Minority Stress and Quality of Life Among Sexual Minorities: The Role of Sexuality-Specific Parental Support and Parental Attitudes

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Abstract

Background: Sexual minorities face elevated risks of reduced quality of life compared to their heterosexual peers. According to the minority stress model, these disparities stem from additional stressors associated with their minority status, including distal stressors (e.g., discrimination, victimisation, and microaggressions) and proximal stressors (e.g., identity concealment, rejection anticipation, internalised homophobia, and community connectedness).

Objective: To examine the unique and combined effects of distal and proximal stress on quality of life among sexual minorities, and to test whether sexuality-specific parental support and parental acceptance moderate these associations.

Methods: A cross-sectional online survey was completed by 250 sexual minority participants. Distal and proximal stress were assessed alongside measures of self-esteem, dispositional optimism, sexuality-specific parental support, and parental acceptance. Hierarchical regression and moderation analyses were conducted to evaluate predictors of quality of life and potential buffering effects.

Results: Both forms of stress independently predicted poorer quality of life, though distal stress was the stronger predictor. After accounting for self-esteem and dispositional optimism, proximal stress no longer explained unique variance in quality of life. Sexuality-specific parental support and maternal acceptance moderated the association between distal stress and quality of life. In contrast, neither moderated the effects of proximal stress, and paternal acceptance did not moderate the effects of either stressor.

Conclusion: Findings highlight the importance of strengthening psychological resources, reducing distal stressors at structural and interpersonal levels, and fostering positive family dynamics to improve quality of life among sexual minorities.

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Attestation of Authorship

I hereby declare that this submission is my own work and that, to the best of my knowledge and belief, it contains no material previously published or written by another person (except where explicitly defined in the acknowledgements), nor used artificial intelligence tools or generative artificial intelligence tools (unless it is clearly stated, and referenced, along with the purpose of use), nor material which to a substantial extent has been submitted for the award of any other degree or diploma of a university or other institution of higher learning.

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Ethics Approval

Approved by the Auckland University of Technology Ethics Committee on the 27th of May 2025, AUTEC Reference Number 25/162

In 2025, the coalition government in Aotearoa New Zealand announced a restriction on initiating puberty blockers for people under 18 with gender dysphoria or gender incongruence (Professional Association for Transgender Health Aotearoa Incorporated v Minister of Health, 2025). However, interim court proceedings raised concerns that the decision was driven by political and ideological factors and subsequently paused pending judicial review. Importantly, evidence presented during these proceedings indicated that the immediate mental health harms of such restrictions outweighed any evidence of physical harm from pubertal suppression relied upon to justify the selective restriction. Similar trends are evident in the United States, wherein 2025 over 616 bills targeting lesbian, gay, bisexual, transgender and queer (LGBTQ+) individuals were introduced, 74 of which were enacted (American Civil Liberties Union, 2025), reflecting an increasing trend toward the politicisation of sexual and gender minority rights. In this increasingly politicised environment, where the legitimacy and dignity of LGBTQ+ individuals are subject to heightened public scrutiny, it is important to examine how experiences rooted in social stigma shape the quality of life of sexual minorities, as well as the factors that may buffer the impact of these experiences.

Disparities Experienced among Sexual Minorities

Mental health disparities between sexual minorities compared to heterosexual individuals are well documented in both adults (King et al., 2008) and youth (Argyriou et al., 2020). For example, in a large systemic-review to quantify the mental health disparities experienced by sexual minorities, King et al., (2008) reported that compared to heterosexual individuals, sexual minorities are 1.5 times more at risk for depression, anxiety, suicidal ideation, self-harm and substance abuse. More recently, Ross et al., (2017) reported that sexual minorities are 1.5 to 4 times more likely to have anxiety or a mood disorder, with variations by sexual orientation. One study found that when examining different sexual orientations, bisexual men and women report significantly higher rates of social anxiety compared to heterosexual and other non-heterosexual groups (Wadsworth & Hayes-Skelton,

2015). Another study found that lesbian women were more likely to have moderately severe to severe depression compared to heterosexual and other non-heterosexual groups (Sakharkar & Friday, 2022). These findings highlight that sexual minorities are at an increased risk of negative mental well-being outcomes compared to heterosexual individuals, but that there are also between-group differences among sexual minorities.

Understanding the poorer mental well-being outcomes for sexual minorities requires a consideration of historical context. Pathologising homosexuality, once classified as a mental disorder by the American Psychiatric Association (APA) in the Diagnostic and Statistical Manual of Mental Disorders (DSM), serves as a significant historical marker that continues to influence contemporary perception and treatment of sexual minorities (Hectors, 2023). Initially classified as a sociopathic personality disorder in the first addition of the DSM (APA, 1952), homosexuality was later reclassified as sexual deviation in the second edition (APA, 1968), and viewed as a 'curable' disorder through various therapies (Gershman, 1971; MacCulloch & Feldman, 1967; Socarides, 1969). One of these therapies was aversion therapy which involved creating a negative association, including electric shocks, with same-sex attraction (MacCulloch & Feldman, 1967). In 1973 homosexuality was removed from the DSM (APA, 1973), marking a pivotal shift in the perception of LGBTQ+ individuals (Hectors, 2023). However, homosexuality was simply reclassified as a range of disorders in the coming editions (APA, 1973; APA, 1980; APA, 1987), and it wasn't until the fifth edition in 2013 that homosexuality was finally removed without replacement (APA, 2013).

In Aotearoa, the journey towards equality and acceptance similarly serves as a marker. Homosexuality was a criminal offence until 1986 (Crimes Act 1961; Homosexual Law Reform Act 1986), the inclusion of sex and gender under anti-discrimination laws was only introduced in 1993 (Human Rights Act 1993), and same-sex marriage was only legalised in 2013 (Marriage (Definition of Marriage) Amendment Act 2013). Assuming these shifts reflect advancements, one could anticipate a reduction in mental health disparities. However, this

is not the case as sexual minorities continue to experience more mental health challenges compared to their heterosexual peers (King et al., 2008; Ross et al., 2017).

Despite sociocultural shifts and growing public support for LGBTQ+ issues, evidence indicates that disparities in health outcomes between sexual minorities and heterosexual individuals also remain largely unchanged (Adams et al., 2025; Ellis et al., 2025; Liu et al., 2023). Pooling data from the New Zealand Health Survey from 2015 to 2021, a recent study found that sexual minorities have poorer health behaviours compared to heterosexuals in relation to alcohol consumption, smoking, drug use, physical activity and nutrition (Adam et al., 2025). Furthermore, in examining the same data pool from the New Zealand Health Survey, Ellis et al., (2025) reported that sexual minorities have poorer experiences with healthcare services compared to heterosexual individuals. These findings were evident across trust of general practitioners, explanations of health conditions and treatment, and in decisions of healthcare options. It was also reported that female sexual minorities were more likely to utilise general practitioners than heterosexual females, which Ellis et al., (2025) speculated to be due to the health disparities experienced necessitating more engagement with healthcare professionals. In other words, despite sexual minorities engaging more frequently with healthcare services due to greater health needs, they continue to encounter poorer quality care, thereby perpetuating the very disparities that necessitate their increased utilisation.

These same patterns of health inequality for sexual minorities compared to heterosexual individuals has been demonstrated globally (Booker et al., 2017; Liu et al., 2023). In examining health inequalities of sexual minorities in the United Kingdom, Booker et al., (2017) found that bisexual individuals reported worse self-related health, and gay and lesbian individuals reported poorer illness status in comparison to heterosexual individuals. Furthermore, examining trends from 2013 to 2018 in the United States, Liu et al (2023) reported that sexual minorities across nearly all subgroups were more likely than

heterosexual adults to report poor or fair self-rated health, greater functional limitations, and increased difficultly affording healthcare. Notably, improvements overtime were evident only among heterosexual participants, with heterosexual men reporting significantly improved health status and heterosexual women reporting decreased cost related delays in care, while no comparable gains were observed among gay men or lesbian women. Each of these findings suggest that sexual minorities are at risk of greater disparities compared to their heterosexual counterparts not only in psychological well-being but also in health status and care. Considering these findings, it is important to explore the factors that may contribute to disparities experienced by sexual minorities compared to their heterosexual counterparts.

Minority Stress Model

It is important to consider that the disparities experienced by sexual minorities are not a reflection of inherent vulnerabilities, or because they are 'gay', but instead may be related to the unique stressors they face due to prejudice and discrimination, both historical and current. The minority stress model provides a critical framework for understanding why sexual minorities may experience greater disparities in their mental and physical health compared to the heterosexual population (Meyer, 2003). This model posits that, in addition to general life stress, sexual minorities encounter additional unique stressors related to their sexual orientation. Key minority stressors often experienced by sexual minorities include experiences of prejudice, discrimination, internalised homophobia, expectations of rejection, and the need for identity concealment. Therefore, Meyer (2003) argues that sexual minorities are at a greater risk of poorer health outcomes due to the additional stressors associated with their minority status.

Meyer (2003) argues that minority stress is best understood through the distal-proximal continuum. By continuum, Meyer (2003) refers to minority stressors based on their proximity to the self, in that stress processes vary in how close they are to the persons

internal processes, rather than referring to a linear scale on which type replaces the other. Distal stress, such as discrimination and prejudice, exist as objective, observable external conditions that can impact individuals regardless of their personal identification with a minority status. For example, a person perceived as part of the LGBTQ+ community may face homophobic violence even if they do not openly identify as LGBTQ+ (Meyer, 2003). This illustrates how external social attitudes create an environment rife with potential additional stress that can contribute to the disparities experienced by sexual minorities. In contrast, proximal stress is subjective and arise from personal perceptions and appraisals, including expectations of rejection, internalised stigma, and the concealment of one's sexual orientation. Proximal stress is deeply intertwined with an individual's self-identity, influencing their emotional and psychological state based on how they perceive and react to their minority status in an often hostile environment.

Distal Stress

Discrimination and harassment, which fall on the distal end of the continuum, are significant contributors to the well-being of sexual minorities, arising from social environments that often perpetuate stigma (Meyer, 2003). In Aotearoa, sexual minorities, particularly bisexual individuals, are more than twice as likely to experience intimate partner violence, sexual violence, or other forms of victimisation compared to the national average (Ministry of Justice, 2021). While this research did not explicitly state whether these forms of victimisation were directly related to the individuals sexual orientation, it highlights that on top of the unique stress sexual minorities face, they may also be at a higher risk of experiencing general stress. Similar patterns are evident in other countries with one study finding that in the United States sexual minorities experience disproportionate levels of discrimination, harassment, and victimisation with 51% reporting instances of sexual harassment, violence and slurs related to their sexual orientation (Casey et al., 2019). In an Australian based sample, Bailey et al., (2023) found that sexual minorities were significantly

more likely than heterosexual individuals to experience sexuality-based discrimination, and nearly half of those who identified as gay or lesbian reported experiencing discrimination in the past 6 months. Considering these findings, it is not surprising that sexual minorities are at a greater risk of developing posttraumatic stress disorder (PTSD) than heterosexual individuals (Marchi et al., 2023). In examining this, Mustanski et al., (2016) reported that repeated experiences of victimisation, including verbal and physical threats or assault, increase the risk of depression and PTSD among sexual minorities. This supports the framework of the minority stress model that sexual minorities are at a greater risk of negative mental well-being outcomes due to the increased risk of experiencing additional stress related to their minority status.

Beyond overt forms of prejudice and discrimination, subtle day-to-day microaggressions, which can be described as brief insults or invalidations towards a marginalised group, whether intentional or not, has been associated with negative outcomes (Williams, 2020). Sexual minorities often experience microaggressions in the form of micro insults such as stereotypes of hypersexuality, microinvalidations like the denial of identities, or micro assaults like anti-gay language or jokes at the expense of others (López et al., 2025; Swann et al., 2016). Research has shown that sexual minorities are at an increased risk of experiencing microaggressions (Casey et al., 2019). Doyle et al., (2024) and Kiekens et al., (2022) suggest that sexual minorities report an average of one microaggression per day, and is associated with increased rates of depression, anxiety, suicide attempts, and substance abuse (Kaufman et al., 2017; Marchi et al., 2024; Swann et al., 2016; Williams, 2020). Although microaggressions are typically viewed as subtle jabs, research indicates that their effects are anything but minor (Kaufman et al., 2017).

