and colleagues (2017) and Meyer (2010) proposed, these groups, due to their double minority status, might develop a greater resilience towards additional kinds of discrimination, and as a result they might be better prepared to cope with discrimination on the whole. This could be a potential alternative explanation for our results, as the possible greater resilience might make these groups more tolerant to minority stress and subsequent negative mental health outcomes. However, extensive future research in this field is needed to explore the effects of multiple minority statuses on the rates of anxiety and depression.

Strengths and Limitations

The main strength of the present study is the large population-based sample, which provided prevalence estimates of the minority groups and allowed for generalization of the results to the general Finnish population. This is especially important considering the general lack of population-based evidence and prevalence estimates.

Another strength in our study is that the participants could self-identify as sexual and gender minorities. Self-identification is favorable to measures of sexual behavior for example, as it gives a more accurate reflection of experienced minority status. On the other hand, the self-identification and especially the write-in answers could also be considered a limitation, as some answers might have been misinterpreted or categorized erroneously. For

example, individuals who stated two identities in the write-in textbox, were classified according to the first identity mentioned, and consequently, the final category they were included in might not have been the most representative for their identity.

Furthermore, an additional limitation in this study is that binary transgender women and men could also not be separated in the analyses due to small sample sizes and, therefore, we could not explore possible differences between these groups. Future population-based research should, consequently, aim to separate binary transgender men and women. Future studies should also aim to differentiate between pre- and post-transition transgender individuals to permit comparisons between these groups. This differentiation could also be relevant as some previous findings have indicated that transgender individuals have elevated levels of psychopathology before transitioning, but that these levels subside following gender-confirming medical interventions and transitioning (Dhejne et al., 2016; Hughto et al., 2020).

Moreover, the small sample sizes of some of the minority groups could be regarded a limitation, as for example the emerging identity groups could not be analyzed individually. The small sample sizes of some of the minority groups could also potentially have contributed to some of the non-significant results, thus masking the reality of mental health outcomes. However, that is the inevitable reality when researching a population-based sample and it contributes with many advantages in itself, such as the decreased risk for selection bias and it allows for the generalizability of the results. Furthermore, we chose not to do corrections for multiple tests because we had clear hypotheses to guide our research. However, we are aware that some borderline significant results (such as the difference between non-binary and agender individuals on anxiety) might not be as reliable, due to the lack of corrections.

An additional limitation is that because this study was neither longitudinal nor experimental, and because we did not include any validated measures of minority stress, we

cannot make any causal inferences about the presumed effect of minority stress on mental health outcomes. Furthermore, as the BSI-18 scale only measures levels of anxiety and depression at the present moment, we do not know anything about lifetime prevalence. Finally, the BSI-18 scale is not a diagnostic measure and, consequently, we do not know whether participants would fit diagnostic criteria for depression and anxiety disorders. Future studies should, therefore, aim to longitudinally examine mental health in relation to minority status using comprehensive validated measures.

Conclusions

In conclusion, the present study provides valuable evidence of the mental health of sexual and gender minority individuals from a large population-based sample, while addressing the existing knowledge gaps in the literature. Our results suggest that sexual and gender minority individuals overall suffer more from anxiety and depression than the cisgender heterosexual majority, with bisexual, emerging identity, and non-binary individuals being especially vulnerable to negative mental health outcomes. Considering the debilitating nature of both depression and anxiety disorders, these discrepancies in mental health outcomes should be addressed in order to create a more equal and healthy society overall. Additional research is, however, needed to gain more in-depth knowledge about these mental health discrepancies and their effect on minority individuals. Future studies should aim to further examine the effects of multiple minority statuses on mental health, as well as examine in particular the psychological wellbeing of the emerging identity groups, in order to gain more specific information about the separate subgroups.

Swedish summary

Depression och ångest hos sexuella och könsminoriteter: en finsk populationsbaserad studie

Omfattande forskning tyder på att vissa samhällsgrupper, såsom sexuella och könsminoriteter, lider oproportionerligt mycket av mental ohälsa i jämförelse med den övriga befolkningen. I jämförelse med den heterosexuella ciskönade majoritetsbefolkningen rapporterar dessa minoriteter ofta högre nivåer av depression, ångest och suicidalitet, bland andra psykiska problem (King et al., 2008; Lucassen et al., 2017; McNeil et al., 2017; Plöderl & Tremblay, 2015; Semlyen et al., 2016). Generaliserbarheten av de befintliga forskningsresultaten är dock något tvivelaktig, eftersom många tidigare studier inom detta område inte har använt populationsbaserade representativa sampel (se till exempel, Reisner et al., 2016). Vår målsättning med denna studie var därmed att undersöka den mentala hälsan hos sexuella och könsminoriteter i ett populationsbaserat finskt sampel.

