Exploring Personality Pathology and Minority Stress Among Australian Sexual and Gender Minorities

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Table of Contents

List of Tables

List of Appendices

Abstract

Higher rates of personality pathology, characterised by both personality disorder diagnoses and presentation of subclinical symptoms, are identified among sexual and gender minorities (SGMs) as compared to their cisgender and heterosexual counterparts. Additionally, certain subgroups within the SGM community, namely bisexual and transgender populations, are found to have rates of personality pathology further elevated above that of other SGM subgroups. However, research on personality pathology prevalence across sexuality and gender identity is in its infancy, remaining scarce and somewhat inconclusive. Further, whilst literature has speculated that the increased levels of personality pathology observed within the SGM community may arise from manifestations of minority stress, this is yet to be explored empirically. This study examines scores of personality pathology from SGM community members as well as their cisgender, heterosexual counterparts and also explores if a relationship exists between personality pathology and minority stress. Using a cross-sectional survey design, 368 participants recruited within Australia completed measures designed to evaluate level of personality functioning, presence of maladaptive personality traits, and, for SGM participants, level of minority stress. Greater presentation of personality pathology was identified among SGM participants, with higher mean scores on both personality measures. Personality pathology scores were found to be highest among non-cisgender individuals and sexuality groups other than heterosexual and homosexual (gay/lesbian). As theorised, minority stress was positively correlated with personality pathology presentation. This research highlights how overlaps in manifestations of minority stress and personality disorder criteria may lead to misdiagnosis or over-pathologising for SGM populations.

Declaration

This thesis contains no material which has been accepted for the award of any other degree of diploma in any University, and, to the best of my knowledge, this thesis contains no material previously published except where due reference is made. I give permission for the digital version of this thesis to be made available on the web, via the University of Adelaide's digital thesis repository, the Library Search and through web search engines, unless permission has been granted by the School to restrict access for a period of time.

October 2022

Contribution Statement

In conducting this project, I collaborated with both of my supervisors ([redacted] and [redacted]) to establish the concept for this thesis and apply for ethics approval. I conducted the search of the literature, generated the research questions, and created the survey for data collection. Participant recruitment was in-part assisted by [redacted]. I manually coded the survey responses and completed all data analyses. All sections of the thesis, including Introduction, Method, Results, and Discussion, were written by me.

Exploring Personality Pathology and Minority Stress Among Australian Sexual and Gender Minorities

Prior research has consistently identified concerning disparities between sexual and gender minority (SGM) individuals and those identifying as heterosexual and/or cisgender across a wide range of mental health outcomes; in particular, depression (Cochran et al., 2003), anxiety (Hatzenbuehler et al., 2008), and suicidality (Bettis et al., 2020; Mustanski et al., 2010). Despite these recognised disparities, research into how prevalence of personality pathology may differ across sexual orientation and gender identity status is surprisingly scant. Whilst limited, the existing literature indicates that, compared to the general population, SGM groups are diagnosed with personality disorders at a higher rate (Bolton & Sareen., 2011; Prud'homme et al., 2020) and present with greater levels of subclinical symptoms (Denning et al., 2022; Russell et al., 2017). Furthermore, several studies exploring subgroups within the SGM community have found further elevated rates of personality disorder diagnosis and symptom presentation among certain identity groups, namely bisexual and transgender populations (Chang et al., 2021; Kerridge et al., 2017; Prud'homme et al., 2020). As diagnoses of personality disorders are associated with experiences of stigmatisation and ostracization (Sheehan et al., 2016), the disproportionate personality disorder diagnosis rates and higher symptom presentation among SGM groups is concerning for these already vulnerable and marginalised populations.

While the reasons for these disparities are unclear, literature has proposed that the increased personality pathology within the SGM community may arise as a manifestation of minority stress (Goldhammer, 2019; Prud'homme et al., 2020; Reuter et al., 2016). However, this is yet to be explored empirically. If minority stress is identified as a related factor, this may help inform culturally sensitive treatment and diagnostic approaches, and work to reduce potential over-pathologising or misdiagnosis for SGM community members. In order to

further develop understandings of personality pathology prevalence across sexuality and gender identity, this study aims to evaluate personality functioning and maladaptive traits across Australian SGM populations and their cisgender and/or heterosexual counterparts, as well as exploring minority stress as a potentially related factor.

Sexual and Gender Minorities and Mental Health

The term *sexual minority* refers to those who identify as lesbian, gay, bisexual or any other sexuality differing from heterosexual (e.g., asexual, queer, pansexual, etc.). Within Australia, sexual minority individuals are estimated to make up approximately 7% of the adult population (Wilson et al., 2020). Conversely, *gender minority* signifies those whose gender identity or expression does not align with the sex they were assigned at birth (e.g., transgender, gender diverse, gender non-conforming peoples, etc.). Australian-based surveys have estimated the prevalence of gender minority individuals among the adult population to be 0.4% (Victorian Agency for Health Information [VAIH], 2020). For those whose gender identity does align with their sex assigned at birth, the term *cisgender* applies.

Despite forming a relatively small percentage of the overall population, SGM individuals are overrepresented in mental health settings and documented to have significant disparities across a wide range of psychopathology. SGM populations are established to have elevated rates of anxiety (Hatzenbuehler et al., 2008), depression (Bettis et al., 2020), suicidal tendencies (Bolton & Sareen, 2011; Hatzenbuehler, 2011), substance use disorders (Cochran et al., 2003; Newcomb & Feinstein, 2019), and general psychological distress (Mustanski et al., 2010). In emerging psychological research, such mental health disparities for SGM populations appear to extend to personality pathology, with identifications of higher personality disorder diagnoses (Bolton & Sareen, 2011; Kerridge et al., 2017), and increased prevalence of maladaptive personality traits among SGM groups (Russell et al., 2017).

Defining Personality Pathology

Personality pathology encompasses a range of psychological dysfunctions that negatively impact cognition, emotion, behaviour, and adaptation (D'Avanzo et al., 2017). Severe personality pathology presentation may lead to a personality disorder diagnosis and is characterised by maladaptive and uncertain self-concept, tendency for negative and dysregulated emotions, impairments in interpersonal functioning, and an overall conflicted psychological world (American Psychological Association [APA], 2013).

The most recent edition (fifth) of the APA's (2013) *Diagnostic and Statistical Manual of Mental Disorders* (DSM-5) introduced an alternative dimensional model for diagnosis and conceptualisation of personality disorders in efforts to improve upon the categorical model used in previous editions. The APA Alternative Model of Personality Disorders (AMPD) primarily characterises personality disorders on two criteria: clinically significant impairments in personality functioning (Criterion A) and presence of pathological personality traits (Criterion B; APA, 2013).

Personality functioning refers to how one thinks about and understands themselves, as well as their interactions with others. Evaluating one's level of personality functioning involves investigation into both relationships with oneself, characterised as identity and self-direction, and interpersonal relationships, characterised as empathy and intimacy (Krueger & Hobbs, 2020). Clinically significant impairments in personality functioning are evidenced by unstable sense of self, difficulties establishing goals, inability to comprehend other's perspectives, and detached engagement with others (APA, 2013).

Pathological, or maladaptive, personality traits consist of five broad domains: negative affectivity (intense, frequent experiences of negative emotions), detachment (avoidance or withdrawal from interpersonal interactions), antagonism (callousness or unawareness of others' feelings), disinhibition (impulsive behaviour without consideration

for consequences), and psychoticism (unusual or eccentric perceptions and beliefs; APA, 2013; Prud'homme et al., 2020). In the AMPD, a diagnosis of personality disorder requires the presence of both impairment in personality functioning and at least one maladaptive personality trait (Krueger & Hobbs, 2020). Other AMPD diagnostic criteria (Criteria C-G) state that one's personality impairments must be inflexible and pervasive across situations, onset during early adulthood or adolescence and temporally stable, not better explained by another mental condition, not attributable to substances or other medical disorder, and not better understood as part of one's developmental stage or sociocultural environment (APA, 2013).

Personality Pathology and Sexual Minority Populations

Over the past decade, researchers have reported elevated rates of personality pathology for both sexual minority and gender minority populations. However, this field is still in its infancy, remaining largely scarce and somewhat inconclusive (Prud'homme et al. 2020; Russell et al., 2017). Existing literature has predominately explored sexual minority populations, largely overlooking gender minority populations, and has frequently focused on one particular personality disorder: borderline personality disorder (BPD). Of the research exploring personality disorders more generally, heightened diagnosis rates have been found within community samples for both homosexual and bisexual individuals compared to heterosexual individuals (Bolton & Sareen, 2011), with personality disorder diagnosis rates of 25.3%, 45.8%, and 14.6%, respectively (Kerridge et al., 2017). Sexual minority status has also been found to range between 18.1% and 37.6% within clinical samples of individuals with personality disorders (Reich & Zanarini, 2008) – significantly higher than sexual minority presence in the general population, estimated at 7% (Wilson et al., 2020). Beyond certified diagnoses, studies have also evidenced increased personality disturbance within sexual minority groups as compared to heterosexual samples, with greater endorsement of

maladaptive personality traits (Russell et al., 2017), higher instances of self-harm (Bettis et al., 2020), and elevated rates of compulsive and impulsive traits (Blum et al., 2020).