Proximal Stress

On the other side of the continuum is proximal stress, often a response to the prevailing stigma that individuals experience and perceive. Expectations of rejection, which

pertain to the belief that one will be rejected or negatively evaluated based on their sexual identity (Meyer, 2003), may be seen as a consequence of discrimination. For sexual minorities, the expectation of negative regard fosters a constant state of anticipation to potential discrimination. Meyer (2003) conceptualises that this awareness contributes to a heightened sense of vigilance, an adaptive, defensive coping mechanism aimed at monitoring social environments for cues to avoid potential bias or threats. While vigilance may be used as a coping mechanism, it may also contribute to mental health disparities (Hollinsaid et al., 2003; Meyer, 2003). In a longitudinal study, Hollinsaid et al., (2023) found that hypervigilance partially mediated the relationship between experiences of discrimination and anxiety and depression symptoms two years later. These findings suggest that while being a coping mechanism, such vigilance may carry psychological consequences over time.

Hand in hand with expectations of rejection is identity concealment, again used as a coping strategy to avoid the consequences of stigma-related stress (Meyer, 2003). Unlike other minority groups, sexual minorities may choose to conceal their stigmatised identity, serving as a protective function. Koch et al., (2023) reported that sexual minorities often hesitate to disclose their sexual orientation as a way of avoiding harm and potential discrimination. In examining the relationship between sexual identity development, discrimination and mental health outcomes, Friedman et al., (2007) found that those who choose not to conceal their sexual orientation face greater discrimination, and in turn increased rates of depression. This would insinuate that concealing one's identity may protect against the consequences of discrimination. However, research also suggests that identity concealment is associated with increased negative affect (Kiekens & Mereish, 2022) and higher levels of loneliness (Jiang et al., 2019), creating a paradoxical situation. A recent study highlighted that while identity concealment might reduce exposure to discrimination and victimisation, it also predicts heightened reactivity to daily discrimination experiences, like microaggressions, which leads to increased anxiety and depression (Livingston et al.,

2020). Furthermore, disclosure stress, being the anxiety over whether to disclose ones sexual identity to others, is also a significant predictor of depressive symptoms (Mallory et al., 2021). Therefore, while identity concealment may offer short-term protection, there are further complexities that may hinder long-term well-being.

Another significant proximal stressor is internalised homophobia, a stress experienced to varying degrees by many sexual minorities raised in heteronormative settings (Berg et al., 2016). This refers to the internalisation of negative societal attitudes regarding one's own sexual orientation (Meyer, 2003). Internalised homophobia may encompass an individual's internal struggle with their sexuality, but also behaviours of rejecting other sexual minorities while accepting their own (Yolaç & Meric, 2021). Ross and Rosser (1996) further note that this construct encompasses multiple domains, including attitudes toward coming out, perceptions of stigma, and the religious or moral acceptance of one's sexual orientation.

It is conceptualised that internalised homophobia may be a result of repeated exposure to discrimination and harassment (Meyer, 2003; Roger et al., 2020). Internalised homophobia has also been theorised to function as a mechanism linking distal stressors to poorer mental well-being outcomes (Roger et al., 2020). In line with this, Rogers et al., (2020) reported that greater distal stress was significantly associated with greater internalised homophobia. Furthermore, they found that internalised homophobia accounted for the association between distal stress and suicidal ideation. Therefore, experiences of distal stressors may lead individuals to internalise negative societal attitudes, and this internalised homophobia may, in turn, contribute to the development of suicidal thoughts. While plausible, the cross-sectional design of this study could not infer the causal nature of this relationship.

Despite its widespread application, some scholars have critiqued the minority stress model for placing substantial emphasis on individual psychological processes, such as coping, resilience, and internalisation (Riggs & Treharne, 2017). Riggs and Treharne (2017) argue that

this focus may insufficiently account for the broader ideological and structural systems that produce marginalisation. The authors propose the concept of decompensation as an alternative framework, suggesting that distress may arise not solely from exposure to distal stress, but from the cumulative burden of continually adapting to dominant heteronormative social norms. Nevertheless, the minority stress model remains a highly influential framework for understanding stress processes and disparities experienced by sexual minority individuals.

The negative impact of internalised homophobia on sexual minorities' well-being has been demonstrated by a myriad of studies, including decreased life satisfaction (Wen & Zheng, 2019), and increased perceived stress (Tatum & Ross, 2020), depressive symptoms (Mercan et al., 2024), suicidal ideation (Pineda-Roa, 2019), and substance use (Lea et al., 2014). Furthermore, internalised homophobia is found to be a barrier to seeking mental health support (Martínez et al., 2022), perpetuating a cycle of negative outcomes. Additionally, Li and Samp (2018) found that internalised homophobia predicts poorer relationship quality among same-sex couples. Their findings suggest that this association operates through communication processes: higher levels of internalised homophobia were linked to more defensive and guarded behaviours during interpersonal conflict, which in turn were associated with lower relationship satisfaction. Collectively, this body of evidence underscores the multifaceted impact of internalised homophobia.

Building on the consequences of proximal stress, increasing attention has turned to the psychological resources through which these stressors undermine well-being (Hatzenbuehler, 2009). Self-esteem and dispositional optimism are widely conceptualised as critical psychological resources that shape how individuals experience and cope with stress (Li et al., 2023; Nes & Segerstrom, 2006). Self-esteem, defined as the degree to which individuals value, accept, and hold positive attitudes toward themselves, plays a central role in emotional adjustment and well-being (Galanakis et al., 2016). Dispositional optimism,

defined as a generalised expectation that positive outcomes will occur, may influence how stress is managed, with higher optimism associated with more adaptive coping mechanisms (Nes & Segerstrom, 2006).

Within the minority stress framework, these internal psychological resources are particularly salient as proximal stress directly targets the self-concept (Meyer, 2003). As previously described, internalised homophobia is the internalisation of societal stigma, and involves self-disapproval and diminished self-worth (Meyer, 1995), while self-esteem involves global feelings of self-worth and acceptance (Rosenberg, 1965). Thereby, considering that sexual minorities live in a dominantly heterosexist society, it may not be surprising that sexual minorities report lower levels of self-esteem than heterosexual individuals (Hu et al., 2016; Zervoulis et al., 2015). Herek et al., (2009) proposed that internalised homophobia can be understood as a dimension of self-evaluation and is therefore closely related to global self-esteem. In their longitudinal study of sexual minorities, baseline global self-esteem mediated the relationship between internalised homophobia at baseline and outcomes of depressive symptoms, anxiety, and positive affect one year later. Similarly, Williams et al., (2017) reported that proximal stress was indirectly associated with psychological distress through reduced self-esteem and self-compassion. These findings highlight how proximal stress not only impacts well-being but may also undermine the very resources needed to cope with it, as outlined in the minority stress model (Meyer, 2003).

In a psychological mediation framework, Hatzenbuehler (2009) argues that minority stress including proximal stress, increases vulnerability to maladaptive psychological processes, such as emotional dysregulation and pessimistic cognitive styles. These processes, in turn, heighten the risk of negative mental health outcomes. Accordingly, self-esteem and dispositional optimism have found to be negatively associated with internalised homophobia and experiences of discrimination among gay and bisexual men (Ross et al., 2025; Yağci &

İzci, 2025). Furthermore, lower levels of self-esteem and dispositional optimism have, in turn, been associated with reduced mental well-being and increased loneliness (Li et al., 2023; Ross et al., 2025). These findings may suggest that the impact of minority stress on well-being may be partly explained by their detrimental effects on one's self-concept. However, it is important to consider that the findings by Ross et al., (2025), and Yağci and İzci (2025) used a cross-sectional design and therefore the causal nature of these relationships cannot be inferred. It is possible that minority stress may diminish psychological resources, however, Hatsenbuehler (2009) also theorises a bi-directional framework, speculating that it is plausible that psychological resources, or the lack of, may also render some individuals to be more vulnerable to the experience of minority stress.

Taken together, these findings underscore the complexity of minority stress, and highlight the need to consider psychological resources that may account for the disparities experienced by sexual minorities. Furthermore, it remains unclear how distal stress and proximal stress differentially predict well-being among sexual minorities. Much of the literature has focused on specific forms of minority stress or have tested proximal and distal stress separately (Casey et al., 2019; Kiekens & Mereish, 2022; Mercan et al., 2024; Yolaç & Meric, 2021), leaving their relative and joint contributions to well-being largely underexplored. The continuum from distal to proximal stress highlights a complex interaction between external conditions and internal perceptions, both of which are associated with negative outcomes. However, debate remains as to whether one form of minority stress is a stronger predictor than the other, with some frameworks suggesting that distal stress may contribute to the development of proximal stress, proposing a cascading effect (Hatzenbuehler, 2009; Meyer, 2003; Rogers et al., 2020), while others argue they are independent yet equally significant predictors (Mereish et al., 2017; Velez et al., 2013). As such, examining the unique and combined contributions of distal and proximal stress, while accounting for dispositional optimism and self-esteem, is essential for understanding the

mechanisms driving disparities among sexual minorities compared to heterosexual individuals. Furthermore, while this model, and much of the existing literature, focuses on health disparities, it raises the question as to whether minority stress has the same impact on overall quality of life.

Quality of Life

Research with sexual minorities tends to focus on psychopathology (Argyriou et al., 2020; Friedman et al., 2007; King et al., 2008; Jiang et al., 2019; Mallory et al., 2021), however, assessing quality of life may offer a more comprehensive evaluation of the lived experience as a sexual minority. Drawing on data from 10,760 participants, a recent large population-based study in South Africa by Metheny et al., (2025) identified substantial quality of life disparities at the intersection of race, gender, and sexual orientation. White heterosexual men reported the highest quality of life, whereas black sexual minority women reported the lowest. Disparities by sexual minority status were also evident within racial groups; with white sexual minorities reporting lower employment, life satisfaction, and perceived safety than white heterosexuals, with similar patterns observed among black individuals. While research exploring the relationship between minority stress and quality of life remains sparse, one study found that among gay and bisexual men, when examined separately, discrimination and internalised homophobia are significantly and negatively associated with quality of life (Yağcı & Ízci, 2025). These findings may suggest that minority stress may not only help to explain the health disparities experienced by sexual minorities, but extend to broader outcomes of quality of life. Therefore, considering quality of life may be more effective in addressing the disparities experienced by sexual minorities.

As a holistic, person-centred construct, quality of life captures individuals subjective evaluations (WHOQOL Group, 2013), and is often conceptualised as an integrated construct. Within the construct, multiple domains are interconnected, and must be seen as such, rather than independent of one another (Dos Santos Silva et al., 2024). The interconnectedness

suggests that improvements or declines in one area are likely to ripple across others. For example, Garcia et al., (2025) reported that social connection, or the lack thereof, affects mortality, morbidity, and a range of other negative social and economic outcomes. This relationship can also be bidirectional where poor health, including poor cognitive health can contribute to social isolation (Cardona & Andrés, 2023). Within the context of Aotearoa, this holistic understanding closely aligns with Māori models of health such as Te Whare Tapa Whā (Durie, 1985), which conceptualises well-being as comprising interconnected dimensions of spiritual, emotional, physical, and family domains. Similar to quality of life frameworks, this model emphasises that imbalances in one dimension inevitably affects the stability of the whole. This reinforces the importance of viewing well-being as relational and multidimensional rather than fragmented into discrete outcomes. The challenges sexual minorities face often cut across multiple domains of life and may be experienced as cumulative, interrelated, and extend beyond isolated measures of pathology (Thompson et al., 2015; Metheny et al., 2025). As such, adopting this broader perspective may be particularly valuable to fully understand the experiences and overall quality of life of sexual minorities in Aotearoa.