Minoritetsstressteorin har varit den mest använda förklaringen för diskrepansen i mental hälsa mellan sexuella och könsminoriteter och majoritetsbefolkningen (Meyer, 1995, 2013). Teorin föreslår att sexuella och könsminoriteter oftare lider av psykiska problem på grund av den belastning som den kroniska minoritetsstressen medför. Minoritetsstressen i sin tur orsakas av bland annat diskriminering, trakassering och stigma som dessa minoritetsindivider upplever i sin vardag. Även faktorer så som internaliserad homofobi och transfobi samt hemlighållande av sin identitet, har påvisats leda till ökad minoritetsstress (Burton et al., 2013; Chodzen et al., 2019; Duncan & Hatzenbuehler, 2014; Hatzenbuehler et al., 2009; Livingston et al., 2020). *Intersektionalitetsteorin* (Crenshaw, 1991) är en annan applicerbar teori för att förklara skillnaderna i mental hälsa mellan minoritets- och majoritetsindivider. Teorin föreslår att olika sociala kategorier, såsom könsidentitet och sexuell läggning samt etnicitet och socioekonomisk status i kombination skapar

mångfacetterade sociala ojämlikheter och individuella upplevelser av diskriminering (Bowleg, 2012). Resultat från flera studier stöder denna teori om att flera minoritetsstatusar i kombination skapar en kumulativ negativ inverkan på sexuell och mental hälsa på grund av upplevd intersektionell diskriminering (Borgogna et al., 2019; Díaz et al., 2001; Whitman & Nadal, 2015; Zamboni & Crawford, 2007).

Största delen forskningen inom detta ämne har fokuserat på homosexuella män och kvinnor samt bisexuella personer. Resultaten tyder starkt på att denna population konsekvent rapporterar högre nivåer av depression och ångest, mer suicidalitet och en större risk för olika typer av missbruk jämfört med den heterosexuella majoritetsbefolkningen (Bostwick et al., 2010; Bränström, 2017; Chakraborty et al., 2011; Hatzenbuehler, 2011; King et al., 2008; Lucassen et al., 2017; Marshal et al., 2008; Plöderl & Tremblay, 2015). Tidigare studier har också visat resultat som tyder på att bisexuella individer verkar vara särskilt sårbara för psykiskt lidande jämfört med lesbiska och homosexuella individer (Björkenstam et al., 2016; Bostwick et al., 2010; Oswalt & Wyatt, 2011; Whitlock et al., 2011). Forskare tror att detta är ett resultat av dubbel diskriminering, i form av stigma som upplevs av bisexuella människor, både inom HBTQ-samhället såväl som utanför det (Colledge et al., 2015; Dodge et al., 2016; Roberts et al., 2015). HBTQ är en akronym för homosexuella, bisexuella, trans- och queerpersoner, men termen används oftast som ett paraplybegrepp för att kollektivt beskriva diverse sexuella och könsminoriteter (GLAAD, 2016).

Dock finns det mycket knappt om forskning som fokuserat på de mindre välkända sexuella minoriteterna. Dessa identiteter är bland annat; *pansexuell*, *demisexuell*, *queer*, *questioning* och *asexuell*. På engelska beskrivs dessa minoriteter ibland kollektivt som *”emerging identities”,* men termen saknar etablerad svensk motsvarighet. I denna text används den egna svenska översättningen ”*uppkommande identiteter*” för att referera till emerging identities. Pansexualitet betyder att en person är sexuellt eller romantiskt attraherad

till en individ oavsett hens könsuttryck, könsidentitet eller biologiska kön (Rice, 2015, citerat i Morandini et al., 2017). Demisexuell avser en person som upplever sexuell attraktion först efter att ha bildat ett starkt känslomässigt band (Hille et al., 2020; Mosbergen, 2013). Queer är en äldre term som traditionellt har ansetts vara nedsättande. Termen används dock numera av personer med varierande icke-heterosexuella identiteter (Morandini et al., 2017). De personer som är osäkra på och ifrågasätter sin sexuella läggning beskrivs ofta på engelska som ”questioning” (Outright Action International, 2019), dock existerar ingen svensk etablerad motsvarighet för denna term. Därför kommer vi att använda den engelska termen i denna text.