Associated research exploring diagnoses and symptomology of specific personality disorders across sexuality has almost entirely focused on BPD, with the exception of Wang et al. (2014) who found higher rates of anti-social personality disorder among non-heterosexual men compared to heterosexual men. Comparisons between sexual minority groups and heterosexual groups across BPD-specific criteria have revealed higher probable BPD diagnoses and greater experience of BPD symptoms for both sexual minority adults (Chang et al., 2021; Denning et al., 2022; Rodriguez-Seijas et al., 2021b) and adolescents (Marshal et al., 2012), even when controlling for anxiety and depression (Reuter et al., 2016). Further, in a recent study among clinical samples of adolescents with BPD, sexual minority status was identified as significantly more common (29.8%) compared to a psychiatrically healthy comparison sample (5%; Zanarini et al., 2021). Unfortunately, as most investigations of sexual orientation and personality disorders have exclusively explored BPD, the ability to make conclusions about personality disorder prevalence as a whole, as well as personality pathology in general, has been limited (Prud'homme et al., 2020).

Although high levels of personality disorder diagnosis and symptom presentation are found across sexual minorities as a community, between-group explorations have identified particular subgroups present with greater personality pathology than other identities (Prud'homme et al., 2020). Several studies have found that individuals attracted to more than one gender (e.g., bisexual and pansexual individuals) have statistically significant higher diagnostic rates of personality disorders (Kerridge et al., 2017) and greater endorsement of subclinical symptoms (Chang et al., 2021; Reuter et al., 2016; Russell et al., 2017) compared to other sexual minority groups. This is not surprising, as previous research on mental health across sexual orientation has consistently identified higher psychological distress among

bisexual groups than other non-heterosexual groups (Taylor et al., 2020). However, regarding personality pathology, other studies have found no statistically significant differences between the scores of bisexual individuals and other sexual minorities (e.g., Bolton & Sareen, 2011; Denning et al., 2022). Thus, research remains somewhat inconclusive regarding if certain groups are at even higher risk of experiencing personality pathology than others within the sexual minority community.

Personality Pathology and Gender Minority Populations

Research pertaining to personality pathology in gender minority populations is even sparser than that available for sexual minorities (Denning et al., 2022; Goldhammer et al., 2019). The few existing studies have largely explored personality pathology in clinical contexts among samples of patients undergoing gender-affirming medical treatment. Notably, the personality disorder rates identified within these gender minority samples have had significant disparities, ranging from 15% to 65% (Prud'homme et al., 2020). In one such study, Anzani et al. (2020) found that nearly 50% of gender minority participants undergoing gender-affirming treatment exhibited at least one personality disorder, as determined through clinical interviews. Further, in Grant et al.'s (2011) study of SGM individuals presenting with a substance use disorder, all transgender participants were found to meet the criteria for at least one personality disorder. However, only 11 participants identified as transgender in this study, severely limiting the generalisability of the results. Additionally, despite Anzani et al.'s (2020) finding that almost half of participants met personality disorder diagnostic criteria in a clinical interview, the same participants scored lower on self-report measures of maladaptive personality traits than their cisgender counterparts matched by gender identity. Whilst the reason for this discrepancy is unclear, it is thought to have been influenced by having the gender minority participants complete this measure through their health care provider, as they may have believed their access to gender-affirming treatment was

dependent on their answers, thus affected by social desirability bias (Anzani et al., 2020). Although conclusions for gender minorities remain inconclusive, the current research available indicates that gender minority populations may be even more prone to experiencing personality pathology than sexual minority populations.

Elevations in personality disorder diagnoses and presentation of subclinical symptoms are likely to result in further marginalisation of both sexual and gender minority groups, exposing them to increased stigma and prejudice (Sheehan et al., 2016). Thus, further research into intersections of sexuality, gender identity, and personality pathology is vital to better understand disparities between the SGM community and their cisgender and/or heterosexual counterparts, as well as helping to identify if certain subgroups may be more vulnerable than others within this already marginalised, disadvantaged community.

An Australian Perspective

The scarcity of literature on intersections of SGM status and personality pathology is further impacted by the limited cultural settings where such research has taken place. Whilst reviewing the available literature, it appears research has yet to be conducted on this topic within an Australian context. Prior investigations of personality pathology among SGM groups have predominately focused on populations within the United States (U.S.), with the addition of a few studies located across Europe. Importantly, numerous large-scale studies conducted on general populations have evidenced that prevalence of personality pathology, namely rates of diagnosed personality disorders, differ significantly between countries (Pierce & Mullen, 2020). For example, Grant et al. (2004) estimated that 14.8% of the U.S. adult population were diagnosed with a personality disorder, while Jackson and Burgess (2000) reported a personality disorder prevalence rate of 6.5% among Australian adults. Although these estimates are dated and likely in need of revisiting, these large discrepancies indicate that there may be cultural or diagnostic factors at play when it comes to personality

pathology prevalence. Thus, this study seeks to provide an Australian context in the ongoing exploration into personality pathology disparities between SGM populations and their cisgender, heterosexual counterparts.

Why does this Disparity Exist?

Despite collective recognition that SGM populations are disproportionately affected by personality pathology and receive more frequent diagnoses of personality disorders, hypotheses as to why have rarely been explored above speculation, and thus are critically lacking empirical support (Prud'homme et al., 2020). As diagnoses of personality disorders are associated with stigma (Sheehan et al., 2016) and likely to expose a SGM individual to further marginalisation, it is essential to empirically investigate the aetiology of this disparity. This can aid in establishing the existence of potentially underlying factors and determining if they may be addressed.

Although speculative, the existing literature in this field has largely proposed the present disparity can be understood through minority stress theory (Meyer, 2003); a theory widely considered "the leading paradigm in understanding health disparities among SGM populations" (Parent et al., 2019, p. 2). Minority stress theory posits that mental health disparities observed among SGM individuals are not borne from psychological issues inherent to these individuals, but instead reflect characteristics manifested from facing persistent discrimination and prejudice specific to their SGM status, referred to as minority stress (Hatzenbuehler & Pachankis, 2016). Research has found SGM populations experience more frequent lifetime and day-to-day experiences of personal discrimination than heterosexual populations (Mays & Cochran, 2001), as well as high rates of traumatic events and hate crimes (Pantalone et al., 2019). Among gender minority populations, these rates are even higher (Goldhammer, 2019; James et al., 2016).

In turn, the stress generated by facing traumatic and discriminatory events can result in increased negative affectivity and rumination, leading to internalised homophobia, identity disturbance, chronic feelings of emptiness, expectations of rejection, social isolation, and emotional reactivity (Hatzenbuehler & Pachankis, 2016; Prud'homme et al., 2020, Reuter et al., 2016). As personality pathology is assessed by both deficiencies in personality functioning, characterised by impaired relationships with oneself and others, and the presence of maladaptive traits, including negative affectivity and detachment, such behaviours and attitudes resulting from discrimination may be perceived as pathological personality features. This notion was supported by Björkenstam et al. (2017), who identified traumatic stressors to be significantly associated with greater presentation of personality pathology. Consequently, there is speculation that some aspects registered as "pathological" among SGM individuals may more so reflect maladaptive coping strategies or protective factors developed from experiences of minority stress (Craig et al., 2019; Rojas et al., 2019). Thus, significant overlap between personality disorder criteria and cultural artefacts arising from stress specific to SGM groups may underlie the observed personality pathology disparities.

Such potential overlaps are especially salient for BPD criteria (Cardona et al., 2021; Goldhammer, 2019; Rodriguez-Seijas et al., 2021a). The BPD diagnostic criteria that are thought to directly correspond with products of minority stress include identity disturbance, efforts to avoid abandonment, and unstable relationships (Rodriguez-Seijas et al., 2021a). Additionally, according to Linehan's (1993) biosocial model of BPD, chronic invalidation plays a central role in the instability across behaviour, cognition, and self and interpersonal relationships observed in BPD patients (Chang et al., 2021). As SGM individuals are at risk of invalidation across peer (Reuter et al., 2016), familial (Burton et al., 2014; Davis, 2019), and societal contexts (Hatzenbuehler & Pachankis, 2016), this may predispose SGM individuals to the development of BPD symptomology. Thus, high scores among SGM

groups on BPD criteria, or more general personality pathology measures, are potentially realistic responses to negative past experience, as opposed to non-normative deficits in personality functioning.

If the aetiology of the present disparity can be traced to overlaps in personality pathology criteria and manifestations of minority stress, this may shed light on the differing rates of personality disorder symptom presentation and diagnoses identified across SGM subgroups. As individuals attracted to multiple genders face *dual marginalisation* (Ochs, 1996), wherein discrimination is encountered from both heterosexual and homosexual communities (Prud'homme et al., 2020), and gender minorities face both transphobia and greater frequency of traumatic events, this could result in the increased personality pathology observed. Although, it is important to acknowledge that, when it comes to minority stress, it is not "one size fits all" and SGM individuals can hold other minority statuses, such as SGM people of colour or those who are both a sexual and gender minority. As a result, individuals holding multiple minority statuses can potentially face unique and intensified adversities (DiPlacido & Fallahi, 2020). As such, research should strive to incorporate intersectionality and analyse subgroups separately wherever feasible to avoid obfuscating further disparities among subgroups within the SGM community (Balsam et al., 2005).