A widely used measure of quality of life is the short form version of the World Health Organisation's Quality of Life measurement tool (WHOQOL-BREF; WHOQOL Group, 1998) which assesses physical, psychological, social and environmental outcomes. Physical health captures aspects including energy, pain, sleep, and the capacity for daily activities reflecting how physical functioning supports or constrains everyday life (Billington et al., 2010). Psychological health refers to emotional well-being, self-esteem, body image and cognitive functioning, encompassing both positive and negative affect experiences. Social relationships assess perceived support, personal relationships, and sexual satisfaction, highlighting the importance of interpersonal connection and belonging. Finally, environmental health

assesses financial resources, housing, access to care, physical safety, and opportunities for leisure, focusing on external conditions that impact well-being.

By extending solely beyond mental or physical health, the WHOQOL-BREF aligns closely with the social determinants of health framework (Wilkinson & Marmot, 2003). It proposes that health and well-being are not only shaped by individual-level factors but rather by the social, economic, and environmental conditions in which people live, creating systematic advantages or disadvantages across populations. This holistic approach to well-being in research is particularly relevant when considering sexual minorities, whose experiences of minority stress may simultaneously affect psychological and physical functioning, social relationships, and environmental health (Yağcı & Ízci, 2025). Accordingly, it is also important to explore protective factors, like social support, that may buffer the negative effects of minority stress on quality of life.

Social Support

One factor that is often conceptualised as an important determinant of health is social support. Social support may be based on interpersonal interactions which encompasses the perceived availability of assistance from others, whether emotional, informational, or instrumental (Cooke et al., 1988). There are many dimensions of support however perceived support, being the individual's own perception of support they receive from others, has been found to have the strongest predictive effect on an individual's mental well-being, particularly during stressful life events (Wethington & Kessler, 1986).

The buffering hypothesis provides a theoretical explanation for this effect, proposing that supportive relationships can significantly enhance an individual's mental health and stress resilience (Cohen & Wills, 1985). According to the buffering hypothesis, social support is theorised to 'buffer' or reduce the likelihood that stressful events lead to negative outcomes such as depression. In line with this hypothesis, Cabral and Pinto (2023) explored

the effects of discrimination and social support on the mental well-being of sexual minorities. Their findings indicated that higher levels of social support attenuated the association between discrimination and symptoms of depression and anxiety. While this study only looked at isolated indicators of well-being, it highlights the protective function of social support in the face of minority stress and underscores the importance of strengthening support networks and addressing barriers that may prohibit this.

Importantly, social support is not a uniform construct. Researchers typically distinguish between family and peer support, as the nature and impact of each source of support can vary (Abbey et al., 1985). Research suggests that family remain a key source of support for sexual minorities. Results from a longitudinal study found that across all time points those with low perceived family support reported greater psychological distress relative to those with high support (McConnell et al., 2016). Further, Puckett et al., (2019) demonstrated that although support from friends predicted lower levels of depression and anxiety and better overall mental well-being, family support emerged as the strongest predictor. In some cases, family support is the only significant predictor of overall mental well-being and resilience when multiple sources of support are considered (Al-Khouja et al., 2021; Kiekens & Mereish, 2022). Moreover, Kiekens and Mereish (2022) found that high perceived family support buffered the association between identity concealment and negative affect, whereas the interaction between peer support and identity concealment was not significant. Together, these findings suggest that although various sources of support contribute to well-being, family support may play a particularly influential role (Al-Khouja et al., 2021; Kiekens & Mereish, 2022). However, a limitation of this literature is that family support is typically assessed at a broad level, obscuring the potentially distinct influence of specific family members, such as parents. Therefore, there remains a gap in the literature regarding the role of support from parents in moderating the association between minority stress and quality of life.

Sexuality-Specific Support

Beyond the source of support, the type of support may also determine its effectiveness. Most existing research examines general support rather than sexuality-specific support, which may be particularly salient for sexual minorities. The concept of sexuality-specific support aligns with the matching theory of social support, which suggests that the efficacy of social support is maximised when it aligns specifically with the stress individuals face (Cohen & Wills, 1985). This approach has been validated in various contexts, demonstrating the benefits of tailored support that matches individual needs, particularly in relation to well-being (Sheikh et al., 2024). Applying the matching theory to sexual minorities, that is, sexual minorities may benefit most when the support they receive matches and addresses the unique stress associated with their sexual identity.

Doty et al., (2010) defines sexuality-specific support as an individual's perception of support for managing sexuality-specific stress. Supporting the matching theory, Doty et al., (2010) reported that sexuality-specific family support moderated the relationship between harassment and discrimination, and emotional distress among LGBT youth. On the other hand, general support, despite being more available, failed to buffer this association. While research on sexuality-specific support is sparse, these findings suggest that family support may be even more valuable when it matches the unique stress sexual minorities face. However, there still remains a gap in the literature regarding the role of parents, underscoring the need for further research into how tailored parental support uniquely shape sexual minorities ability to cope with different forms of minority stress.

Focusing on parental support may be especially important, as parents are often primary attachment figures whose influence extends beyond childhood and adolescence. According to Bowlby's (1982) attachment theory, early interactions with primary caregivers shape internal working models of self and others, influencing expectations of support, responsiveness, and acceptance across ones lifespan. When faced with stress, individuals

draw on these attachment-based expectations, to predict how accessible and responsive the attachment figure will be, thereby shaping coping mechanisms and stress response in adulthood.

Two primary attachment styles typically emerge through these interactions; secure or insecure attachment (Ainsworth et al., 2015). Secure attachment develops in the context of consistent, responsive caregiving and is associated with effective help-seeking and communication in adulthood. Conversely, insecure attachment often arises from inconsistent, dismissive or unresponsive caregiving and is characterised by fear of rejection, emotional distancing, or heightened anxiety in response to stress. Among sexual minorities, insecure attachment has been linked to increased depressive symptoms and anxiety, and lower life satisfaction (Kardasz et al., 2023; Rosario et al., 2014). Such findings reinforce the idea that attachment processes shape vulnerability and resilience across the lifespan and underscore the importance of parental relationships on sexual minorities quality of life.

Research also suggests that parental responses to a child's sexual orientation are closely linked to parent-child attachment styles (Rosario, 2015). Individuals with secure attachments, despite possible initial surprise or discomfort following disclosure, tend to remain supportive and responsive overtime (Katz-Wise et al., 2016). In contrast, insecure attachment is associated with lower levels of support and greater likelihood of rejection (Rosario, 2015). Similarly, Mohr and Fassinger (2003) found that adults who recalled lower parental sensitivity or responsiveness in childhood reported less support for their sexual orientation by their parents. These patterns suggest that secure attachment may be a key predictor of not only on-going parental support but of parental attitudes that directly communicate acceptance or rejection after the disclosure of their child's sexual identity.

Parental Attitudes

Young sexual minorities often choose to disclose their sexual identity with their parents in hopes of gaining acceptance and protection from the minority stress they face outside the home (Katz-Wise et al., 2016). Supportive parental attitudes, characterised by acceptance, understanding, and encouragement are essential, as they provide ongoing affirmations and support following a child's disclosure of their sexual identity (Abreu et al., 2024; Bebe et al., 2015). Research suggests that sexual minority young adults who report greater acceptance from their parents report greater self-esteem and better physical and emotional outcomes (Ryan et al., 2010). However, not all sexual minorities receive supportive responses. Katz-Wise et al., (2016) found that one third of sexual minority youth experience rejection from their parents when disclosing their sexual orientation. Such rejection has been associated with increased identity struggles (Taylor et al., 2023), as well as higher levels of depression and lower self-esteem (Ryan et al., 2015). Importantly, Ryan et al., (2015) demonstrated that these negative reactions have a lasting impact on well-being years after, regardless of the time since first discourse.

While there is evidence to suggest that differences in parental attitudes can have a lasting impact on well-being (Ryan et al., 2010; Ryan et al., 2015), findings regarding the buffering role of parental acceptance in the context of minority stress remain mixed. Feinstein et al., (2014) examined whether parental acceptance and general family support moderated the negative effects of minority stress on depressive symptoms. They found that parental acceptance buffered the effects of internalised homophobia and rejection sensitivity, but did not buffer the effects of discrimination. Furthermore, no moderating effects were reported for general family support. These findings once again support the matching theory, suggesting that sexuality-specific support, being the quality of parental attitudes towards one's sexual orientation, may offer greater protection than general support, although its effectiveness may depend on the type of minority stress. Similarly,

Kaufman et al., (2017) found that parental acceptance did not moderate the association between distal stress, such as microaggressions, and depressive symptoms among sexual minority youth. In contrast, a recent study found that parental acceptance significantly moderated the association between victimisation and self-esteem (Abreu et al., 2023). Together, these discrepancies highlight ongoing challenges for researchers seeking to clarify the role of sexuality-specific support as a protective factor for sexual minorities.

A limitation of this research is that maternal and paternal attitudes were not assessed separately. There is a need to explore potential differences between the role of perceived maternal and paternal acceptance on the relationship between minority stress and quality of life. Research on the differences in parental reactions to sexual orientation disclosures highlights why this distinction may be important. DelPriore and Ronan (2022) found that mothers exhibited more negative reactions than fathers towards daughters, particularly following lesbian versus bisexual disclosures, while no differences were observed among sons. However, when analysing the combined sample, they found no significant difference between parental reactions towards daughters versus sons. Instead, mothers exhibited more negative reactions than fathers, irrespective of the child's gender. Drawing on an inclusive fitness cost perspective, the authors speculated that mothers may perceive greater reproductive costs associated with a child's sexual minority status (DelPriore & Ronan, 2022). Because women's reproductive opportunities are biologically limited relative to men's, mothers may interpret disclosures, particularly lesbian identities, as signalling a reduced likelihood of biological grandchildren (Bailey et al., 2016), thereby eliciting stronger negative reactions. From this perspective, fathers may therefore respond less negatively because their child's sexual orientation poses a comparatively smaller perceived threat to their lifetime reproductive success.

However, further complicating these findings, D'Augelli et al., (1998) reported that negative parental attitudes were more prevalent among fathers than mothers. On the

contrary, more recent findings indicated no significant differences in youth perceived maternal and paternal reactions (McCurdy et al., 2023), highlighting inconsistency in the literature. Furthermore, McCurdy et al., (2023) found that those with more perceived negative reactions had significantly higher depressive symptoms and lower self-esteem compared to those with positive reactions. A limitation of this research is that significant differences in sexual minorities well-being were only assessed based on overall family reactions rather than differences between parents. Ryan et al., (2015) reported that fathers rejection significantly predicted depression, while the effect for mothers was marginal, and only fathers rejection significantly predicted self-esteem. These findings suggest that there indeed may be important differences to be explored, and warrants the use of assessing parents separately to clarify their distinct and potentially differential roles. Nevertheless, for sexual minorities who live in a world surrounded by minority stressors, whether they are distal or proximal, big or small, parental support and acceptance may be crucial, and there is a need to further explore these relationships in order to better understand the mechanisms underlying observed disparities in quality of life among sexual minorities.