Borgogna och kolleger (2019) studerade ett stort sampel universitetsstuderande och fann att de som identifierade sig med de uppkommande identiteterna rapporterade de högsta nivåerna av ångest och depression. De största skillnaderna hittades mellan pansexuella och heterosexuella individer för depression och demisexuella och heterosexuella deltagare för ångest. I sin helhet har de studier som utforskat den mentala hälsan hos personer som identifierar sig med dessa nyare identitetskategorier dock använt sig av bekvämlighetsurval och varit överlag metodologiskt bristfälliga (Brotto et al., 2010; McNair & Bush, 2016; Walton et al., 2016; Yule et al., 2013), vilket gör att generaliserbarheten av resultaten är osäker.

Transpersoners psykologiska välbefinnande har också studerats relativt aktivt, särskilt under det senaste decenniet, men det är fortfarande ont om populationsbaserade studier (Reisner et al., 2016). Många studier har även inom detta område varit metodologiskt bristfälliga (se till exempel, Dhejne et al., 2016). Den existerande evidensen från systematiska litteraturöversikter och metaanalyser tyder dock starkt på att transpersoner konsekvent rapporterar högre nivåer av psykisk ohälsa, i jämförelse med cispersoner. Tidigare forskning har i sin helhet främst fokuserat på *binära transpersoner*, vilket har lett till att det finns bristande evidens om individer som identifierar sig som *icke-binära* personer och ”*agender”*.

Icke-binära personer har en könsidentitet som inte faller inom den binära könsdikotomin man–kvinna (GLAAD, 2016). Medan agender personer upplever en avsaknad av könsidentitet (Butler, 2012, citerat i Galupo et al., 2019). Termen agender saknar också etablerad svensk motsvarighet och därmed kommer vi att använda den engelska termen i denna text. Scandurra m.fl. (2019) har publicerat en av de enda existerande systematiska litteraturöversikterna om icke-binära personers hälsa. Deras resultat indikerade att icke-binära individer upplevde högre nivåer av mental ohälsa än cispersoner. Dock var resultaten inte lika entydiga då forskarna jämförde icke-binära och binära transpersoner. En del av studierna i översikten fann bättre hälsa hos icke-binära personer, medan andra fann bättre hälsa hos binära transpersoner.

Målet med denna studie var att fylla kunskapsluckan i litteraturen genom att bidra med populationsbaserad evidens om sexuella och könsminoriteters mentala hälsa i Finland. Vi ville särskilt fokusera på de mindre kända minoriteterna, såsom de uppkommande identiteterna och icke-binära individer. Utgående från intersektionalitetsteorin ville vi även utforska om individer med dubbel minoritetsstatus (det vill säga de som tillhör både en sexuell- och en könsminoritet) skulle rapportera högre nivåer av ångest och depression i jämförelse med individer med enbart en minoritetstillhörighet. Dessutom var vi också intresserade av att utforska prevalensen av olika sexuella läggningar och könsidentiteter i den finska befolkningen på grund av bristen på sådana estimat i litteraturen. Så vitt vi vet är denna studie den första som analyserar ångest och depression hos sexuella och könsminoriteter inom samma omfattande populationsbaserade sampel.

Metod

Deltagarna i denna studie utgjordes av ett stort populationsbaserat sampel av vuxna från Finland. För en fullständig beskrivning av urvalet och datainsamlingsproceduren, se Tybur och kollegor (2020). Datainsamlingen genomfördes med hjälp av en internetenkät, som finska tvillingar och deras syskon fick fylla i mellan november 2018 och januari 2019. I

sin helhet inkluderades 8 589 individer i denna studie. Deltagarna fick möjligheten att själv fylla i sin sexuella läggning och könsidentitet i formuläret. De individer som identifierade sig som pansexuella, demisexuella, queer och questioning analyserades alla som en helhet under namnet uppkommande identiteter, på grund av små individuella sampelstorlekar. Asexuella individer analyserades dock separat då sampelstorleken var tillräckligt stor. Ångest och depression mättes med Brief Symptom Inventory-18 (BSI-18), där högre poäng indikerade fler symptom. Data analyserades in statistikprogrammet SPSS med hjälp av en generaliserad uppskattningsekvation (GEE). Ålder inkluderades som kovariat i alla analyser.