If personality pathology presentation exists as a function of minority stress, such impairment among SGM groups may be better understood by sociocultural means, as opposed to presence of a personality disorder. Although the AMPD cautions against personality disorder diagnosis when sociocultural factors may better explain the observed impairment, no clear guidelines are provided on making this distinction (Rodriguez-Seijas, 2022). Thus, higher rates of personality disorder diagnosis may be driven by clinicians over-pathologising SGM groups due to unfamiliarity with relevant cultural factors, putting SGM individuals at risk of further marginalisation through unnecessary diagnostic labelling.

Critically, whilst significant associations have been empirically established between minority stress and other mental health disparities (Hatzenbuehler et al., 2013; Hatzenbuehler & Pachankis, 2016; Mays & Cochran, 2001; McLaughlin et al., 2010; Pachankis et al., 2014), research directly measuring both minority stress and personality pathology is almost non-existent. In order to develop clarity regarding if minority stress has a relationship with personality pathology in SGM populations, and if it can be considered as an associated factor, further empirical research is vital.

Research Aims and the Current Study

Emerging literature has identified that the prevalence rates of personality pathology for SGM individuals is concerning. However, this field is still developing, with inconsistencies between findings and limited conclusions regarding the aetiology of the observed disparity. Given the existing gaps in the literature, this study seeks to contribute to this area of research across three central aims.

The first aim of this study is to compare personality pathology scores, as assessed by measures of personality functioning and maladaptive traits, between populations of Australian SGM adults and their cisgender and/or heterosexual counterparts. The second aim is to identify if personality pathology scores vary across specific sexual or gender identity subgroups. The third aim is to explore if a relationship exists between scores of personality pathology and stressors specific to SGM groups, as measured by a scale of minority stress. Based on the prior literature, it is hypothesised that:

(1) Participants identifying as a sexual and/or gender minority will endorse higher personality pathology, across both personality functioning and maladaptive traits, than participants identifying as both cisgender and heterosexual.

(2) Those attracted to more than one gender and those identifying as non-cisgender will have higher endorsement on personality pathology measures compared to other subgroups.

(3) Greater experiences of minority stress will be positively correlated with greater endorsement across personality pathology measures.

Method

Participants

The sample comprised 368 participants, aged between 18 and 87 years old (M = 31.33, SD = 13.78). 51 responses were excluded due to missing data or non-completion of the measures necessary for statistical analysis. As shown in Table 1, participants predominately resided in South Australia (57.9%) and were of Australian ethnicity (73.6%). Participants were of a diverse range of sexualities, with 34.0% identifying as heterosexual, 27.2% as bisexual or pansexual, 26.9% as lesbian or gay, and 12% as "other sexual minority" (e.g., asexual, queer, demisexual, and panromantic). Most respondents were cisgender women (62.8%), with 18.5% identifying as cisgender men, and 18.5% as non-cisgender (e.g., non-binary, transgender woman, transgender man, genderqueer, and gender-fluid). Overall, of the 368 participants, 248 self-identified as a SGM (67.4%). Additional details for participant characteristics are presented in Table 1.

Table 1

Participant Characteristics

Characteristic	*n*	%
Gender		
Cisgender Woman	231	62.8
Cisgender Man	68	18.5
Non-Binary	33	9.0
Transgender Woman	9	2.4
Transgender Man	16	4.3
Other	11	3.0
Sexuality		
Heterosexual	125	34.0
Bisexual	85	23.1
Pansexual	15	4.1
Gay	33	9.0
Lesbian	66	17.9
Other	44	12.0
State of Residence		
Australian Capital Territory	37	10.1
New South Wales	22	6.0
Northern Territory	2	0.5
Queensland	58	15.8
South Australia	213	57.9
Tasmania	3	0.8
Victoria	28	7.6
Western Australia	5	1.4
Ethnicity		
Australian	271	73.6
Aboriginal or Torres Strait Islander	7	1.9
New Zealand	6	1.6
American	1	0.3
African	2	0.5
European	32	8.7
Asian	28	7.6
Middle Eastern	1	0.3
Other	20	5.4

Sampling Procedures

A cross-sectional survey design was used to conduct this study. Participants were recruited from posts in various online forums on Facebook, a cohort of first-year psychology students from the University of Adelaide, who received course credit for their participation (n = 79), and snowball sampling. Recruitment was targeted at SGM individuals by approaching online lesbian, gay, bisexual, transgender, and queer (LGBTQ+) community groups and distributing the survey information, provided permission was obtained first by a group admin or moderator. The inclusion criteria for participation required all participants to be 18 years or older, fluent in English, and residents of Australia. Participants who met the eligibility criteria self-selected to take part. Of the 419 respondents, 339 completed all survey measures, with a further 29 completing at least one measure necessary for analysis. Thus, the participation rate for the survey was 88%, providing a total of 368 responses to be included for analysis.

Prior to completing the survey questions, all participants were required to read the information sheet (Appendix A) and provide their informed consent (Appendix B). The survey was hosted on the Qualtrics XM Platform™ (Appendix B) and took approximately 15 minutes to complete. Study recruitment occurred between May 30th, 2022 and August 12th, 2022. The survey assessed each participant's level of personality functioning and maladaptive personality traits, as well as minority stress for participants identifying as an SGM.

To determine the minimum required sample size for the primary analysis, an a priori power analysis was conducted using G*Power version 3.1.9.3 (Faul et al., 2009). Results found a sample size of n = 128 participants was necessary to detect a medium effect size at a power level of .80 with a significance criterion of a = .05 for a two-tailed t-test analysing

difference between two independent means. As the obtained sample size exceeds this number, this study had satisfactory statistical power.

Measures

The survey involved a series of demographic questions and two questionnaires that assessed respondents' level of personality functioning across two domains and presence of maladaptive personality traits across five domains. An additional measure assessing LGBTQ+ minority stress was included for all participants who identified as an SGM. Scoring for each individual measure was done through the Qualtrics XM Platform™.

Demographic Questions

The demographic questions asked participants for their age, ethnicity, Australian state of residence, gender identity, and sexual orientation. For both gender identity and sexual orientation, participants were given the option to use a free entry text box to include any responses that were not present in the provided list.

Level of Personality Functioning Scale – Brief Form 2.0 (LPFS-BF 2.0)

The LPFS-BF 2.0 (Weekers et al., 2018) is a self-report questionnaire adapted from the Level of Personality Functioning Scale (LPFS; Bender et al., 2011) used to assess personality functioning and indicate the potential presence of personality disorders as outlined in Criterion A of the DSM-5's AMPD. The LPFS-BF 2.0 is a brief screening tool comprising of 12 items across two higher order domains: self-functioning and interpersonal functioning. Each item takes the form of a statement (i.e., I often make unrealistic demands on myself) and asks respondents to rate how much it applies to them on a 4-point Likert scale ranging from 1 (not at all true of me) to 4 (very true of me). The scale provides a total score for personality functioning, as well as scores for the two subscales, with greater personality dysfunction being indicated by higher scores. Possible scores range from 12 to 48. Of the LPFS variations accessible, the brief-form version of this scale was used in order to reduce

participant burden. The LPFS-BF 2.0 has demonstrated sufficient psychometric properties, with prior studies evidencing good construct validity (Weekers et al., 2018), as well as solid reliability and convergent validity (Stone et al., 2021). In the current sample, internal consistency was good for the total score (α = .88), as well as both subscales, with Cronbach's alphas of .85 for self-functioning, and .80 for interpersonal functioning.

The Personality Inventory for DSM-5 – Brief Form (PID-5-BF)

The PID-5-BF (Krueger et al., 2012) is a brief, self-report scale with 25-items used to assess the five maladaptive personality traits outlined in Criterion B of the DSM-5's AMPD. The five maladaptive trait domains are comprised of negative affectivity, detachment, antagonism, disinhibition, and psychoticism. Each domain corresponds to five items on the scale. Respondents are asked to rate how much each item, provided as statements (i.e., I don't like to get too close to people), describe themselves on a 4-point Likert scale from 0 (very false or often false) to 3 (very true or often true). Scores are given for both the overall measure and for each of the five domains. Scores range from 0 to 75, with higher scores indicating greater personality impairment. For this study, the brief form adaptation of this measure was used to reduce completion time for respondents. Whilst shorter than other PID-5 instruments, the PID-5-BF maintains adequate psychometric properties, with empirical support for the reliability, construct validity, and factor structure of this measure (Anderson et al, 2018). Within this sample, internal consistency was excellent for the total score (α = .90), good for the subscales measuring inhibition (α = .83) and psychoticism (α = .83), and acceptable for the subscales of negative affect (α = .77) and detachment (α = .74). For the antagonism subscale, the internal consistency was questionable (α = .68), although this is still deemed suitable given the low number of items comprising the subscale.

LGBT Minority Stress Measure

The LGBT Minority Stress Measure (Outland, 2016) is a 50-item self-report questionnaire containing seven subscales used to evaluate minority stress based on the seven components of the Minority Stress Model (Meyer, 2003). The seven subscales consist of identity concealment, everyday discrimination/microaggressions, rejection anticipation, discrimination events, internalised stigma, victimisation events, and community connectedness (reverse scored). Participants are asked to respond to items in the form of statements (i.e., I worry about what will happen if people find out I am LGBT) on a 5-point Likert scale spanning from 1 (never or strongly disagree) to 5 (all of the time or strongly agree). Scores are provided by averaging all items, ranging from 50 to 250. Greater experience of minority stress is indicated by a higher overall score. Although limited, previous research has evidenced good psychometric properties for this instrument, with identification of strong reliability and construct validity (Ogunbajo et al., 2020). For this study, the internal consistency of the overall measure was excellent ($\alpha = .93$). For all seven subscales, internal consistency was identified as good, with Cronbach's alphas ranging from .80 to .90.