Current Study

Cumulatively, past research has shown a clear connection between experiences of minority stress and well-being among sexual minorities. There has been a myriad of studies on distal stress, like discrimination, victimisation and microaggression, experienced at disproportionate levels among sexual minorities, associated with increased risks of negative mental well-being outcomes such as substance abuse and anxiety disorders (Lee et al., 2016), depression and PTSD (Mustanski et al., 2016; Swann et al., 2016), and suicide attempts (Marchi et al., 2024). Similarly, the consequences of proximal stress, including internalised homophobia and identity concealment, are well established, with evidence linking this stress to poorer mental health risks (Friedman et al., 2007; Jiang et al., 2019; Mallory et al., 2021). Despite this extensive focus on mental health outcomes, comparatively less research has

examined the impact of minority stress on quality of life, a broader interrelated construct encompassing psychological, physical, social and environmental domains. Moreover, there is limited attention to the unique and combined contributions of distal and proximal stress; often these domains are examined separately (Casey et al., 2019; Kiekens & Mereish, 2022; Mercan et al., 2024; Yolaç & Meric, 2021), leaving their relative contributions underexplored. Finally, research suggests that minority stress may influence well-being indirectly (Szymanski & Gupta, 2009), through internal psychological resources such as self-esteem and dispositional optimism. Therefore, research that explores psychological resources that might account for the relations between both distal and proximal stress and quality of life is also warranted. Addressing these gaps, the current study examines the relationship between distal and proximal stress and quality of life among sexual minorities, accounting for self-esteem and dispositional optimism.

H1: Distal stress and proximal stress will both uniquely predict lower quality of life.

H2: Self-esteem and dispositional optimism will further account for significant additional variance in quality of life, and their inclusion will reduce the effects of minority stress, particularly proximal stress, on quality of life.

After the demonstration of direct relations between minority stress and quality of life, it is important to examine whether sexuality-specific parental support and maternal and paternal acceptance buffer the effects of minority stress on quality of life.

H3: Minority stress will be associated with lower quality of life for sexual minorities who report lower levels of sexuality-specific parental support but not for those who report higher levels.

H4: Minority stress will be associated with lower quality of life for sexual minorities who report lower levels of parental acceptance but not for those who report higher levels.

Methods

Study Design

The current study employed a cross-sectional, correlational research design using an anonymous online survey methodology. Guided by the minority stress model, the present study examined the unique and combined contributions of distal and proximal stress on quality of life among sexual minorities. In addition, the study examined whether sexuality-specific parental support and parental acceptance moderated these associations, while accounting for self-esteem and dispositional optimism. A quantitative approach was used to examine relationships among the study variables through correlational, hierarchical regression, and moderation analyses.

Participants

The final sample of 250 participants ranged in age from 16 to 64 years (M = 31.62, SD = 10.12). Approximately two thirds of the participants (n = 156; 62.4%) self-identified as a woman, 11.2% (n = 28) as a man, 17.2% (n = 43) as non-binary, and 9.2% (n = 23) identified as other. Participants self-identified as lesbian (n = 85; 34%), gay (n = 18; 7.2%), bisexual (n = 48; 19.2%), pansexual (n = 25; 10%), queer (n = 51; 20.4%), takatāpui (n = 2;.8%), and other (n = 21; 8.4%). A large majority of participants identified as NZ European (62.8%), and the rest identified as NZ European/Māori (7.6%), NZ European/Pasifika (1.2%), Māori (1.2%), Asian (6%), Latin American/Hispanic (2.4%), European (5.6%), other (4.4%), or selected more than three ethnicities (8.8%).

Materials

Measures

***Quality of Life*.** To assess quality of life the World Health Organisation Quality of Life Questionnaire New Zealand Version (WHOQOL-BREF; Billington et al., 2010) was used. The WHOQOL-BREF, adapted for New Zealand, is a 26-item measure designed to assess

individuals' perceptions of their quality of life across multiple domains. This version includes 26 items drawn from the WHOQOL-100 (WHOQOL Group, 1998), adapted to better reflect cultural issues, values, and language sensitive to New Zealand. Specifically, it includes the most representative item from each of the 24 facets of the WHOQOL-100 grouped into four domains, as well as two individual items assessing overall quality of life and general health. The 24 core items grouped into four quality of life domains include physical health, psychological well-being, social relationships, and environmental factors.

The participants were instructed to rate each item on 5-points, with response options framed to capture participants satisfaction or frequency of experiences in daily life, depending on the item content, with a recall period of the past two weeks. Reliability for each subscale was assessed using Cronbach's α; physical health (α = .81) (7 items; e.g., *How well are you able to get around physically?*), psychological well-being (α = .84) (6 items; e.g., *How much do you enjoy your life?*), social relationships (α = .68) (3 items; e.g., *How satisfied are you with your personal relationships?*), and environmental factors (α = .78) (8 items; e.g., *How healthy is your physical environment?*).

Reverse scoring was carried out for three items. The current study focused on the global measure, so items were averaged to create composite score with all 26 items ranging from 1 to 5, with higher scores indicating a better quality of life. Quality of life demonstrated excellent internal consistency (α = .91)

Distal and Proximal Stress. Distal and proximal stress was measured using the LGBT Minority Stress Measure developed by Outland (2016) guided by Meyers (2003) minority stress model. The LGBT Minority Stress Measure is a 25-item measure, that includes seven subscales that assesses both pathways, distal and proximal stress, in which minority stress affects sexual minorities. Discriminant validity has been previously established showing that minority stress is a distinct entity beyond normal life stress and is unique to one's sexual minority status (Outland, 2016).

As the current study was interested in examining distal and proximal stress, we created two new composite scores from the seven subscales to reflect the broader minority stress pathways. Distal stress comprised of 11 items from the subscales: everyday discrimination/microaggressions (e.g., *I am expected to educate non-LGBTQIA+ people about LGBTQIA+ issues)*, discrimination events (e.g., *I have received poor service at a business because I am LGBTQIA+)*, and victimisation events (e.g., *; I have been bullied by others because I am LGBTQIA+*). Distal stress demonstrated excellent internal consistency (α = .88). Proximal stress comprised of 14 items from the subscales: identity concealment (e.g., *I avoid telling people about certain things in my life that might imply I am LGBTQIA+)*, rejection anticipation (e.g., *I expect that others will not accept me because I am LGBTQIA+)*, internalised stigma (e.g., *I wish I wasn't LGBTQIA+),* and community connectedness (e.g., *; I feel that I could find information and pamphlets on LGBTQIA+ issues*). Proximal stress also demonstrated excellent internal consistency (α = .89).

The participants were instructed to read each statement and rate each item from 1 (*strongly disagree*) to 5 (*strongly agree*) or 1 (*never*) to 5 (*all of the time*) depending on the item content. Reverse scoring was carried out for three items. Items were averaged to create two composite scores, distal stress and proximal stress, with higher scores indicating greater distal or proximal stress.

Sexuality-Specific Parental Support. Sexuality-specific parental support was measured using a modified version of the Social Support Behaviors scale (Vaux et al., 1987). The original scale is a 45-item measure evaluating five domains of available supportive behaviours, in which participants are instructed to imagine a problem and then rate family and friends on their likelihood of providing various types of assistance (Vaux et al., 1987). In the current study, the social support behaviours scale was adapted based on prior research by Doty et al., (2010) to focus on sexuality-specific parental support. The current researchers reworded the instructions to ask about support for "some kind of problem related to your

sexuality, such as those you just responded to in the previous section" i.e., the preceding LGBT Minority Stress scale. Furthermore, only 22 items across two domains of available support were included: emotional support and advice/guidance, as Doty et al., (2010) found that the domains: financial assistance, practical assistance, and socialising could not be readily adapted to assess sexuality-specific support. Taylor and Neppl (2021) demonstrated the reliability of using individual subscales from the social support behaviours scale (α = .78).

The participants were instructed to think about a sexuality-specific problem and then read each statement and rate how likely their parents would be to help them out in each specific way (e.g., *would comfort me if I was upset*) from 1 (*No parent would do this*) to 5 (*Both parents would certainly do this*). Items were averaged to create a composite score, with higher scores indicating greater perceived availability of sexuality-specific parental support. Internal reliability was assessed in the current study using Cronbach's α (α = .98), indicating exceptionally high reliability and may suggest redundancy. For the remainder of the current study sexuality-specific parental support will be referred to as 'parental support'.

Maternal and Paternal Acceptance. Perceived parental attitudes towards participants' sexual orientation was assessed using an adapted version of a 20-item scale developed by Ross (1985) which measures perceived actual and anticipated reactions from various individuals toward the participants non-heterosexual orientation. As the current study is looking at parental attitudes, only the two items referring specifically to anticipated reactions from parents were used. Items relating to other family members, friends, distant or generic items were excluded, consistent with prior studies that selectively assessed anticipated reactions from family and friends only (Elizur & Mintzer, 2003; Golembiewski, 2023), both of which reported excellent reliability (α = .86 and α = .82, respectively).

To ensure inclusivity of diverse family structures, participants were instructed to identify each of their parental figures (e.g., mother, father, other, or not applicable), then rate the degree to which they think each of their parents perceive or, if unaware, would

perceive their sexuality ranging from 1 (*Rejection*) to 7 (*Acceptance*). One score indicated perceived acceptance from mothers and one score indicated perceived acceptance from fathers, which included stepfather for three participants. For those that selected the "not applicable" option, their measure was left blank, so their data were not included in analyses that included maternal and/or paternal acceptance. Scores ranged from 1 to 7, with higher scores indicating greater perceived maternal or paternal acceptance.

***Parental Attachment*.** A commonly used measure to assess an individual's perceived quality of attachment is the Inventory of Parent and Peer Attachment Scale-Revised (Armsden & Greenberg, 1987) which assesses three key dimensions of attachment including trust, communication, and alienation. The revised version of this scale is comprised of 25 items in each of the parent and peer sections, yielding two attachment scores. As the current study is only interested in parental attachment, we excluded the peer attachment section. The participants were instructed to read each statement and indicate how true the statement is for them now (e.g., *My parent respects my feelings*) from 1 (*Never/Not True*) to 5 (*Always True*). Reverse scoring was carried out for negatively worded items (4 items), and items were averaged to create a composite score ranging from 1 to 5, with higher scores indicating a more secure parental attachment. The reliability analysis indicated high internal consistency ($\alpha = .96$), which may suggest redundancy in the scale. Among a college sample of 18-59 year old's, Venta et al., (2021) reported that parental attachment demonstrated strong psychometric properties, supporting its use in diverse college samples.

Dispositional Optimism. To measure dispositional optimism the Life Orientation Test (Scheier & Carver, 1985) was used. This scale includes 12 items: eight coded items, plus four filler items that are not scored. The eight items, half phrased optimistically (e.g., *I always look on the bright side*) and half phrased pessimistically (e.g., *I hardly ever expect things to go my way*), inquire about the individual's general expectation regarding the favorability of future outcomes. The participants were instructed to read each statement and indicate the extent

to which they agree with each statement ranging from 0 (*I disagree a lot*) to 4 (*I agree a lot*). Reverse scoring was carried out for negatively worded items (4 items), and the items were averaged to create a composite score ranging from 0 to 4, with higher scores indicating a greater degree of dispositional optimism. The reliability analysis indicated excellent internal consistency (α = .89).

***Self-Esteem*.** The Rosenberg Self Esteem scale (Rosenberg, 1965) was developed as a measure of global self-worth. This 10 item scale includes 5 items being expressions of positive self-esteem (e.g., *I take a positive attitude toward myself*) and 5 items of negative self-esteem (e.g., *I certainly feel useless at times*). The participants were instructed to read each statement and indicate the extent to which they agree with each statement ranging from 1 (*Strongly disagree*) to 4 (*Strongly agree*). Reverse scoring was carried out for negatively worded items (5-items), and the items were averaged to create a composite score ranging from 1 to 4. While the original scale was designed to show that low scores indicate high self-esteem, to make interpretations more intuitive, the current study coded the items so that higher scores indicated higher self-esteem to be consistent with the previous measures. The reliability analysis indicated excellent internal consistency (α = .92).

Demographic Information

The participants were asked to provide their Gender, Sexual Orientation, Ethnicity, and age (in years). Sexual orientation was dichotomised as follows: monosexual (sexual attraction to one gender) vs plurisexual (sexual attraction to multiple genders), and gender identity was dummy coded (with women as the reference group, therefore all reported effects for men, non-binary, and other gender identities indicate difference relative to women).