Resultat

I denna studie ville vi undersöka prevalensen av olika sexuella och könsidentiteter i den finska befolkningen överlag. Vi fann att 88,13 % i vårt sampel identifierade sig som heterosexuella, 2,68 % som homosexuella och 7,28 % som bisexuella. De återstående 1,16 % av deltagarna identifierade sig med de uppkommande identiteterna. Av dessa 1,16 % som identifierade sig med de uppkommande identiteterna var 0,67 % pansexuella, 0,72 % asexuella, 0,32 % questioning, 0,11 % demisexuella och 0,04 % queer. I fråga om könsidentitet fann vi att 99,09% av vårt sampel identifierade sig som ciskönade. Av de 0,91 % av individerna som identifierade sig som icke-ciskönade var 0,30 % binära transpersoner, 0,40 % icke-binära och 0,20 % agender.

Våra resultat påvisade att sexuella minoritetsdeltagare kollektivt rapporterade signifikant högre depression (M = 14,20, SE = 0,19) än heterosexuella deltagare (*M* = 11,96, *SE* = 0,06). Även när vi jämförde depressionsnivåerna för de sexuella minoritetsgrupperna separat mot nivån av heterosexuella individer, rapporterade alla minoritetsgrupper signifikant högre depression. Sexuella minoritetsdeltagare rapporterade också kollektivt signifikant högre ångest (M = 12,63, SE = 0,18) än heterosexuella individer (M = 10,58, SE = 0,06). Då vi jämförde ångestnivåerna hos de sexuella minoritetsgrupperna separat mot nivån av

heterosexuella deltagare, var asexuella individer den enda gruppen som inte rapporterade signifikant högre ångestnivåer (M = 11,64, SE = 0,74).

Bisexuella deltagare rapporterade också signifikant högre nivåer av depression (M = 14,62, SE = 0,24) än homosexuella deltagare (M = 12,81, SE = 0,35). Likaså rapporterade bisexuella deltagare också högre ångest (M = 12,97, SE = 0,23) än homosexuella individer (M = 11,72, SE = 0,34). De uppkommande identiteterna rapporterade också signifikant högre nivåer av både depression (M = 15,01, SE = 0,59) och ångest (M = 13,20, SE = 0,63) i jämförelse med homosexuella individer. Inga signifikanta skillnader i depressions- (M = 13,83, SE = 0,78) eller ångestnivåer (*M* = 11,64, *SE* = 0,74) hittades dock mellan asexuella och homosexuella individer. Inga signifikanta skillnader i depression eller ångest hittades heller mellan bisexuella individer, de uppkommande identiteterna eller asexuella individer.

Könsminoritetsindivider rapporterade också kollektivt signifikant högre nivåer av depression (M = 14,95, SE = 0,65) än cispersoner (M = 12,20, SE = 0,06), liksom signifikant högre ångest (M = 13,50, SE = 0,66) än cispersoner (M = 10,80, SE = 0,05). Men när vi jämförde resultaten för varje könsminoritetsgrupp separat mot depressions- och ångestnivåerna av cispersoner, hade endast icke-binära individer signifikant högre depression (M = 16,50, SE = 0,91) och ångest (M = 15,46, SE = 1,03). Skillnaden i depression mellan icke-binära (M = 16,50, SE = 0,91) och binära transpersoner (M = 13,73, SE = 1,09) var inte signifikant. Däremot var skillnaden mellan icke-binära (M = 15,46, SE = 1,03) och binära transpersoner (M = 11,79, SE = 0,87) på ångest statistiskt signifikant, med högre ångestnivåer hos icke-binära individer. Vi fann inga signifikanta skillnader i depression mellan binära transpersoner och agender deltagare (M = 13,64, SE = 1,49) och vi fann inte heller några signifikanta skillnader i ångest mellan agender (M = 12,09, SE = 1,39) och binära transpersoner. Våra resultat påvisade däremot att icke-binära individer upplevde signifikant

högre ångest (M = 15,46, SE = 1,03), jämfört med agender deltagare (M = 12,09, SE = 1,39). I jämförelsen mellan individer utgående från minoritetsstatus fann vi inga signifikanta skillnader mellan individer med dubbel minoritetsstatus (M = 14,94, SE = 0,67) och individer med enkel minoritetsstatus (M = 14,16, SE = 0,19) på depression. Likaså fann vi ingen signifikant skillnad mellan dubbel minoritetsstatusdeltagare (M = 13,60, SE = 0,69) och enkel minoritetsstatusdeltagare (M = 12,56, SE = 0,19) på ångest.