Statement of Ethics

This project was granted ethics approval by the Human Research Ethics Subcommittee at the University of Adelaide (Approval number: 22/62). Participants were informed that they could withdraw from the study at any time without consequence, and that all responses would remain confidential and anonymous. The participant information sheet (Appendix A) included the purpose of the research project and directly addressed any survey questions that contained sensitive material. In the instance that any respondents may have experienced distress during survey completion, contact details for Lifeline, QLife (LGBTI peer support), and Beyond Blue were provided in the information sheet and at the conclusion of the survey.

Data Analysis

Data cleaning procedures revealed three responses that had duplicate student identification numbers and IP Addresses, which were removed from the dataset. After the data were cleaned, the Statistical Program for Social Sciences (SPSS) version 27 was used to conduct all analyses. The distribution of the data sets derived from the three questionnaires were checked for normality. Although Kolmogorov-Smirnov and Shapiro-Wilk tests were significant and indicated deviations from normality for all three data sets, this result was anticipated due to the large sample size. Subsequent investigations of Q-Q plots, histograms, and skewness and kurtosis scores indicated that the normality of all data sets remained suitable for the use of parametric tests. Presence of outliers among both LPFS-BF 2.0 scores and LBGT Minority Stress Measure scores were identified upon examination of histograms, box plots, and 5% trimmed means, resulting in the exclusion of the two highest values from both the LPFS-BF 2.0 scores and the LGBT Minority Stress Measure scores.

Results

Descriptive Statistics

Descriptive statistics are presented in Table 2 for all measures, including total scores and subscale scores. Higher scores for both level of personality functioning and maladaptive traits indicate greater personality pathology. As shown in Table 2, the group mean score across all personality pathology measures, including subscales, is higher for SGM respondents than for cisgender, heterosexual respondents.

Table 2

Descriptive Statistics Across Study Measures

Measure	Cisgender and Heterosexual			SGM			Total		
	n	Mean (SD)	Range	*n*	Mean (SD)	Range	*n*	Mean (SD)	Range
Level of Personality Functioning									
Total	118	24.01 (6.79)	12-38	248	28.45 (7.27)	12-47	366	27.02 (7.41)	12-47
Self	118	13.56 (4.48)	6-21	248	15.67 (4.26)	6-24	366	14.99 (4.44)	6-24
Interpersonal	118	10.45 (3.17)	6-17	248	12.79 (3.86)	6-24	366	12.03 (3.81)	6-24
Maladaptive Traits									
Total	115	21.81 (11.57)	0-46	235	26.89 (12.81)	1-59	350	25.22 (12.63)	0-59
Negative Affect	115	7.07 (3.67)	0-15	235	7.94 (3.54)	0-15	350	7.66 (3.60)	0-15
Detachment	115	4.35 (3.11)	0-12	235	5.48 (3.49)	0-15	350	5.11 (3.41)	0-15
Antagonism	115	2.59 (2.68)	0-14	235	2.97 (2.44)	0-10	350	2.84 (2.52)	0-14
Disinhibition	115	3.43 (2.99)	0-11	235	4.34 (3.65)	0-15	350	4.04 (3.47)	0-15
Psychoticism	115	4.37 (3.36)	0-14	235	6.16 (3.92)	0-15	350	5.57 (3.83)	0-15
Minority Stress									
Total				222	112.46 (27.78)	62-179	222	112.46 (27.78)	62-179
Identity Concealment				222	11.80 (5.24)	6-29	222	11.80 (5.25)	6-29
Everyday Discrimination				222	35.23 (9.84)	13-60	222	35.23 (9.84)	13-60
Rejection Anticipation				222	15.22 (6.20)	6-30	222	15.22 (6.19)	6-30
Discrimination Events				222	11.95 (4.97)	6-28	222	11.95 (4.97)	6-28
Internalised Stigma				222	11.20 (5.34)	7-33	222	11.20 (5.34)	7-33
Victimisation Events				222	14.08 (6.36)	7-35	222	14.08 (6.36)	7-35
Community Connectedness				222	12.99 (4.61)	5-25	222	12.99 (4.61)	5-25

Note. SD = Standard Deviation; SGM = Sexual and Gender Minority

SGM and Cisgender Heterosexual Scores on Personality Pathology Measures

The first aim of the study was to compare scores on both measures of personality pathology–the LPFS-BF 2.0 and the PID-5 BF–between SGM respondents and their cisgender, heterosexual counterparts. It was hypothesised that participants identifying as a sexual and/or gender minority would score higher on personality pathology than those identifying as cisgender and heterosexual. This hypothesis was tested by conducting two independent *t*-tests to compare mean scores for both personality pathology measures between the two groups. For the LPFS-BF 2.0, results indicated that SGM participants received significantly higher scores of personality dysfunction (M = 28.45, SD = 7.27) than cisgender, heterosexual participants (M = 24.01, SD = 6.79; t (364) = -5.58, $p < .001$, two-tailed) and showed a moderate to large effect size (d = -.62). For the PID-5 BF, the *t*-test revealed that SGM participants also scored higher on maladaptive personality traits (M = 26.89, SD = 12.81) than cisgender, heterosexual participants (M = 21.81, SD = 11.57). This was statistically significant (t (348) = -3.59, $p < .001$, two-tailed) with a moderate effect size (d = -.41). Both findings were supportive of the hypothesis.

Personality Pathology Scores Across Sexuality and Gender Identity Subgroups

The second aim of the study was to explore whether personality pathology scores differed across sexuality and gender identity subgroups. Higher scores for gender minorities and those attracted to more than one gender on both personality dysfunction and maladaptive traits in comparison to other identity subgroups was hypothesised. An initial one-way between-groups multivariate analysis of variance (MANOVA) was performed to examine gender identity differences on personality pathology scores. Two dependent variables were used: level of personality functioning and maladaptive personality traits. The independent variable was gender identity, coded at three levels: cisgender women, cisgender men, and non-cisgender. A statistically significant multivariate effect was found for personality

pathology scores in relation to gender identity, F (4, 686) = 6.09, p < .001; Wilks' Λ = .93; partial η^2 = .034.

Follow-up univariate ANOVAs showed the differences between gender identity groups were statistically significant for scores on both level of personality functioning (F (2, 362) = 12.82, p < .001; partial η^2 = .066) and maladaptive personality traits (F (2, 346) = 7.84, p < .001; partial η^2 = .043). For scores of personality dysfunction, Tukey post-hoc tests demonstrated statistically significantly higher mean scores for non-cisgender participants than both cisgender women (p < .001) and cisgender men (p < .001), but no statistically significant differences between scores of cisgender women and cisgender men (p = .223). For scores of maladaptive personality traits, Tukey post-hoc tests also showed non-cisgender respondents to have statistically significantly higher mean scores than both cisgender women (p = .001) and cisgender men (p = .003), with no statistically significant difference between the mean scores of cisgender women and cisgender men (p = .953).

To examine sexuality differences on personality pathology scores, another one-way MANOVA was conducted with level of personality functioning and maladaptive personality trait scores as the dependent variables. The independent variable was sexuality coded at four levels: heterosexual, homosexual (gay/lesbian), bisexual/pansexual, and other sexual minority. The difference between sexualities on the combined dependent variables was found to be statistically significant, F (6, 686) = 7.56, p < .001; Wilks' Λ = .88; partial η^2 = .062.

Two follow-up univariate ANOVAs were run, demonstrating the presence of statistically significant differences in scores on both level of personality functioning (F (3, 362) = 11.03, p < .001; partial η^2 = .084) and maladaptive personality traits (F (3, 346) = 8.83, p < .001; partial η^2 = .071) between sexuality groups. Tukey post-hoc tests identified that, for scores of personality dysfunction, heterosexual respondents had statistically significantly lower scores than homosexual respondents (p = .012), bisexual/pansexual

respondents ($p < .001$), and those in the category of "other sexual minority" ($p = .001$). However, no statistically significant differences were present between homosexual and bisexual/pansexual scores ($p = .140$), between homosexual and other sexual minority scores ($p = .520$), or between bisexual/pansexual and other sexual minority scores ($p = .989$). For maladaptive personality trait scores, the Tukey post-hoc tests revealed heterosexual respondents to have a significantly lower mean score than bisexual/pansexual respondents ($p < .001$) and respondents with other non-sexual orientations ($p = .007$), but differences in mean scores for heterosexual and homosexual respondents were not statistically significant ($p = .909$). Homosexual respondents were also found to have a significantly lower mean score for maladaptive personality traits than those identifying as bisexual/pansexual ($p = .003$) and as other sexual minority ($p = .044$). The differences in maladaptive personality trait scores between respondents that identified as bisexual/pansexual and other sexual minority was not statistically significant ($p = .999$).