Procedure

Data were collected using the online survey platform Qualtrics, using an anonymous survey approach. The study was advertised on the researcher's personal social media accounts (Instagram and Facebook) and on New Zealand based LGBTQ+ Facebook communities. Additionally, invitations in the form of advertisement posters were sent out by queer organisations, including the rainbow team at AUT, an organisation that provides services and resources for LGBTQIA+ students on campus. Recruitment materials included a brief description of the study (i.e., that the study is interested in examining sexual minorities experiences of stress, support and parental attitudes). The survey was distributed through the URL or QR code that was advertised on the recruitment posters. All data collection took place between the 19th of June 2025 to the 19th of September 2025. The link to the survey directed the participants to the Participant Information Sheet that discussed the primary objective of the study. Participants provided consent by selecting the agreement box at the bottom of the information sheet (*Yes, I am 16 or over and would like to participate in this study*). Participants were also given the option not to agree to participate (*No, I don't want to proceed with this study*) and were sent to the end of the survey. Participants were also informed that they had the opportunity to withdraw from the study at any time by simply closing the web browser. After providing consent, participants were redirected to the survey which consisted primarily of multiple-choice style buttons, which gave instructions on how to complete each section. Upon completion of the questionnaire, participants were presented with a page thanking them for their contribution. To be eligible for the study, participants self-identified as LGBTQIA+ or non-heterosexual, were aged 16 or older, and must have been able to consent.

As a token of appreciation, the participants were also invited to enter the opportunity to win one out of twenty $50 gift vouchers by clicking a link for the prize draw

where they would enter their email address and were informed that their contact details would not be linked to their responses.

This study was approved by the Auckland University of Technology Ethics Committee (reference number 25/162).

Analysis

Prior to analysis, the data were screened for incomplete responses and missing values. Of the initial 310 recorded responses, 60 cases were excluded because participants either provided no responses or completed only the first measure (WHOQOL-BREF), leaving a final sample of 250 participants. For the LGBT Minority Stress Measure, eight participants had a missing item response. In these cases, missing values were imputed using the participants mean score for the relevant subscale.

Data were analysed using IBM SPSS Statistics and the PROCESS Macro (Hayes, 2022). Descriptive statistics and Pearson correlation analyses were conducted to examine associations among the main study variables. Hypotheses one and two were analysed using hierarchal multiple regression to examine whether distal and proximal stress predicted quality of life before and after controlling for demographic variables, self-esteem, and dispositional optimism. Hypotheses three and four were analysed using moderation analyses in PROCESS Macro, to assess whether parental support, maternal acceptance, and paternal acceptance moderated the associations between minority stress and quality of life. Predictor variables were mean-centered prior to creating interaction terms, and significant interactions were probed using simple slopes at 1 SD above and below the mean, following the recommendations of Aiken and West (1991).

Results

Participants who reported lower quality of life tended to report higher levels of both distal and proximal stress (Table 1). Higher levels of distal stress were linked to higher levels of proximal stress. Parental support, maternal acceptance, paternal acceptance and parental attachment were all related, and participants who scored high on one of these tended to score higher on the others. Therefore, individuals with more secure attachment report greater parental support and more positive parental attitudes towards their sexual orientation. Parental support and acceptance were also associated with better quality of life, higher self-esteem, and greater optimism, and lower minority stress. Except for paternal acceptance which was not associated with self-esteem or optimism, nor was maternal acceptance associated with distal stress. Lastly, age was negatively associated with proximal stress and parental support, and positively associated with self-esteem and optimism. Therefore, younger individuals reported more proximal stress and parental support, while older individuals reported higher self-esteem and optimism.

Table 1

Correlations Among the Main Variables of Interest as well as Means and Standard Deviations

	1	2	3	4	5	6	7	8	9	10
1. Quality of life	--									
2. Distal stress	-.38***	--								
3. Proximal stress	-.30***	.35***	--							
4. Parental support	.28***	-.20**	-.20**	--						
5. Paternal acceptance	.19**	-.20**	-.20**	.56***	--					
6. Maternal acceptance	.24***	-.11	-.21**	.68***	.65***	--				
7. Parental attachment	.42***	-.30***	-.23***	.82***	.57***	.61***	--			
8. Self esteem	.74***	-.26***	-.30***	.19**	.12	.18**	.33***	--		
9. Optimism	.61***	-.24***	-.23***	.20**	.11	.17*	.29***	.71***	--	
10. Age	.11	-.02	-.14*	-.19**	-.05	-.09	-.10	.18**	.14*	--
M	3.29	2.12	2.25	2.76	4.49	4.86	2.84	2.65	2.05	31.62
SD	0.55	0.74	0.72	1.22	2.02	2.02	0.88	0.60	0.86	10.12

*$p < .05$. **$p < .01$. ***$p < .001$.

To test the effects of distal and proximal stress on quality of life we built a three-step hierarchical linear regression model. In the unadjusted model (Table 2, Model 1), greater distal stress and proximal stress independently predicted lower quality of life, accounting for approximately 18% of the variance. Distal stress was also a stronger predictor than proximal stress of quality of life. After controlling for demographics (Model 2), both distal and proximal stress remained significant predictors. When self-esteem and dispositional optimism were added (Model 3), only distal stress remained a significant predictor of quality of life. The addition of self-esteem and optimism explained a further 42%, with the entire model accounting for 62% of quality of life. Therefore, once these psychological resources were added into the model, they accounted for the variance in quality of life that had previously been attributed to proximal stress, resulting in the loss of its unique predictive effect (p = .818). This indicates that proximal stress may influence quality of life indirectly through their associations with internal psychological resources like self-esteem and dispositional optimism.

Table 2

Hierarchical Regression Analysis Predicting Quality of Life

	β	*t*	*p*	R^2	ΔR^2	$F\Delta R^2$	*p*
Model 1 - F(2, 227) = 25.26, $p < .001$				.18			
Distal Stress	-.34	-5.27	<.001				
Proximal Stress	-.17	-2.59	.010				
Model 2 - F(7, 222) = 8.12, $p < .001$				.20	.02	1.20	.309
Distal Stress	-.29	-3.94	<.001				
Proximal Stress	-.16	-2.39	.018				
Gender [a]							
Men	.00	0.07	.945				
Non-Binary	-.09	-1.30	.194				
Other	-.10	-1.48	.140				
Sexual orientation [b]	.05	0.74	.459				
Age	.09	1.48	.140				
Model 3 - F(9, 220) = 39.59, $p < .001$				.62	.42	119.48	<.001
Distal Stress	-.16	-3.18	.002				
Proximal Stress	-.01	-0.23	.818				
Gender [a]							
Men	.01	0.23	.816				
Non-binary	-.10	-2.04	.042				
Other	-.07	-1.49	.138				
Sexual orientation [b]	.05	1.26	.209				
Age	.00	-0.03	.976				
Self-esteem	.57	9.43	<.001				
Dispositional optimism	.16	2.73	.007				

[a] Women are the comparison group and coded 0, men, non-binary, and others coded 1

[b] Gay and lesbian are coded 0, bisexual, pansexual, queer, takatapui, and others coded 1

To examine whether parental support moderated the associations between both dimensions of minority stress and quality of life, we conducted two regression analyses (one for each dimension of minority stress). We started with an unadjusted model, followed by a model controlling for age, gender, sexual orientation, self-esteem, and dispositional optimism. Using the PROCESS MACRO (Hayes, 2022) predictor variables were mean-centred prior to computing interaction terms in order to reduce multicollinearity and clarify the interpretation of the effects.

Both distal stress and parental support significantly predicted quality of life. We found no significant interaction in the unadjusted analysis, although the p-value was close to .05 (Table 3, Model 1). When including the afore-mentioned covariates (Model 2), the interaction was statistically significant although the effect remained relatively small. As we saw in the previous model, self-esteem and dispositional optimism were positive predictors of quality of life, and once these factors were controlled, the protective effect of parental support became more apparent. Additionally, those who identified as non-binary reported lower quality of life, although this effect was weak and only barely significant. Self-esteem was, again, by far the strongest predictor of quality of life.

Table 3

Regression Analyses Distal Stress and Parental Support Predicting Quality of Life

	β	*t*	*p*	R^2	ΔR^2	*p*
Model 1 - F(3, 228) = 19.64, *p* < .001				.21	.19	<.001
Distal stress	-.34	-5.56	<.001			
Parental support	.22	3.63	<.001			
Distal stress x parental support	.10	1.7	.091			
Model 2 - F(10, 217) = 37.99, *p* < .001				.64	.62	<.001
Distal stress	-.16	-3.29	<.001			
Parental support	.12	2.6	.010			
Distal stress x parental support	.11	2.5	.013			
Gender [a]						
Men	.01	0.14	.886			
Non-binary	-.10	-2.17	.031			
Other	-.10	-0.22	.826			
Sexual orientation [b]	.05	1.28	.203			
Age	.02	0.56	.579			
Self-esteem	.57	9.65	<.001			
Dispositional optimism	.15	2.48	.014			

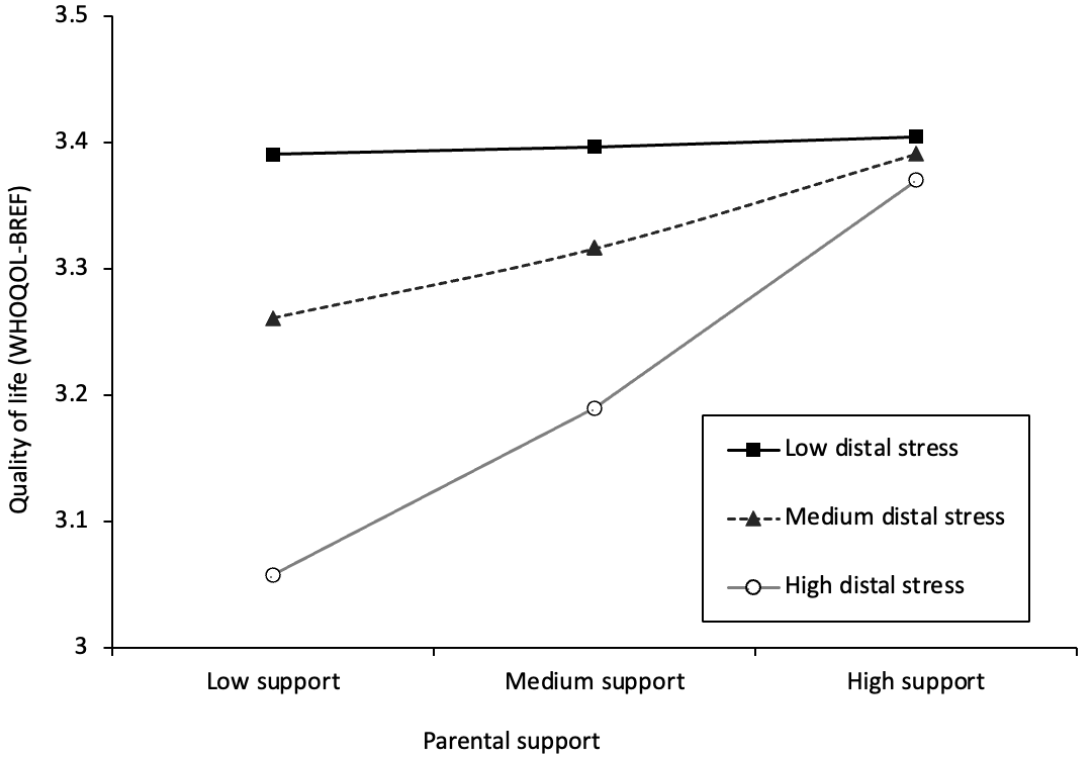
[a] Women are the comparison group and coded 0, men, non-binary, and others coded 1

[b] Gay and lesbian are coded 0, bisexual, pansexual, queer, takatapui, and others coded 1

Following the recommendations of Aiken and West (1991), the significant interaction between distal stress and parental support was examined by estimating the simple slopes of distal stress at 1 SD above and below the mean of parental support. Figure 1 shows quality of life ratings as a function of parental support for individuals reporting low, medium, and high levels of distal stress. For individuals who reported low or medium levels of parental support, distal stress was significantly associated with quality of life (low parental support: β = -.28, p = .001; medium parental support: β = -.17, p = .001). In contrast, this association was not significant for those who reported high levels of parental support (β = -.03, p = .695). As expected, increased perceived availability of parental support attenuated the relationship between sexual minorities experiences of distal stress and their quality of life. In sum, the findings indicate high levels of parental support may protect individuals from experiencing a lower quality of life in the face of distal stress, as distal stress was associated with a lower quality of life only among those with low or medium levels of parental support while distal stress did not affect quality of life for those with high levels of parental support.