Diskussion

Denna studie var, oss veterligen, den första av sitt slag att undersöka skillnader i ångest och depression, både mellan köns- och sexuella minoriteter, liksom jämfört med den heterosexuella ciskönade majoriteten, inom samma populationsbaserade sampel. Minoritetsindividernas mentala hälsa studerades utgående från ett minoritetsstress- och intersektionalitetsperspektiv.

Våra resultat överensstämde överlag med våra hypoteser samt med evidensen från tidigare studier (Chakraborty et al., 2011; Eres et al., 2020; King et al., 2008; Marshal et al., 2011; McNeil et al., 2017). I sin helhet tyder våra resultat på att sexuella och könsminoriteter upplever betydligt högre ångest och depression jämfört med cispersoner och heterosexuella individer. Våra resultat tyder även på att vissa minoriteter verkar vara särskilt sårbara för att uppleva ångest och depression. Dessa minoriteter var bisexuella personer, personer som identifierar sig med de uppkommande identiteterna och icke-binära personer. Dessa resultat stämmer överens med tidigare forskningsresultat (Borgogna et al., 2019; McNair & Bush, 2016) och de kan potentiellt förklaras med högre grader av upplevd diskriminering och social stress hos dessa minoritetsgrupper (Bostwick et al., 2010; Pulice-Farrow et al., 2020).

I motsats till det vi förväntat oss fann vi dock inga signifikanta skillnader i depression och ångest mellan ciskönade individer, binära transpersoner och agender individer.

Detta var överraskande eftersom betydande evidens tyder på att särskilt binära transpersoner oftare lider av psykisk ohälsa än cispersoner (se till exempel, Borgogna et al., 2019; McNeil et al., 2017). Slutligen, i motsats till det vi förväntat oss hittade vi inte heller några signifikanta skillnader mellan personer med dubbel minoritetstillhörighet och personer med enkel minoritetstillhörighet.

De prevalensestimat på sexuella identiteter vi fann i vårt sampel var något högre än de estimat som Gates (2011) fann i sin studie, medan våra prevalenstal var jämförbara med andra populationsbaserade resultat (Greaves et al., 2017; Lindström et al., 2020). När det kommer till könsidentiteter var våra prevalensestimat jämförbara med de estimat som rapporterades av Gates (2011), men Van Caenegem m.fl. (2015) rapporterade däremot betydligt högre prevalensestimat.

Denna studies styrka är det stora populationsbaserade samplet som bidrar med generaliserbara resultat och minskar urvalsbias. Å andra sidan betyder ett sådant sampel ofta att minoritetssamplen blir mindre då man inte använder sig av bekvämlighetssampel eller målinriktad rekrytering av minoritetspersoner. Dessa små minoritetssampel kan därmed göra att vissa grupper inte statistiskt kan analyseras separat. Framtida studier kunde vidare undersöka effekterna av flera minoritetsstatusar på mental hälsa. Dessutom kunde framtida forskning även använda populationsbaserade sampel för att vidare utforska den mentala hälsan hos individer som identifierar med de uppkommande identiteterna, för att få mer specifik information om dessa individer.

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PRESSMEDDELANDE

Depression och ångest hos sexuella och könsminoriteter: en finsk populationsbaserad studie
Pro-gradu avhandling i psykologi
Fakulteten för humaniora, psykologi och teologi, Åbo Akademi

Resultaten från en pro-gradu avhandling i psykologi vid Åbo Akademi tyder på att sexuella och könsminoritetsindivider upplever signifikant mer ångest- och depression än den finska majoritetsbefolkningen. Av alla minoriteter rapporterade bland annat bisexuella och icke-binära individer de högsta nivåerna av depression och ångest. Vi hypotiserade att de högre nivåerna av mental ohälsa hos dessa minoriteter mest sannolikt är ett resultat av minoritetsstress, som uppkommer på grund av diskriminering både på ett institutionellt och på ett individuellt plan. Denna studie är, oss veterligen, den första av sitt slag.

Deltagarna i denna studie utgjordes av ett stort populationsbaserat sampel av vuxna från Finland. Datainsamlingen gjordes med en internetenkät som tvillingar och deras syskon blev inbjudna att fylla i mellan november 2018 och januari 2019. Totalt inkluderades 8 589 individer i denna studie. Ångest och depression mättes med enkäten Brief Symptom Inventory-18. Forskningsdeltagarna fick själv identifiera sin sexuella läggning och könsidentitet i denna studie.

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