Minority Stress and Personality Pathology Scores

The third aim of this study was to explore if a relationship was present between personality pathology scores and scores of minority stress. It was hypothesised that scores of minority stress will be positively correlated with scores on both personality pathology measures. As shown in Table 3, a bivariate correlation identified a statistically significant moderate positive correlation between scores on the LGBT Minority Stress Measure and scores of personality dysfunction ($r = .382$, $p < .001$). A significant moderate positive correlation was also found between the LGBT Minority Stress Measure scores and scores of maladaptive personality traits ($r = .391$, $p < .001$). The identification of both relationships supports the hypothesis. Correlations between the subscales for all measures are found in Table 3, with significance between most correlations. Most notably, Table 3 shows all

correlations between total minority stress score and all personality pathology subscales to be positive and significant.

Table 3

Pearson's Bivariate Correlation Coefficients Across Study Measures

Variable	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.	16.	17.
1. LPFS-BF 2.0 Total	--																
2. Self Functioning	.914**	--															
3. Interpersonal Functioning	.881**	.612**	--														
4. PID-5 BF Total	.822**	.730**	.747**	--													
5. Negative Affect	.746**	.721**	.609**	.792**	--												
6. Detachment	.654**	.557**	.622**	.744**	.481**	--											
7. Antagonism	.307**	.235**	.324**	.551**	.275**	.238**	--										
8. Disinhibition	.598**	.513**	.564**	.758**	.513**	.443**	.323**	--									
9. Psychoticism	.683**	.615**	.610**	.841**	.598**	.553**	.394**	.506**	--								
10. Minority Stress Total	.382**	.287**	.400**	.391**	.308**	.331**	.170*	.183**	.421**	--							
11. Identity Concealment	.242**	.190**	.244**	.260**	.209**	.187**	.199**	0.12	.253**	.480**	--						
12. Everyday Discrimination	.342**	.259**	**.357****	.371**	.297**	.270**	.151*	.188**	**.426****	.814**	.181**	--					
13. Rejection Anticipation	.256**	.220**	.237**	.252**	.203**	.224**	0.068	0.088	.312**	.821**	.420**	.643**	--				
14. Discrimination Events	.159*	0.094	.196**	.175**	0.081	.189**	0.043	0.061	.245**	.709**	0.045	.620**	.597**	--			
15. Internalised Stigma	.276**	.246**	.246**	.262**	.235**	.224**	0.128	0.128	.243**	.559**	.464**	.233**	.346**	.136*	--		
16. Victimisation Events	.167*	0.075	.233**	.183**	0.109	.181**	0.078	0.113	.181**	.726**	0.052	.569**	.498**	.684**	.244**	--	
17. Community Connectedness	.231**	.179**	.237**	.186**	.202**	.190**	0.081	0.077	0.129	.229**	.144*	-0.023	0.025	-0.086	.237**	0.035	--

Note. LPFS-BF 2.0 = Level of Personality Functioning – Brief Form 2.0; PID-5 BF = Personality Inventory for DSM-5 – Brief Form

* $p < .05$ ** $p < .01$

Discussion

Present Study Overview

As previous research on personality pathology has indicated the presence of significant disparities between SGM populations and cisgender, heterosexual populations, the first aim of this study was to compare personality pathology scores between Australian adults from these two groups. The second aim was to explore if personality pathology scores differed across sexuality and gender identity subgroups within the sample. Finally, the third aim of this study was to determine if relationships were present between levels of minority stress and scores of personality pathology among SGM participants.

First, the present study found that the average scores for SGM respondents were higher than the average scores for cisgender, heterosexual respondents on personality pathology measures. These differences were statistically significant for both aspects of personality pathology assessed: personality dysfunction and maladaptive personality traits. Second, findings demonstrated that personality pathology scores did vary across different sexuality and gender identity subgroups. However, the particular subgroups that significantly differed was somewhat dependent on the aspect of personality pathology, with differences present in the findings for personality dysfunction scores and maladaptive personality trait scores. Third, this study identified that the minority stress scores of SGM participants were positively correlated with their scores of personality pathology. Both the relationship between minority stress and personality dysfunction, and between minority stress and maladaptive personality traits, was identified to be moderate and significant.

Personality Pathology for SGM and Cisgender Heterosexual Populations

In comparing personality pathology scores from a SGM sample to a cisgender, heterosexual sample, it was hypothesised that greater personality pathology scores would be identified among those identifying as a sexual and/or gender minority. The present data

supported this hypothesis, with the average scores of the SGM group identified as significantly higher for both personality dysfunction, and maladaptive personality traits. These findings were consistent with previous research by Russell et al. (2017), demonstrating higher maladaptive trait levels, as measured by the PID-5, among sexual minority populations when compared to a heterosexual cohort. The results of the present study also align with personality pathology research focusing on BPD, with previous identifications of greater BPD symptom presentation among SGM adults than cisgender, heterosexual adults (Denning et al., 2022), as well as among sexual minority adolescents in comparison to heterosexual adolescents (Marshal et al., 2012; Reuter et al., 2016). As research on intersections of SGM status and personality pathology has often focused solely on BPD, and has not yet explored level of personality functioning, this study provides new information to the literature. The current findings identify that more severe personality pathology presentation among SGMs extends to level of personality functioning, and that personality pathology disparities are present across broader personality disorder criteria than BPD alone.

Level of personality functioning was measured across two subscales: self-functioning and interpersonal functioning. Results from the *t*-test comparing SGM and cisgender, heterosexual participants on total dysfunction scores identified a moderate to large effect size (d = -.62). This suggests that SGM persons, on average, have markedly poorer relationships with themselves and with others than those who are cisgender and heterosexual. This was consistent with findings from Denning et al. (2022) which, although using BPD-based measures, identified higher scores among SGM participants on subscales measuring negative self-image, relationship difficulties, and feelings of abandonment.

As self-functioning is characterised by identity and self-direction, greater instability found among SGM individuals may reflect internalised stigma, identity concealment, or uncertainty regarding what future prospects are available; such as supportive workplaces,

accepting accommodation, and familial stability (Rodriguez-Seijas et al., in press). Further, as interpersonal functioning is measured on the basis of empathy and intimacy, increased disturbances in an SGM individual's relationships with others may arise from past experiences of rejection or discriminatory experiences from those around them (Rodriguez-Seijas et al., in press). Thus, the lived experiences of many SGM individuals may possibly lead to impaired self and interpersonal relationships, potentially contributing to the disparities observed in this study. Given impairment in personality functioning across self and interpersonal relationships is the primary diagnostic criterion within the AMPD, consideration of how presentation of these traits among SGM groups may be influenced through sociocultural means is paramount.

Beyond level of personality functioning, this study also explored personality pathology in terms of maladaptive personality traits. This was measured by the PID-5-BF using five subscales corresponding to the five pathological personality traits outlined in the AMPD: negative affect, detachment, antagonism, disinhibition, and psychoticism. The analysis comparing the total maladaptive personality traits scores between SGM and cisgender, heterosexual participants demonstrated a moderate effect (d = -.41). These results indicate SGM individuals have greater maladaptive characteristics across this range of personality traits than those who are not a sexual or gender minority. Similarly, Russell et al.'s (2017) study comparing PID-5 scores across sexual orientations found sexual minorities scored higher than heterosexuals. In a 2020 study conducted by Blum et al., both impulsive and compulsive traits were significantly correlated with same-sex attractions, aligning with the present findings. Notably, while the findings compliment Denning et al.'s (2022) identification of greater affect instability and feelings of emptiness among a SGM sample, Denning et al. (2022) also identified that impulsivity and quasi-psychotic scores were lower among their SGM sample than their cisgender, heterosexual sample.

Similar to speculations around the observed differences in terms of personality dysfunction, results of higher scores on maladaptive personality traits for the SGM sample than the cisgender, heterosexual sample may also reflect impacts of the increased exposure to discrimination that SGM groups face. Experiencing prejudice (or in some extremes, hate crimes) on the basis of one's sexual or gender identity can severely disrupt emotion regulation and feelings of connectedness (Hatzenbuehler & Pachankis, 2016). As this presentation could be interpreted as maladaptive traits of negative affect or detachment, and only one maladaptive trait is required for personality disorder diagnosis, this overlap could help to explain why SGM persons experience higher personality disorder diagnoses and presentation of subclinical symptoms. The ways in which experiences of discrimination can manifest are important for clinicians working with SGM populations to understand to ensure appropriate personality disorder diagnosis approaches and care are achieved.