Figure 1

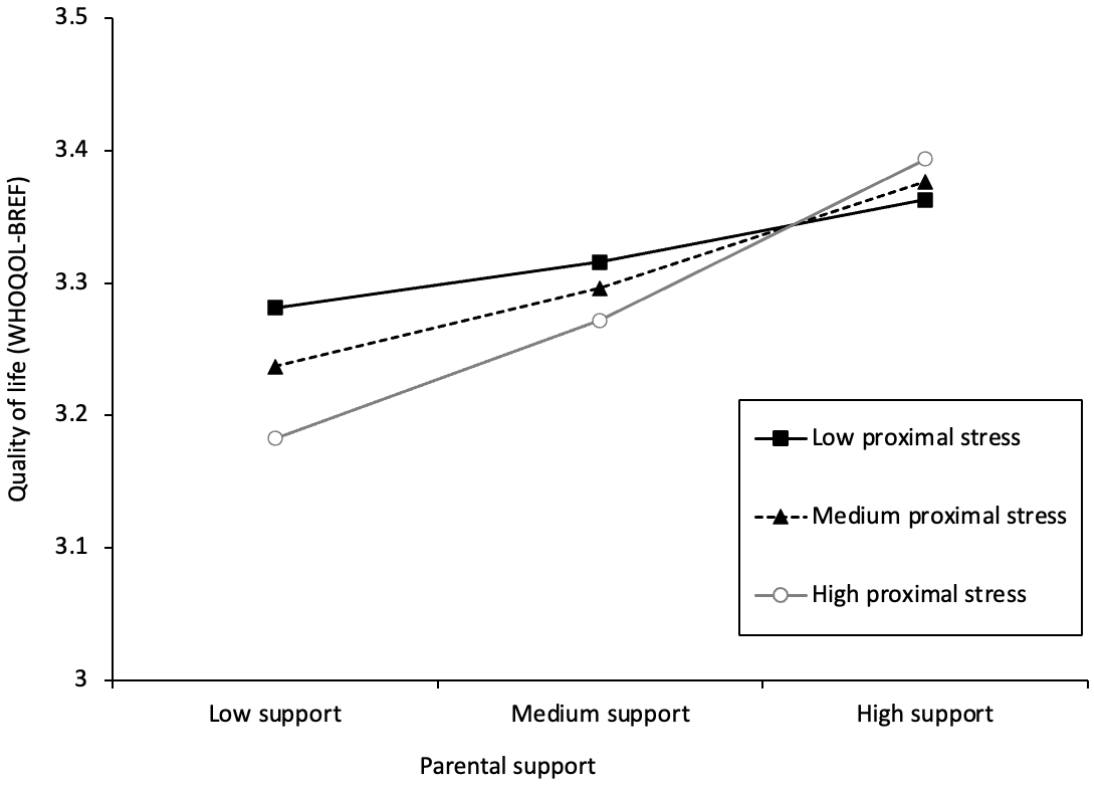
Figure showing the Moderating Effect of Parental Support on Distal Stress and Quality of Life



We repeated the analyses for proximal stress, and while the general pattern of results is similar (Figure 2), parental support was not a significant moderator (p = .225; see the appendix Table 4 for details).

Figure 2

Figure showing the Moderating Effect of Parental Support on Proximal Stress and Quality of Life



To examine whether parental acceptance moderated the associations between both dimensions of minority stress and quality of life, we conducted four regression analyses (one for each dimension of minority stress and parent), following the same procedures as the previous analyses. For distal stress and maternal acceptance (Table 5), both distal stress and maternal acceptance remained significant predictors of quality of life. When including the afore-mentioned covariates (Model 2), the interaction was statistically significant although the effect remained relatively small. As we saw in the previous model, self-esteem and dispositional optimism were positive predictors of quality of life, and once these factors were controlled, the protective effect of maternal acceptance became more apparent. Those who identified as non-binary reported lower quality of life, although this effect was weak and only barely significant. Self-esteem was, again, by far the strongest predictor of quality of life.

Table 5

Regression Analyses Distal Stress and Maternal Acceptance Predicting Quality of Life

	β	*t*	*p*	R^2	ΔR^2	*p*
Model 1 - F(3, 222) = 18.92, *p* < .001				.20	.19	<.001
Distal stress	-.37	-5.95	<.001			
Maternal acceptance	.21	3.42	<.001			
Distal stress x maternal acceptance	.11	1.65	.100			
Model 2 - F(10, 210) = 35.96, *p* < .001				.63	.61	<.001
Distal stress	-.16	-3.16	<.001			
Maternal acceptance	.10	2.22	.028			
Distal stress x maternal acceptance	.11	2.23	.027			
Gender [a]						
Men	.00	0.07	.944			
Non-binary	-.10	-2.23	.027			
Other	-.03	-0.51	.611			
Sexual orientation [b]	.07	1.49	.139			
Age	.02	0.43	.670			
Self-esteem	.57	9.10	<.001			
Dispositional optimism	.16	2.65	.009			

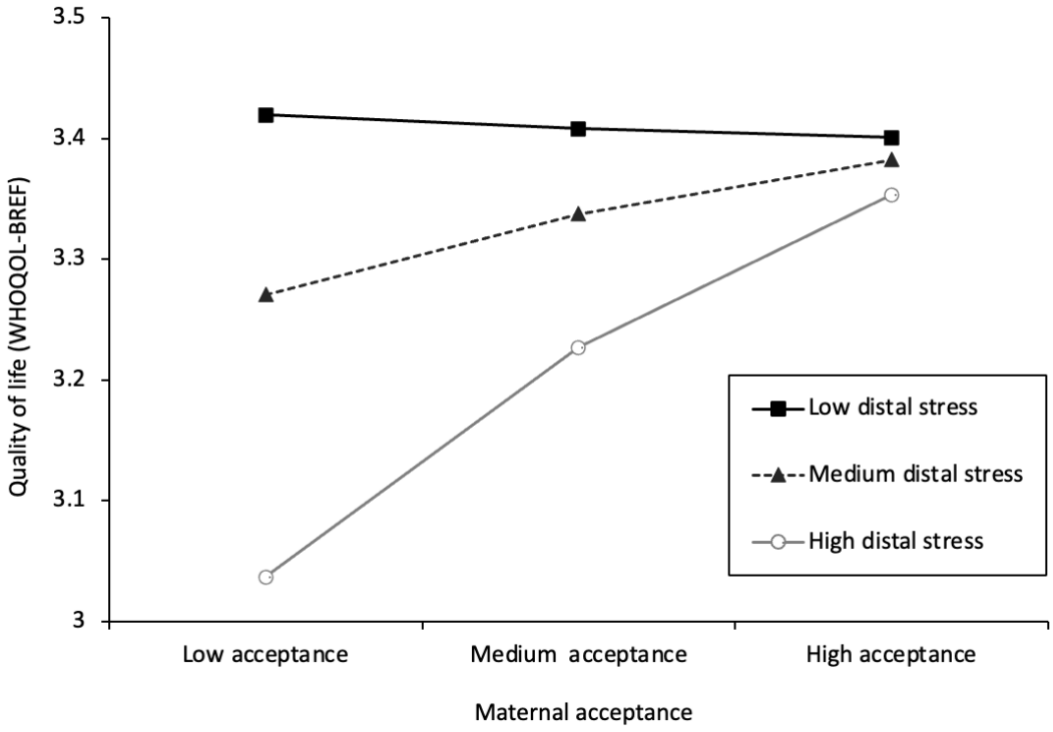
[a] Women are the comparison group and coded 0, men, non-binary, and others coded 1

[b] Gay and lesbian are coded 0, bisexual, pansexual, queer, takatapui, and others coded 1

The simple slopes of distal stress at 1 SD above and below the mean of maternal acceptance was examined. Figure 3 shows quality of life ratings as a function of maternal acceptance for individuals reporting low, medium, and high levels of distal stress. For individuals who reported low or medium levels of maternal acceptance, distal stress was significantly associated with quality of life (low maternal acceptance: β = -.32, p = .001; medium maternal acceptance: β = -.15, p = .003). In contrast, this association was not significant for those who reported high levels of maternal acceptance (β = -.04, p = .597). In sum, the findings indicate that high maternal acceptance may help protect individuals from experiencing a lower quality of life in the context of distal stress, as distal stress was associated with a lower quality of life only among those with low or medium levels of maternal acceptance while distal stress did not affect quality of life for those with high levels of maternal acceptance.

Figure 3

Figure showing the Moderating Effect of Maternal Acceptance on Distal Stress and Quality of Life



We repeated the analyses for proximal stress as well as paternal acceptance for both stress types. While proximal stress and maternal acceptance initially predicted quality of life these main effects were attenuated after accounting for internal psychological resources and demographic variables (proximal stress: p = .402; maternal acceptance: p = .118; see the appendix Table 6 for details). We also found no significant interaction (unadjusted: p = .657; adjusted: p = .652).

Similar results were found for paternal acceptance. While proximal stress and paternal acceptance initially predicted quality of life these main effects were attenuated after accounting for internal psychological resources and demographic variables (proximal stress: p = .812; paternal acceptance: p = .069; see the appendix Table 7 for details). We also found no significant interaction (unadjusted: p = .297; adjusted: p = .868).

In the final analysis for distal stress and paternal acceptance, distal stress remained significant after accounting for internal psychological resources and demographic variables, however paternal acceptance did not predict quality of life in the unadjusted analysis (p = .058; see the appendix Table 6 for details), nor was there a significant effect in the adjusted analysis (p = .082). Furthermore, we found no significant interaction (unadjusted: p = .987; adjusted: p = .326). These results suggest that although parental acceptance may be relevant for quality of life, there is very little evidence that it interacts with either form of minority stress.

Discussion

Guided by the minority stress model (Meyer, 2003), the present study examined whether distal and proximal stress uniquely predict lower quality of life among sexual minorities, and whether self-esteem and dispositional optimism attenuate these associations. Lastly, we sought to examine whether parental support and parental

acceptance (maternal and paternal) would buffer the associations between minority stress and quality of life.

Minority Stress and Quality of Life

The first aim of the current study was to examine the association between distal and proximal stress and quality of life among sexual minorities, and, to determine whether distal and proximal stress uniquely predict quality of life outcomes. Hypothesis one was supported such that both distal and proximal stress independently predicted lower quality of life. These main effects remained significant after controlling for demographic variables, indicating that the observed effects were not attributable to differences in gender, sexual orientation or age. Notably, while we found that distal and proximal stress were positively associated, which could suggest that experiencing more distal stress may increase proximal stress (Feinstein et al., 2012; Rogers et al., 2020), both stressors still have unique impacts on quality of life. These findings suggest that minority stress is not monolithic but multidimensional, and lend support to frameworks proposing that although interrelated, they uniquely contribute to reduced quality of life among sexual minorities through partially distinct mechanisms (Velez et al., 2013).

The present findings are largely consistent with prior research documenting the detrimental impact of minority stress among sexual minorities. For instance, Casey et al., (2019) found that 51% of participants reported experiencing interpersonal discrimination, while Hanekom (2021) found that 97.5% of sexual minorities in Aotearoa reported experiencing internalised homophobia to some degree, which consequently can have lasting impacts on psychological well-being (Kaufman et al., 2017; Mallory et al., 2021; Marchi et al., 2024; Mustanski et al., 2016; Wen & Zheng, 2019; Williams, 2020). The current results extend these findings by demonstrating that these stressors are not only associated with poorer psychological well-being, but also with poorer evaluations of life quality across multiple interconnected outcomes including psychological, physical, social and environmental.

Notably, distal stress emerged as a consistently stronger predictor of quality of life than proximal stress. These findings are similar to those by Weeks et al., (2021), who found that distal stress was a stronger predictor than proximal stress for psychological inflexibility, substance misuse, and suicidality. A possible explanation for our findings is that distal stressors may exert a particularly pervasive influence on quality of life because they represent structural and institutional forms of stigma that shape the broader social conditions in which sexual minorities live (Hatzenbuehler, 2009; Riggs & Treharne, 2017). Compared to proximal stress, which is subjective, distal stress reflects objective conditions such as discrimination and harassment that may directly constrain access to safety, healthcare, social connection and opportunities (Hatzenbuehler et al., 2015), all of which are core components of quality of life as captured by the WHOQOL-BREF. Therefore, distal stress may have stronger consequences for daily functioning across psychological, physical, social, and environmental outcomes, supporting the argument that reducing structural stigma remains a critical target for improving quality of life among sexual minorities.

The second aim was to examine the role of self-esteem and dispositional optimism in the relationship between minority stress and quality of life among sexual minorities. Consistent with hypothesis two, the inclusion of self-esteem and dispositional optimism significantly improved the model, explaining an additional 42% of the variance in quality of life. Self-esteem emerged as a particularly strong positive predictor, with dispositional optimism providing an additional unique and significant contribution. Importantly, proximal stress no longer accounted for unique variance in quality of life, after adjusting for self-esteem and dispositional optimism. This suggests that the association between proximal stress and quality of life substantially overlaps with individual differences in psychological resources. While our results cannot infer causation, a possible explanation is that proximal stress relates to poorer quality of life via its association with diminished self-esteem and optimism, as was found in our correlation analysis. This explanation aligns closely with

Hatzenbuehler's (2009) framework, that the internalisation of negative societal attitudes may reduce self-esteem and foster more pessimistic cognitive styles, which in turn, predicts poorer well-being (Szymanski & Gupta, 2009; Williams et al., 2017). However, given the cross-sectional design, the direction of this relationship cannot be determined in the current study.

It is also plausible that there could be a bi-directional relationship (Hatzenbuehler, 2009), such that individuals with fewer psychological resources are more vulnerable to proximal stress. Research suggests that psychological resources may shape how stress is perceived and evaluated (Juth et al., 2008). For instance, in examining general life stress, Juth et al., (2008) found that self-esteem predicted the perceived severity, but not the frequency of stress. This reflects the role of psychological resources in the evaluation of whether a stressor exceeds one's perceived coping resources rather than whether a situation is initially labelled as stressful. Applied to sexual minorities, this could suggest that those with low self-esteem and dispositional optimism may perceive minority stress as more detrimental, whereas those with greater psychological resources may be less vulnerable to the negative impact of proximal stress. Longitudinal research is necessary to clarify causal pathways, although these findings highlight the potential value of interventions aimed at strengthening psychological resources.

This study extends prior work by also examining the role of psychological resources in the relationship between distal stress and quality of life. Although the inclusion of self-esteem and dispositional optimism substantially reduced the effect size, distal stress remained a significant predictor of quality of life. This suggests that distal stress exerts an independent influence on quality of life that is not fully explained by internal psychological resources. While part of distal stress' association with quality of life may overlap with individual differences in self-esteem and optimism, evidenced by the reduction in its effect size, distal stress continues to account for unique variance beyond these factors. A plausible explanation is that distal stress exerts a chronic, excessive and structural burden

(Hatzenbuehler, 2009; Meyer, 2003). For example, considering that sexual minorities report an average of one microaggression per day (Doyle et al., 2024; Kiekens et al 2022), one possible explanation is that the cumulative effect of these persistent experiences may overwhelm even those with relatively high self-esteem and optimism. The current results suggest that interventions aimed at enhancing psychological resources are important, considering the significant negative associations of distal stress with self-esteem and dispositional optimism. However, structural efforts to reduce distal stress remain essential to addressing disparities in overall quality of life among sexual minorities.

Moderating Role of Sexuality-Specific Parental Support

The third aim was to examine whether parental support would buffer the effects of distal and proximal stress on quality of life. The findings partially supported our hypothesis such that parental support moderated the relationship between distal stress and quality of life in the present study. Although the interaction was marginally significant in the unadjusted model, it became statistically significant when controlling for demographic variables and psychological resources. Importantly, the magnitude of the interaction effect remained relatively small but stable across models, suggesting that the shift in statistical significance likely reflects increased precision due to reduced unexplained variance. The inclusion of strong predictors of quality of life, particularly self-esteem, substantially reduced unexplained variance, thereby enhancing power to detect the moderating role of parental support.

Consistent with previous findings highlighting the negative impacts of distal stress (Marchi et al., 2024; Mustanski et al., 2016), distal stress was negatively associated with quality of life, but parental support can serve as a buffer (Doty et al., 2010; Wethington & Kessler). In particular, when examined by level of parental support, distal stress was associated with lower quality of life for those who reported low and medium levels of parental support. In contrast, these associations were not significant for those who reported

higher levels of parental support, suggesting that parental support may act as a buffer against the negative impact on quality of life subsequent to experiences of distal stress. The relatively small effect size of the interaction is consistent with this pattern, as the buffering role appears to be most relevant only at high levels of parental support. Results of the current study align with the matching theory (Cohen & Wills, 1985), and extend prior research on sexuality-specific support (Doty et al., 2010), which suggests that support protects against stress when it aligns with the stress at hand. Based on this and our findings, sexuality-specific parental support proves beneficial to sexual minorities because it specifically addresses the needs created by distal stress.

Contrary to the previous results, parental support did not moderate the association between proximal stress and quality of life. While the general pattern of results were similar to the prior findings, the interaction was not significant. Considering the negative association between parental support and proximal stress, the findings could suggest that parental support may help reduce the overall level of proximal stress (Feinstein et al., 2014; Shao et al., 2018), but it may not be sufficient to buffer the impact of proximal stress on quality of life. These results are interesting given past literature highlighting the importance of support among sexual minorities in the face of proximal stress. For example, Kieken and Mereish (2022) found that identity concealment was associated with negative affect for those who reported low or average levels of family support, but this association was not significant for those who reported high levels of support. In similar fashion, when examining sexuality-specific family support, Doty et al., (2010) found that greater minority stress, including identity concealment, was associated with greater emotional distress for those who reported low sexuality-specific support, but this association was not significant for those who reported high levels of support.

Although the current study only found support for the moderating role of parental support in the context of distal stress, it contributes to the growing literature examining its

association with quality of life among sexual minorities. Importantly, across models, parental support significantly predicted quality of life, albeit with small effect sizes, suggesting that even in the absence of a moderation, parental support remains an important predictor of quality of life. For example, among participants experiencing high proximal stress, those with high parental support reported slightly higher quality of life scores than those with low parental support. However, it is important to note that when self-esteem and optimism were included in the model, the predictive effect of parental support was reduced, and internal psychological resources emerged as substantially stronger predictors of quality of life. Although self-esteem and optimism may play a central role in shaping quality of life outcomes, parental support remained significant, which indicates that it contributes uniquely to quality of life beyond individual-level psychological resources and underscores the importance of parental support as a distinct and meaningful construct. Nevertheless, future research should consider what other protective factors may be more beneficial for buffering the impact of proximal stress on quality of life. Furthermore, future research should explore whether there are differences in the role of maternal support and paternal support.

Moderating Role of Maternal and Paternal Acceptance

The final aim was to examine whether maternal and paternal acceptance would buffer the effects of distal and proximal stress on quality of life. The hypothesis was minimally supported such that only maternal acceptance moderated the association between distal stress and quality of life. Specifically, distal stress was associated with lower quality of life for those who reported low and medium levels of maternal acceptance, whereas these associations were not significant for those who reported higher levels of maternal acceptance. However, contrary to expectations, maternal acceptance did not moderate the association between proximal stress and quality of life. In addition, paternal acceptance did not moderate the association between either distal or proximal stress and quality of life.

Thus, overall, these results suggest that only maternal acceptance may act as a buffer against the negative impact of distal stress on quality of life.

While speculative, it is possible that knowing one's mother accepts them as a sexual minority provides a sense of security (Pearson & Wilkinson, 2012), that helps them cope with overt stressors. For example, having a strong sense of security may enable sexual minorities to stay engaged in social relationships, or preserve physical and psychological health, even when others express rejection through discriminatory actions. Additionally, we found that maternal acceptance was positively associated with self-esteem and dispositional optimism, whereas paternal acceptance was not. Given that self-esteem and optimism emerged as the strongest predictors of quality of life, this pattern suggests that maternal acceptance may enhance or reinforce these internal psychological resources needed to cope with experiences of distal stress. These results may reflect differences in how maternal and paternal acceptance differ or the ways in which their acceptance is perceived. Furthermore, considering the null findings for the moderating role of parental acceptance on the impact of proximal stress on quality of life, internalised stress may require additional forms of support beyond maternal and paternal acceptance. Overall, these findings partially align with past research suggesting that parental acceptance can buffer against certain minority stressors (Abreu et al., 2023; Feinstein et al., 2014; Wright & Wachs, 2021), but they extend the literature by highlighting the potential differing impacts of maternal versus paternal attitudes.

While we found an interaction between maternal acceptance and distal stress, the degree of participants' outness to their parents may account for the overall minimal buffering functions of parental acceptance in the current study. Parental acceptance, defined as supportive attitudes characterised by understanding, encouragement and affirmation following disclosure of a child's sexual identity (Abreu et al., 2023), may only exert a protective effect when parents are aware of their child's sexual orientation. In the current

study, participants were asked to rate how they think their parents perceive, or if unaware, would perceive their sexuality, which may introduce ambiguity. Consequently, these perceptions are likely influenced by the degree to which participants are out to their parents, such that those who have not disclosed may base their responses on expectations rather than lived experiences. Perceived acceptance in the absence of disclosure, even when rated highly, may not provide the same tangible emotional support or affirmation as actual acceptance following disclosure, potentially limiting its capacity to buffer stress. Supporting this interpretation, Nae and Cazan (2026) found that greater outness to parents was associated with higher levels of maternal and paternal acceptance than those with lower outness. Taken together, these findings suggest that the protective function of parental acceptance may depend on disclosure context, and future research should account for outness when examining the buffering role of parental acceptance.

Beyond the moderation findings, several noteworthy findings emerged in the current study. We found that parental attachment was significantly and positively associated with parental support and both maternal and paternal acceptance. The strength of these associations suggests that attachment is closely intertwined with how sexual minorities experience and perceive parental support and attitudes. Consistent with prior findings (Katz-Wise et al., 2016; Mohr & Fassinger, 2003; Rosario, 2015), individuals with more secure attachments perceive greater support and acceptance from their parents. Considering that greater parental support and acceptance was associated with higher levels of quality of life and less minority stress, parental attachment may be particularly important in facilitating these pathways. Mohr and Fassinger (2003) found that maternal acceptance was indirectly related to negative self-identity through its direct relation with insecure attachment, and similar findings were reported for paternal acceptance. Therefore, parental attachment could be an important component for not only on-going parental support and acceptance, but also its influence on quality of life.

Furthermore, age was significantly and negatively associated with proximal stress and parental support, and positively associated with self-esteem and optimism. This is consistent with prior research suggesting that proximal stress, particularly internalised homophobia, is experienced more in younger cohorts (Meyer et al., 2021). This tends to decrease with age as they develop more stable sense of self (Löckenhoff & Rutt, 2017), which is reflected in higher levels of self-esteem and optimism. At the same time, younger sexual minorities reported greater parental support, a pattern that may be attributable to the increased visibility and acceptance of sexual minorities (Bitterman & Hess, 2020). Older sexual minorities, who were more likely to have been raised in predominantly heteronormative societies that reflected broadly held stigmatised attitudes and views regarding LGBTQ+ individuals, may have experienced fewer opportunities for open discussions about sexual identity with their parents (Bitterman & Hess, 2020). Consequently, these individuals were more likely to disclose their sexual identity to their parents much later than younger cohorts (Meyer et al., 2021), which inherently reduces conversations about minority stress with their parents. These results call for further research examining interventions aimed at enhancing familial support in later adulthood.

Limitations and Future Directions

Despite the relevance of the findings, there are several limitations in the current study that should be considered for future research. First, as previously mentioned, the studies cross-sectional design limits causal inference which makes it difficult to draw conclusions regarding the direction of influence. Therefore, future research should employ longitudinal designs to examine the direction and causal relationships between minority stress and quality of life, as well as the role of parental support and acceptance.

We also suggest cautious interpretation of the current results because, like much of the prior literature with sexual minorities (Kaufman et al., 2017; Outland, 2016), the mean levels of distal and proximal stress in the present sample were relatively low. This study's

focus on minority stress, quality of life, and parental support and acceptance may represent examination at the low end of the continuum. Thus, research is needed with samples with high levels of distal and proximal stress to examine these relationships among those on the high end of the continuum.

In addition, a large majority of participants in the present study identified as white, lesbian women which may introduce sampling bias. Therefore, the findings of the current study may not be generalisable to other sexual minority populations including racial minorities. Some studies are able to consider the impact of multiple minority identities, such as sexual minorities of colour (Abreu et al., 2024), but this study was unable to do so because this sample didn't include many participants of other ethnicities. Furthermore, although efforts were made to recruit individuals representing a range of understudied sexual identities, subgroup sample sizes were too small to permit separate analyses. As a result, sexual identities were collapsed into broader categories (e.g. monosexual and plurisexual), which may have obscured important differences between distinct identity groups. Despite these limitations, one marked strength of the present study was the inclusion of a relatively large sample of gender nonconforming individuals. Very few studies include non-binary participants in sufficient numbers, and when they do, these individuals are often excluded from analyses due to small sample sizes. The present study addressed this limitation by successfully recruiting a substantial number of non-binary participants, who comprised 17.2% of the sample. This allowed for greater inclusivity in analyses and represents an important contribution to research that often underrepresents gender-diverse populations. Nevertheless, we recognise that our findings cannot be generalised to the general population of sexual minorities and future research should replicate these findings with more representative samples.

Another limitation to consider in the current study is that while significant positive associations between parental support, acceptance and attachment may reflect stability in

parent-child relationship quality, it is possible that it may reflect the halo effect. This is a cognitive bias where individuals overall impression of a person influences their judgements about their specific traits (Forgas & Laham, 2016). For example, it is possible that those who think of their parent in general as supportive tend to give positive ratings of them across multiple domains even if it is not the case. For future research it may be important for participants to give examples of how their parents provide them with sexuality-specific support and acceptance as evidence of these claims.

Furthermore, the parental acceptance measure was not as thorough as the sexuality-specific parental support scale. As previously described, sexuality-specific parental support included 22 detailed items that assessed how much emotional support and advice/guidance their parents would provide if they had some kind of problem related to their sexuality, such as minority stress. On the other hand, parental acceptance was assessed using two items from Ross' (1985) scale. Although this approach is consistent with prior research that has selectively used family-related items (Elizur & Mintzer, 2003), reducing the scale to two items may increase the amount of measurement error, and thus reduce the effect size. Furthermore, the items focusing on anticipated or perceived parental attitudes, may reflect a general evaluative stance rather than the multifaceted nature of parental acceptance, such as active validation of one's sexual identity. As a result, the measure may not have fully captured the quality, consistency, or behavioural expression of acceptance that could meaningfully buffer minority stress. Future research may benefit from employing a more comprehensive parental acceptance measure to more accurately evaluate their potential moderating role. For example, a more comprehensive measure might assess active affirmation (e.g., "My parent openly affirms and validates my sexual orientation") or relational encouragement (e.g., "My parent supports my romantic relationships the same way they would a heterosexual relationship).

Finally, a limitation of the minority stress measure used in the present study is that it did not account for contextual factors surrounding stress experiences. For example, the assessment of distal stress did not differentiate between perpetrators. The impact of distal stress may vary depending on who is responsible for the discriminatory behaviour. Research has suggested that microaggressions originating from close family members and friends, or colleagues could have more of an impact than similar experiences perpetuated by strangers (Sue, 2010). The relational closeness and emotional significance of the source may intensify the impact of such stressors. Therefore, future research should consider the source and context of distal stress experiences in order to better understand which types of stress exposure are most detrimental to quality of life.

Collectively, these findings suggest several important directions for future research, including the use of longitudinal designs to clarify causal pathways, the examination of more diverse and representative sexual minority populations, and the development of comprehensive measures of parental acceptance and minority stress contexts. Future studies should also continue examining the distinct roles of maternal and paternal support, as well as additional protective factors that may reduce the impact of proximal stress on quality of life among sexual minorities.

Conclusion

The present study makes several important contributions to the growing body of research grounded in the minority stress model. First, by examining quality of life as a multidimensional construct rather than focusing solely on psychopathology, the present study broadens the understanding of the consequences of minority stress. Additionally, it extends prior research by demonstrating that distal and proximal stress function as interrelated yet unique predictors of quality of life among sexual minorities. The findings also advance understanding of the psychological mechanisms underlying minority stress by demonstrating that distal and proximal stress may operate through partially distinct

pathways. Distal stress remained a significant predictor of quality of life after accounting for self-esteem and dispositional optimism. This may indicate that external and structural forms of stigma exert an independent burden on quality of life beyond individual coping capacities. In contrast, self-esteem and dispositional optimism substantially accounted for the association between proximal stress and quality of life, suggesting that proximal stress may operate largely through internal psychological resources.

The present findings also contribute to the growing literature examining the nuanced role of parental factors. Specifically, parental support moderated the association between distal stress and quality of life, as did maternal acceptance, indicating a buffering effect in the context of distal stress. However, neither parental support nor maternal acceptance moderated the relationship between proximal stress and quality of life, and no moderating effects were observed for paternal acceptance. These findings extend existing literature on social support and matching theory by suggesting that the protective role of parental factors may depend not only on the type of support provided, but also on the parent providing it and the form of minority stress experienced. Collectively, these results establish that distal and proximal stress are significant risk factors for quality of life, while suggesting that parental support and maternal acceptance act as protective functions in the context of distal stress. Interventions aimed at enhancing self-esteem and optimism may be particularly beneficial in reducing the effects of proximal stress, while efforts to foster positive parental dynamics and reduce structural stigma remain essential for addressing the broader and more persistent impact of distal stress on quality of life among sexual minorities.

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Appendix

Table 4

Regression Analyses Proximal Stress and Parental Support Predicting Quality of Life

	β	*t*	*p*	R^2	ΔR^2	*p*
Model 1 - F(3, 228) = 11.00, *p* < .001				.13	*.11*	<.001
Proximal stress	-.22	-3.46	<.001			
Parental support	.24	3.78	<.001			
Parental support x proximal stress	.03	0.48	.631			
Model 2 - F(10, 217) = 34.07, *p* < .001				.61	.59	<.001
Proximal stress	-.04	-0.76	.449			
Parental support	.11	2.37	.019			
Proximal stress x parental support	.05	1.22	.225			
Gender [a]						
Men	-.01	-0.20	.841			
Non-binary	-.14	-3.23	.001			
Other	-.10	-2.16	.032			
Sexual orientation [b]	-.06	1.25	.214			
Age	.01	0.20	.841			
Self-esteem	.58	9.37	<.001			
Dispositional optimism	.17	2.77	.006			

[a] Women are the comparison group and coded 0, men, non-binary, and others coded 1

[b] Gay and lesbian are coded 0, bisexual, pansexual, queer, takatapui, and others coded 1

Table 6

Regression Analyses Proximal Stress and Maternal Acceptance Predicting Quality of Life

	β	*t*	*p*	R^2	ΔR^2	*p*
Model 1 - F(3, 222) = 9.71, *p* < .001				.12	.10	<.001
Proximal stress	-.25	-3.85	<.001			
Maternal acceptance	.19	2.84	.005			
Proximal stress x maternal acceptance	.03	0.44	.657			
Model 2 - F(10, 210) = 32.42, *p* < .001				.61	.59	<.001
Proximal stress	-.04	-0.84	.402			
Maternal acceptance	.07	1.57	.118			
Proximal stress x maternal acceptance	.02	0.45	.652			
Gender [a]						
Men	-.02	-0.37	.713			
Non-binary	-.16	-3.41	.001			
Other	-.13	-2.59	.010			
Sexual orientation [b]	.07	1.47	.143			
Age	.00	-0.04	.969			
Self-esteem	.58	8.91	<.001			
Dispositional optimism	.18	2.87	.005			

[a] Women are the comparison group and coded 0, men, non-binary, and others coded 1

[b] Gay and lesbian are coded 0, bisexual, pansexual, queer, takatapui, and others coded 1

Table 7

Regression Analyses Proximal Stress and Paternal Acceptance Overall Quality of Life

	β	*t*	*p*	R^2	ΔR^2	*p*
Model 1 - F(3, 201) = 6.43, *p* < .001				.09	.07	<.001
Proximal stress	-.22	-3.21	.002			
Paternal acceptance	.14	2.11	.036			
Proximal stress x paternal acceptance	.07	1.05	.297			
Model 2 - F(10, 190) = 29.13, *p* < .001				.61	.58	<.001
Proximal stress	-.01	-0.24	.812			
Paternal acceptance	.09	1.83	.069			
Proximal stress x paternal acceptance	.01	0.17	.868			
Gender [a]						
Men	-.03	-0.53	.594			
Non-binary	-.13	-2.86	.005			
Other	-.09	-1.85	.067			
Sexual orientation [b]	.10	2.04	.042			
Age	.03	0.56	.578			
Self-esteem	.62	9.58	<.001			
Dispositional optimism	.12	1.89	.061			

[a] Women are the comparison group and coded 0, men, non-binary, and others coded 1

[b] Gay and lesbian are coded 0, bisexual, pansexual, queer, takatapui, and others coded 1

Table 8

Regression Analyses Distal Stress and Paternal Acceptance Predicting Quality of Life

	β	*t*	*p*	R^2	ΔR^2	*p*
Model 1 - F(3, 201) = 12.28, *p* < .001				.15	.14	<.001
Distal stress	-.36	-5.19	<.001			
Paternal acceptance	.13	1.90	.058			
Distal stress x paternal acceptance	-.00	-0.02	.987			
Model 2 - F(10, 190) = 31.07, *p* < .001				.62	.60	<.001
Distal stress	-.14	-2.68	.008			
Paternal acceptance	.08	1.75	.082			
Distal stress x paternal acceptance	-.05	-0.98	.326			
Gender [a]						
Men	-.01	-0.25	.801			
Non-binary	-.10	-2.00	.047			
Other	-.06	-1.06	.292			
Sexual orientation [b]	.10	2.17	.031			
Age	.03	0.64	.521			
Self-esteem	.61	9.62	<.001			
Dispositional optimism	.11	1.73	.086			

[a] Women are the comparison group and coded 0, men, non-binary, and others coded 1

[b] Gay and lesbian are coded 0, bisexual, pansexual, queer, takatapui, and others coded 1