Personality Pathology Among Different Sexualities and Gender Identities

When exploring mean personality pathology scores across different sexuality and gender subgroups, it was hypothesised that non-cisgender participants would score higher than cisgender participants, and that those attracted to more than one gender (bisexual/pansexual participants) would score higher than other sexuality subgroups. These hypotheses received partial support from the data, although this varied across the two personality pathology measures used. As anticipated, non-cisgender participants had significantly higher mean scores on both the personality dysfunction and maladaptive personality trait measures than their cisgender counterparts, supporting the hypothesis. Further, comparisons between cisgender men and cisgender women showed no significant differences. This aligns with prior studies comparing gender minorities to cisgender counterparts that have identified greater likelihood of personality disorder diagnosis (Anzani et al., 2020; Grant et al., 2011) and higher reports of psychological distress (Taylor et al.,

2020) for non-cisgender individuals. In addition, the present results support studies that found no differences between cisgender women and cisgender men on personality pathology scores (Reuter et al., 2016), or in total personality disorder diagnostic rates (Jackson & Burgess, 2000). Whilst Denning et al.'s (2022) study also found no differences in BPD symptom presentation between cisgender men and cisgender woman, no differences were found for non-cisgender participants either, differing from the current findings. Further, a particular set of results garnered by Anzani et al. (2020) provides a stark contrast to the present findings. Although Anzani et al. (2020) identified greater likelihood of personality disorder diagnosis among transgender participants on the basis of clinician interviews, these same participants presented with lower maladaptive personality trait scores than cisgender participants, as measured by the full-length PID-5. However, as transgender participants for this study were recruited through the clinic they attended for gender-affirming treatment, participants may have believed their scores could impact access to treatment, thus intentionally presenting themselves as healthy and well-functioning on the self-report measure. Hence, the discrepancy between these results and the current study may stem from effects of social desirability bias. Alternatively, the incongruence between self-rated and clinician-rated personality assessment within Anzani et al.'s (2020) results potentially reflect presence of clinician bias. Existence of clinician bias toward personality disorder diagnosis for SGM individuals is debated, with some studies indicating increased tendencies for clinicians to diagnose a personality disorder when patients' SGM status is made salient (Eubanks-Carter & Goldfried, 2006; Rodriguez-Seijas et al., 2021a), and other studies failing to find such biases (Assaad, 2022). Further research is necessary to establish whether such biases are present among clinicians and if this may help to explain the personality disorder discrepancies identified for SGM community members.

In the analyses comparing personality pathology across different sexual orientation subgroups, results somewhat varied. For personality dysfunction, results showed that heterosexual individuals scored significantly lower than all other sexuality categories (homosexual, bisexual/pansexual, and other sexual minority). However, none of the differences between any of the sexual minority categories were significant. Impacts of sexual identity across personality pathology in terms of maladaptive traits presented with different results. Significantly lower scores were found for heterosexual participants in comparison to both bisexual/pansexual and other sexual minority respondent groups, but no significant difference was present when compared to scores of homosexual respondents. Parallel to heterosexual respondent scores, homosexual respondents were also found to score significantly lower on maladaptive personality traits than both bisexual/pansexual and other sexual minority groups. Comparison between bisexual/pansexual and other sexual minority groups revealed no significant differences for total maladaptive personality trait scores.

As it was hypothesised that those attracted to more than one gender would score higher than other sexuality subgroups, the higher mean score in maladaptive traits for bisexual/pansexual respondents was expected. Although a higher mean score for other sexual minority participants was not specifically predicted, this may potentially support the hypothesis as well. Respondents categorised as other sexual minority came from groups not large enough to be explored on their own. This included participants identifying as asexual, queer, demisexual, and those choosing not to label themselves. Many of the identities comprising the “other sexual minority” category in this study do not denote who they are attracted to, and thus may include multiple genders. This may explain why there was no significant difference between the maladaptive personality trait scores between the bisexual/pansexual group and the “other sexual minority” group. Similar results to the present maladaptive trait findings have been identified in studies of different sexuality groups scores

across personality pathology criteria specific to BPD, with bisexual adolescents scoring higher on borderline features than homosexual adolescents (Reuter et al., 2016), and bisexual/pansexual scores being significantly more likely to meet the cut-off for possible BPD than gay/lesbian scores (Chang et al., 2021). For Chang et al. (2021), scores of other sexual minority participants did not differ from scores of either bisexual/pansexual or homosexual respondents, aligning with the current findings for personality dysfunction, but deviating from the present maladaptive personality trait results.

Previous literature has theorised that greater impairments in the personality domain for those attracted to multiple genders may arise from dual marginalisation (Prud'homme et al., 2020). Dual marginalisation occurs when discrimination is directed from both heterosexual and homosexual communities, on the basis of going against their norms of monosexuality (Ochs, 1996). Facing such discrimination has been found to exacerbate mental health concerns in individuals attracted to multiple genders (Prud'homme et al., 2020) and may explain why bisexual/pansexual participants scored significantly higher than both heterosexual and homosexual participants on the PID-5-BF. It is also reasonably expected that those in the category of "other sexual minority" may also experience more discrimination than homosexual individuals, due to being within smaller, less recognised communities.

This study contributed new information to the field, as past research seeking to determine if some SGM subgroups have increased presentation of personality pathology than other subgroups have been discrepant and inconclusive. The present results support notions that gender minorities experience greater impairments across both underlying aspects of personality pathology than other gender identities. However, the current findings indicate that differences between sexuality groups differ across the two key aspects that underlie personality pathology assessment.

Relationships Between Minority Stress and Personality Pathology

As numerous past studies have speculated that minority stress is likely to play a role in the relationship between SGM status and heightened personality pathology, it was hypothesised that scores on the LGBT Minority Stress Measure would be positively correlated with both personality pathology scores. Minority stress scores were derived from the summed total of the seven subscales within this instrument: identity concealment, everyday discrimination, rejection anticipation, discrimination events, internalised stigma, victimisation events, and community connectedness. For the LPFS-BF 2.0, a moderate positive correlation was found between personality dysfunction scores and levels of minority stress. Correspondingly, a moderate positive correlation was also found between levels of minority stress and maladaptive personality traits, as measured by the PID-5-BF. This indicates that presentation of personality pathology was more severe for those experiencing greater minority stress. Both correlations were significant and supported the hypothesis. Additionally, it was found that minority stress was significantly positively correlated with all subscales measured across both personality pathology instruments. This demonstrates that the minority stress an individual experiences on the basis of their SGM status and their impairment in the domain of personality is associated across all criteria evaluated for personality disorder diagnosis as described in the AMPD.

As no known studies have empirically evaluated both minority stress and presence of general personality pathology, comparisons of these results within the literature are limited. Although, evidence for this relationship does support past speculations put forth by several investigations into personality pathology and personality disorders among SGM populations (Bolton & Sareen, 2011; Goldhammer et al., 2019; Marshal et al., 2012; Reuter et al., 2016). Additionally, prior research has evidenced significant associations between components of minority stress and a wide range of poorer mental health outcomes among SGM populations.

Mays and Cochran (2001) found perceived discrimination was positively associated with indicators of psychiatric morbidity and harmful effects of quality of life for sexual minority adults. Similarly, Mclaughlin et al. (2010) identified discriminatory experiences to be associated with greater mood, anxiety, and substance use disorders. Further, when comparing mental health data between U.S. states with protective policies for SGM populations against U.S. states without these policies, stronger associations were found between sexual minority status and psychiatric disorders in states without policies extending protections to these groups (Hatzenbuehler et al., 2009). Higher suicide rates have also been identified among sexual minority youth living within unsupportive environments (Hatzenbuehler, 2011). Thus, these findings align with the present identification of a correlational relationship between higher minority stress experiences and greater impairments in mental health and wellbeing. Although, alternative results were found in Denning et al.'s (2022) exploration into BPD symptoms across SGM status, identifying that the relationship between stigmatising events and BPD symptoms did not retain significance when controlling for other factors. However, stigmatising events were measured by a select few discrete events to which participants could answer with "yes" or "no"; thus, not accounting for stigma in the form of discrimination patterns that the individual may encounter more regularly.

The results of the current study also contribute to the empirical support for the minority stress model (Meyer, 2003), which details how psychosocial factors, specifically social stressors related to prejudice, directly impact both health and mental wellbeing for those identifying as a SGM. Further investigation is warranted to explore if exposure to minority stress may lead to development of impairments within personality functioning and maladaptive traits, thus explaining the observed disparity between SGM individuals and their cisgender, heterosexual counterparts.

Strengths of the Study

Through conducting this study, further information has been contributed to the emerging field exploring disparities in personality pathology in relation to SGM status. While much of the existing research has focused on sexual minorities alone, comparisons of personality pathology presentation were made across both sexuality and gender identity, adding to the limited gender minority literature in this area. Further, although past research has theorised exposure to discrimination and invalidation may give rise to increased personality pathology characteristics for SGM populations, empirical research is almost non-existent. The current study provides support for this theory by demonstrating minority stress to be significantly correlated with presentations of personality pathology, across both level of personality functioning and maladaptive personality traits. As a result, key strengths of this study lie in its ability to address several gaps present in this area of personality pathology research.

Limitations of the Study

It is important to note that the results of this study should be considered with regard to a number of present limitations. When completing the survey, participants were able to select from a list of identity labels for both sexuality and gender identity or enter their own option if it was not provided. Upon the data review, it was found that the number of respondents for several identity categories was too low by themselves to have appropriate statistical power for the data analysis. Hence, the decision was made to combine a number of identity categories to form groups large enough for satisfactory statistical power. For sexuality, lesbian and gay respondents were grouped as homosexual, bisexual and pansexual respondents were combined into a single category, and a number of responses that did not fit within either (e.g., queer, asexual, and demisexual) were grouped as “other sexual minority”. For gender identity, all responses other than cisgender woman or cisgender man (e.g.,

transgender woman, transgender man, non-binary, gender-fluid, and genderqueer) were grouped together as non-cisgender. Consequently, potential disparities existing between the combined identity groups may have been obfuscated, thus forming a key limitation within this study.

Another limitation arose from the sampling procedures used. As SGM participants were primarily sourced through community-based groups on Facebook, this study has likely missed capturing data from those who are not publicly "out" regarding their sexual and/or gender minority status, or those who have not connected with other members of the SGM community. As previous research has identified both community connection and outness to be positively associated with better mental wellbeing (Balsam et al., 2005; Taylor et al., 2020), individuals from these demographics are arguably more vulnerable to poorer mental health. Lack of representation from these demographics may have impacted the results, particularly across the community connectedness scale within the LGBT Minority Stress Measure. Hence, this was a limitation affecting the generalisability of the present results.

As participant self-identification was used to determine sexual orientation, as opposed to measures of attraction or behaviour, many participants grouped to form the category of "other sexual minority" could not be identified as monosexual or omnisexual. As one hypothesis pertained to individuals attracted to more than one gender, the ability to report the support for this hypothesis was limited as a result of the self-identification approach used.

Directions for Future Research

Future research should strive to obtain larger sample sizes with comparative subgroup numbers in order to compare between subgroup categories independently, providing more opportunity to recognise personality pathology disparities present among populations that comprise the SGM community. In particular, greater numbers of gender minority respondents should be sought to compare the subgroups existing within this population, as prior

personality disorder findings have been mixed and inconclusive regarding if particular gender minority groups are more vulnerable for diagnoses than other gender minority groups (Prud'homme et al., 2020).

In order to clarify if significant personality pathology disparities are present between sexual minority monosexuals and sexual minority omnisexuals, it is recommended that future studies implement measures assessing participants' gender attraction and past dating behaviours in order to categorise groups beyond self-identification.

Implications and Conclusions

Overall, the current investigation provides valuable insight and contributions to an area of research that is still emerging. Resoundingly, individuals identifying as a sexual and/or gender minority were evidenced to have heightened experiences of personality pathology characteristics. For some groups within the SGM community, namely gender minority and omnisexual populations, further increases in such presentations were demonstrated. When considering how minority stress may impact on measures of personality pathology, clear relationships were demonstrated between these two constructs. All of the present findings offer greater understanding into why more frequent diagnoses of personality disorders, and greater demonstrations of subclinical symptoms, are found in populations of SGM persons. Crucially, potential overlaps with the current personality disorder criteria and manifestations from exposure to minority stress have been highlighted throughout this investigation. This gives rise to a number of important clinical implications that are necessary to foster appropriate treatment and diagnostic pathways. Current personality disorder assessment and diagnostic tools may not be suitable for SGM individuals if clinicians are not taking the impact of minority stress into account when working with such clients. As the AMPD criteria advises against diagnoses when observed impairment can be "better understood as normal for an individual's…sociocultural environment" (APA, 2013, p. 761), a

comprehensive understanding of how minority stress contributes to personality pathology presentation is critical in mental health settings. Certainly, as diagnostic labels of personality disorder are associated with external stigmatisation (Sheehan et al., 2016), this knowledge can function to avoid both misdiagnosis and the exacerbation of the stigma faced by these already marginalised groups.

Whilst the present findings provide a better knowledge base for how minority stress processes and clinical presentations of personality disorder may be related, research spanning across both sexuality and gender identity in relation to general personality pathology remains heavily limited. Future research is necessary to provide a greater depth of understanding as to why SGM populations are disproportionately affected by personality pathology, which groups are most at risk, and how effective clinical approaches can be used to best meet the mental health needs of these marginalised communities.

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Appendix A: Participant Information Sheet

Participant Information Sheet

PROJECT TITLE: Personality Traits and Stress Across Sexuality and Gender Identity

HUMAN RESEARCH ETHICS COMMITTEE APPROVAL NUMBER: 22/62

PRINCIPAL INVESTIGATOR: [redacted]

STUDENT RESEARCHER: [redacted]

STUDENT'S DEGREE: Honours Degree

Dear Participant,

You are invited to participate in the research project described below.

What is the project about?

The aim of this project is to explore particular personality traits across a diverse range of sexualities and gender identities, and establish if these factors may be related to specific stressors.

Who is undertaking the project?

This project is being conducted by [redacted] and will form the basis of a thesis for an Honours degree of Psychology at the University of Adelaide, under the supervision of [redacted] and [redacted]. This project is being undertaken with collaboration from the Borderline Personality Disorder Collaborative.

Why am I being invited to participate?

You are being invited as you are an Australian resident who is over 18 years of age and is fluent in English.

What am I being invited to do?

You are being invited to complete an anonymous online survey with a duration of approximately 15 to 20 minutes. The survey can be completed at a time and place of your choosing. The questions will ask for your demographic information and include measures of personality functioning and personality traits. If you identify as a sexual or gender minority, you will also be asked to complete a measure assessing stress specific to LGBTQ+ people. No future follow-up will be required.

How much time will my involvement in the project take?

The survey is expected to take no longer than 20 minutes, including the additional measure for those identifying as a sexual or gender minority. Although, survey response time will vary between participants depending on the time taken to consider each question.

Are there any risks associated with participating in this project?

This project is evaluated to be low risk and participant distress is not anticipated. Potential areas of discomfort may be found in a brief section within the LGBTQ+ minority stress measure that asks about harms experienced due to being a sexual or gender minority. If any questions are upsetting for you, you are encouraged to speak with someone you trust, make an appointment with your local GP, or reach out to the mental health services provided below:

- Lifeline Australia
    - 13 11 14
- QLife (LGBTI peer support)
    - 1800 184 527
- Beyond Blue
    - 1300 22 4636

What are the potential benefits of the research project?

Your participation in this project has the potential to contribute to and improve understandings around maladaptive personality trait prevalence in Australia, specifically across different sexualities and gender identities. Through a better understanding of the groups most affected, and possible related factors, treatment and diagnosis may be better tailored to vulnerable populations.

Whilst there are no immediate benefits to participants, first-year psychology students at the University of Adelaide are eligible to receive 0.5 course credit for their involvement.

Can I withdraw from the project?

Participation in this project is completely voluntary. If you agree to participate, you are free to withdraw from the study at any point before survey submission. There are no consequences for withdrawal.

What will happen to my information?

No personally identifiable information is collected in this survey and you will remain completely anonymous. Your survey responses will be stored in a secure location and will only be accessible to the researchers involved in the study.

The collected data for this project will be held for up to 5 years after the submission date of the associated thesis (September 2022) in line with the University of Adelaide's Research Data and Primary Materials Policy. The data obtained may be used later in an extension of this project, or by closely related projects by other researchers. Findings from this project may be published at a later point in time, but no identifying information will be divulged. Your information will only be used as described in this participant information sheet and it will only be disclosed according to the consent provided, except as required by law.

Who do I contact if I have questions about the project?

If you have any concerns or questions regarding the study, you can contact the researchers listed below:

- [redacted] (Principal Supervisor)
  - [redacted]
  - [redacted]
- [redacted]
  - [redacted]@student.adelaide.edu.au

What if I have a complaint or any concerns?

The study has been approved by the School of Psychology Human Research Ethics Sub-Committee at the University of Adelaide (approval number 22/62).This research project will be conducted according to the NHMRC National Statement on Ethical Conduct in Human Research 2007 (Updated 2018). If you have questions or problems associated with the practical aspects of your participation in the project, or wish to raise a concern or complaint about the project, then you should consult the Principal Investigator. If you wish to speak with an independent person regarding concerns or a complaint, the University's policy on research involving human participants, or your rights as a participant, please contact the convener of the Human Research Ethics Sub-Committee of the School of Psychology of the University of Adelaide, Paul Delfabbro at [redacted]

Any complaint or concern will be treated in confidence and fully investigated. You will be informed of the outcome.

If I want to participate, what do I do?

If you would like to participate in this project, you can complete the survey by using the button below to proceed.

When you have accessed the survey, please carefully read and respond to the consent information, and complete the survey questions in a truthful manner.

Yours sincerely,

[redacted] (Student Researcher)

[redacted] (Principal Supervisor)

[redacted] (Co-Supervisor)

Appendix B: Qualtrics XM Platform™ Survey Content

Informed Consent

By giving your consent below, you affirm that:

You have read and fully understand the participant information sheet for this project.

You agree to take part in this research as it was described in the information sheet provided.

You are 18 years or older and currently reside in Australia.

The tasks involved and potential risks of this project have been explained to your satisfaction.

You understand you are free to cease the survey at any time without consequence.

- I consent
- I do not consent

Demographics

Are you claiming course credit as an Undergraduate Psychology student of the University of Adelaide?

- Yes
- No

If you are claiming course credit for your participation, please record your SONA/Research Participation System (RPS) ID Code below (e.g., 12345).

If you are claiming course credit for your participation, please record your University student ID below.

What is your age in whole numbers?

What is your ethnicity?

- Australian
- Aboriginal or Torres Strait Islander
- New Zealand
- American
- African
- European
- Asian
- Middle Eastern
- Other (please specify)

Do you live in Australia?

- Yes
- No (please specify)

What state/territory do you live in?

- Australian Capital Territory
- New South Wales
- Northern Territory
- Queensland
- South Australia
- Tasmania
- Victoria
- Western Australia

What gender do you most identify with? (Cisgender = gender is the same as sex recorded at birth)

- Cisgender woman
- Cisgender man
- Non-binary
- Transgender woman
- Transgender man
- Other (please specify)

What sexual orientation do you most identify with?

- Asexual
- Bisexual
- Gay
- Heterosexual or straight
- Lesbian
- Other (please specify)

LPFS-BF 2.0

The following statements ask you to think about how you feel about yourself and others. Please respond to each question by selecting the response which best reflects how you have been feeling recently.

	Not at all true of me	Somewhat untrue of me	Somewhat true of me	Very true of me
I often do not know who I really am	○	○	○	○
I often think very negatively about myself	○	○	○	○
My emotions change without me having a grip on them	○	○	○	○
I have no sense of where I want to go in my life	○	○	○	○

	Not at all true of me	Somewhat untrue of me	Somewhat true of me	Very true of me
I often do not understand my own thoughts and feelings	○	○	○	○
I often make unrealistic demands on myself	○	○	○	○
I often have difficulty understanding the thoughts and feelings of others	○	○	○	○
I often find it hard to stand it when others have a different opinion	○	○	○	○

	Not at all true of me	Somewhat untrue of me	Somewhat true of me	Very true of me
I often do not fully understand why my behaviour has a certain effect on others	○	○	○	○
My relationships and friendships never last long	○	○	○	○
I often feel very vulnerable when relations become more personal	○	○	○	○
I often do not succeed in cooperating with others in a mutually satisfactory way	○	○	○	○

PID-5-BF

This is a list of things different people might say about themselves. We are interested in how you would describe yourself. There are no right or wrong answers. So you can describe yourself as honestly as possible, we will keep your responses confidential. We'd like you to take your time and read each statement carefully, selecting the response that best describes you.

	Very false or often false	Sometimes or somewhat false	Sometimes or somewhat true	Very true or often true
People would describe me as reckless.	○	○	○	○
I feel like I act totally on impulse.	○	○	○	○
Even though I know better, I can't stop making rash decisions.	○	○	○	○
I often feel like nothing I do really matters.	○	○	○	○
Others see me as irresponsible.	○	○	○	○
I'm not good at planning ahead.	○	○	○	○
My thoughts often don't make sense to others.	○	○	○	○

	Very false or often false	Sometimes or somewhat false	Sometimes or somewhat true	Very true or often true
I worry about almost everything.	○	○	○	○
I get emotional easily, often for very little reason.	○	○	○	○
I fear being alone in life more than anything else.	○	○	○	○
I get stuck on one way of doing things, even when it's clear it won't work.	○	○	○	○
I have seen things that weren't really there.	○	○	○	○
I steer clear of romantic relationships.	○	○	○	○
I'm not interested in making friends.	○	○	○	○

	Very false or often false	Sometimes or somewhat false	Sometimes or somewhat true	Very true or often true
I get irritated easily by all sorts of things.	○	○	○	○
I don't like to get too close to people.	○	○	○	○
It's no big deal if I hurt other peoples' feelings.	○	○	○	○
I rarely get enthusiastic about anything.	○	○	○	○
I crave attention.	○	○	○	○
I often have to deal with people who are less important than me.	○	○	○	○
I often have thoughts that make sense to me but that other people say are strange.	○	○	○	○

	Very false or often false	Sometimes or somewhat false	Sometimes or somewhat true	Very true or often true
I use people to get what I want.	○	○	○	○
I often "zone out" and then suddenly come to and realise that a lot of time has passed.	○	○	○	○
Things around me often feel unreal, or more real than usual.	○	○	○	○
It is easy for me to take advantage of others.	○	○	○	○

LGBT Minority Stress Measure

Please read each statement carefully, and then indicate how frequently the situation described occurs in your life.
OR Please read each statement carefully, and then indicate how much you agree or disagree with the statement.

	Never happens / Strongly disagree	Happens a little bit / Disagree	Happens sometimes / Neither disagree nor agree	Happens a lot / Agree	Happens all of the time / Strongly agree
I avoid telling people about certain things in my life that might imply I am LGBT.	○	○	○	○	○
I avoid talking about my romantic life because I do not want others to know I am LGBT.	○	○	○	○	○
I change my mannerisms or speech because I do not want others to think I am LGBT.	○	○	○	○	○
I do not bring a date to social events because I do not want others to know I am LGBT.	○	○	○	○	○
I do not object when I hear anti-LGBT remarks because I do not want others to assume I am LGBT.	○	○	○	○	○
I limit what I share on social media, or who can see it, because I do not want others to know I am LGBT.	○	○	○	○	○
I have difficulty finding people like me represented in TV, movies, books, music, etc.	○	○	○	○	○
I have been accused of "flaunting" my LGBT identity.	○	○	○	○	○
I am expected to educate non-LGBT people about LGBT issues.	○	○	○	○	○

	Never happens / Strongly disagree	Happens a little bit / Disagree	Happens sometimes / Neither disagree nor agree	Happens a lot / Agree	Happens all of the time / Strongly agree
I have been told that I am not really LGBT because I am confused or looking for attention.	○	○	○	○	○
In school, I was not taught about the important contributions of people in history who are LGBT.	○	○	○	○	○
I have been introduced by others as "my LGBT friend" or "the LGBT one."	○	○	○	○	○
People assume my sexual orientation or gender is something different from what it really is.	○	○	○	○	○
People have re-labeled my identity, or referred to me by a name/pronouns that are different than how I identify myself.	○	○	○	○	○
I have been introduced to a potential date/ friend and expected to like them solely because the person is also LGBT.	○	○	○	○	○
I have overheard people make anti-LGBT remarks.	○	○	○	○	○
I feel uncomfortable using public restrooms or locker rooms because I am LGBT.	○	○	○	○	○
When in an organization or activity that is sorted by gender, I feel out of place because I am LGBT.	○	○	○	○	○

	Never happens / Strongly disagree	Happens a little bit / Disagree	Happens sometimes / Neither disagree nor agree	Happens a lot / Agree	Happens all of the time / Strongly agree
I have been accused of being too defensive or politically correct when talking about LGBT issues with someone who is not LGBT.	○	○	○	○	○
When I meet someone new, I worry that they secretly do not like me because I am LGBT.	○	○	○	○	○
When I go out in public with my partner, I fear that people will treat us unkindly because I am LGBT.	○	○	○	○	○
I stay on guard and alert because something bad might happen to me because I am LGBT.	○	○	○	○	○
I brace myself to be treated disrespectfully because I am LGBT.	○	○	○	○	○
I expect that others will not accept me because I am LGBT.	○	○	○	○	○
I worry about what will happen if people find out I am LGBT.	○	○	○	○	○
I have been excluded from an organisation (e.g. a religious group, sports team, etc.) because I am LGBT.	○	○	○	○	○
I have been pressured to receive unnecessary services or been denied service, by a healthcare professional because I am LGBT.	○	○	○	○	○

	Never happens / Strongly disagree	Happens a little bit / Disagree	Happens sometimes / Neither disagree nor agree	Happens a lot / Agree	Happens all of the time / Strongly agree
I have been denied housing or been mistreated by others in my housing organization (e.g. college dorm, home owner's association, homeless shelter, etc.) because I am LGBT.	○	○	○	○	○
I have received poor service at a business because I am LGBT.	○	○	○	○	○
I am forced to consider my LGBT identity when I think about politics.	○	○	○	○	○
I have been treated unfairly by supervisors or teachers because I am LGBT.	○	○	○	○	○
If I was offered the chance to be someone who is not LGBT, I would accept the opportunity.	○	○	○	○	○
I wish I wasn't LGBT.	○	○	○	○	○
I feel that being LGBT is a personal flaw in me.	○	○	○	○	○
I feel that me being LGBT must have been a mistake of fate/nature/God/etc.	○	○	○	○	○
I wonder why I am not "normal" and like everyone else.	○	○	○	○	○

	Never happens / Strongly disagree	Happens a little bit / Disagree	Happens sometimes / Neither disagree nor agree	Happens a lot / Agree	Happens all of the time / Strongly agree
I envy people who are not LGBT.	○	○	○	○	○
I have tried to stop being LGBT.	○	○	○	○	○
I have been verbally harassed or called names because I am LGBT.	○	○	○	○	○
I have received unwanted sexual attention or been asked inappropriate questions about my sexual life because I am LGBT.	○	○	○	○	○
I have been physically attacked because I am LGBT.	○	○	○	○	○
I have had my personal property purposefully damaged by others because I am LGBT.	○	○	○	○	○
I have endured unwanted sexual contact because I am LGBT.	○	○	○	○	○
Others have threatened to harm me because I am LGBT.	○	○	○	○	○
I have been bullied by others because I am LGBT.	○	○	○	○	○

	Never happens / Strongly disagree	Happens a little bit / Disagree	Happens sometimes / Neither disagree nor agree	Happens a lot / Agree	Happens all of the time / Strongly agree
I feel connected to other LGBT people.	○	○	○	○	○
I feel like I am a part of the LGBT community.	○	○	○	○	○
I feel that I could find information and pamphlets on LGBT issues.	○	○	○	○	○
I feel that I could find professional services for LGBT issues if I needed to.	○	○	○	○	○
I feel that I could find a public space that is supportive of LGBT activities.	○	○	○	○	○

Survey Conclusion

Thank you so much for completing this survey and contributing to our research.

If you are seeking mental health resources, please speak with your GP or use these services:

Lifeline Australia: 13 11 14
QLife (LGBTI peer support): 1800 184 527
Beyond Blue: 1300 22 4636

If you have any questions about this survey, you are welcome to contact the researchers listed below: