Towards Understanding Workplace Antecedents that affect Mental Health of LGBTQIA+

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It is evident that LGBTQIA+ people are at higher risk of mental health difficulties which is worsened by discrimination and poor work relationships. The theory of employee engagement suggests that work engagement can be facilitated through positive psychological experiences of meaningfulness, availability, and safety at work, which is expected to also promote wellbeing. This study expands on this understanding by examining how these positive psychological conditions can relate to work engagement and positively affect the overall mental health of LGBTQIA+ employees daily. Data was collected from a diverse group of Australian LGBTQIA+ employees (N = 27) over five consecutive days (N = 135 observations). Results from regression analysis demonstrated that psychological meaningfulness and psychological availability fostered work engagement among LGBTQIA+ employees and improved their overall mental health through work engagement. Psychological safety decreased anxiety among LGBTQIA+ employees when the workplace climate was supportive. Thus, it was determined that psychological meaningfulness, availability and safety are important not only for employees to engage, but also the mental health of LGBTQIA+ employees. This provides important insights for organisations and employees that can guide them to target factors in the workplace to improve the mental health of LGBTQIA+ employees.

Key words: Work engagement, LGBTQIA+, psychological meaningfulness, psychological availability, psychological safety, stress, depression, minority stress

Workplace mental health conditions are one of the costliest forms of workplace injury, with those affected taking significantly more time off work and receiving higher compensation when compared with physical injuries and diseases (Safe Work Australia, 2022). Further, Australian businesses are estimated to spend up to 39 billion dollars each year due to absenteeism, reduced work performance, and presenteeism (poor functioning at work due to fatigue, decreased concentration, and poor memory) (Productivity Commission, 2020). This data suggests that not only are workplaces fertile for the development of mental-ill health, the impact of mental-ill health is significant to both the employee and employer.

As a minority group, LGBTQIA+ (Lesbian, gay, bisexual, transgender, queer, intersex, asexual, and other diverse sexualities, and genders) people experience higher levels of mental health problems in their direct and broad social and community environments (see Owens et al., 2022) because poor relationships may develop in these environments due to a person's gender and/or sexual identity. Research further confirms that LGBTQIA+ people are also at higher risk of developing depression, suicidality, and substance use problems (MONGeLLi et al., 2019; Valentine & Shipherd, 2018). As a leading social environment that can cause further social stress (Meyer, 2003), work can increase mental health problems for LGBTQIA+ people (Owens et al., 2022).

Work and workplaces have the potential to influence mental health outcomes given their ability to amplify minority stress, and their ability to influence social and economic wellbeing in this already marginalised population. For example, due to high rates of

discrimination and prejudice specifically in the tyworkplace (Tatum, 2018), unsafe and unsupportive workplaces (Owens et al., 2022) and significant distress relating to disclosure of gender identity (Newheiser et al., 2017), mental health concerns for LGBTQIA+ people are exacerbated. Indeed, hostile workplaces, characterised by demeaning attitudes toward LGBTQIA+ employees, derogatory jokes, and verbal and physical abuse contributes to absenteeism, lower job satisfaction, and strong intentions to leave organisations (Holman et al. 2019). It is plausible to consider that under these circumstances, their ability to experience positive psychological work states would become compromised. Owens et al. (2022) mentions that the workplace environment can impact mental health outcomes (e.g., psychological distress and/or depression) of LGBTQIA+ employees.

One of workplace factors that is likely to have a significant impact on overall work-related wellbeing is the degree to which an employee engages (or disengages) in or at their work. Work engagement can be defined as the physical, cognitive, and emotional investments and expression in work roles (Lemon & Palenchar, 2018; May et al., 2004). Employees who are highly engaged have been found to experience good mental health, whereas those who are disengaged experience poor mental health outcomes such as, burn out, emotional exhaustion, and depersonalisation (Afrahi et al., 2021; Shuck & Reio, 2013). Given LGBTQIA+ employees experience barriers that may prevent engagement in work, it is important to explore their experiences of this and consider any flow-on effects that may be evident for overall mental health over time. Further, exploration into factors that may facilitate mental health through work engagement facilitate insight necessary to manage and prevent poor mental health outcomes for LGBTQIA+ employees.

While the impact of engagement and disengagement in the workplace has been extensively researched (Al-Tit et al., 2015; Heikkeri, 2010; Saks, 2019), the focus has largely concerned the consequences relevant to the organisation (e.g., commitment, performance, satisfaction, employee retention) as opposed to the long-term and overall impact on mental health outcomes, such as state-like depression and anxiety for employees (see Allam, 2017; Azeem et al., 2020; Ram & Prabhakar, 2011; Thanacoody et al., 2014). Since work is a prominent role in a person's life (Meyer, 2007) and can significantly influence a person's mental health state (Afrahi et al., 2021), it is critical to investigate how we can attain work engagement as well as consider how minority groups such as LGBTQIA+ employees can attain work engagement.

Three positive psychological conditions have been well-supported as critical to attaining employee engagement, namely *psychological meaningfulness*, the sense that one is receiving rewards as a result of investing oneself physically, cognitively, or emotionally (May et al., 2004); *psychological availability*; having access to physical, emotional, or psychological resources to personally engage (May et al., 2004), and *psychological safety* the sense that one can confidently and predictably be one's true self without fear of negative consequences to self-image, status, or career (May et al., 2004). Previous research clearly shows these positive conditions are essential to engage at work (see Frazier et al., 2017; Geldenhuys et al., 2014; Geldenhuys & Łaba, 2018), however, only a few studies have examined these relationships among working populations with minority status (e.g., women, people with disabilities). Of those that have investigated minority groups, barriers to psychological meaningfulness, psychological availability, and psychological safety attainment have been found (see Banihani et al., 2013; Rudstam et al., 2012).

The present study therefore makes the following contributions. Firstly, we add to the theory of employee engagement (Kahn, 1990) by investigating how psychological meaningfulness, psychological availability, and psychological safety directly relate to work engagement among LGBTQIA+ employees. While research has shown the barriers minority groups such as women and people with disabilities have in attaining these positive

psychological states (Banihani et al., 2013; Laba & Geldenhuys, 2016, 2018; Rudstam et al., 2012), it is important to extend this further to other marginalised populations (e.g., LGBTQIA+) who experience unique stressors that lead to high levels of mental health concerns. Secondly, we show how psychological meaningfulness, availability and safety specifically relate to depression, stress, and anxiety of LGBTQIA+ employees. Previous research mainly shows broad work-related well-being outcomes for the organisation (Allam, 2017). Thirdly, although work engagement (Bakker, 2017), meaningfulness (Geldenhuys et al., 2021) and availability (Geldenhuys & Łaba, 2018) has been investigated over time before, it was linked to workplace outcomes broadly and has not formed part of the original theory of employee engagement (Kahn, 1990). We therefore do not know how psychological meaningfulness, availability, and safety affect work engagement and mental health outcomes day to day.

Theoretical Background

Work engagement is defined as the simultaneous employment and expression of one's 'preferred self' at work (Kahn, 1990). The Theory of Employee Engagement posits that when employees are engaged, they become cognitively vigilant, physically involved, and empathetically connected to work (Kahn, 1990). This allows them to express what they think and feel, be creative, and align their beliefs and values, and their desires for relations with others. Conversely, personal disengagement is the simultaneous withdrawal and defence of one's preferred self, which is characterised by the absence of connections to work and to others, lack of emotional, cognitive, and physical presence, and passivity and incompletion of role performances. Thoughts and feelings, creativity, and beliefs and values are thus suppressed, and tasks are motivated by role obligations. The employee engagement theory posits that employees either employ and express or withdraw and defend their preferred selves based on their psychological experiences of self-in-role (Kahn, 1990). Whether one engages or disengages depends on three psychological conditions.

Psychological Meaningfulness as explained by Kahn (1990) refers to the sense that one is receiving rewards because of their physical, cognitive, or emotional investments in their work. These rewards include feelings of being valued and giving to and receiving from work and others. Three factors influence psychological meaningfulness. Firstly, task characteristics that facilitate psychological meaningfulness must be challenging, clear, varied, creative, and autonomous to some degree. Secondly, given that roles often require employees to adopt congruent identities, if the employee views the role as being suited to them or encapsulates how they wanted to see themselves, they are more likely to experience psychological meaningfulness. Lastly, when tasks promote rewarding interactions between co-workers and clients, dignity, self-appreciation, and a sense of worthwhileness and human connection meaningfulness can be facilitated.

Psychological availability as explained by Kahn (1990) is the sense that one possesses the physical, emotional, and psychological resources needed for investment in role tasks and the preparedness to harness engagement. These components require strength, energy, and readiness. Psychological availability can become compromised by a lack of emotional investment, insecurities, self-consciousness, status, and ambivalence about their role due to an incompatibility with the organisation's values. Employees' outside lives can also distract them from being available in their role and compromise availability.

Psychological Safety as explained by Kahn (1990) refers to the feeling of being able to show and employ oneself in the absence of fear of negative consequences to self-image, status, or career. Employees must also feel as though situations are trustworthy, secure, predictable, and behavioural consequences are known. Psychological safety is dependent on social systems that create a degree of trustworthiness, consistency, and non-threatening cultures. Interpersonal

relationships that offer support, trust, openness, flexibility, and that are non-threating are essential, as well as informal roles within groups that allow one to safely express parts of self.

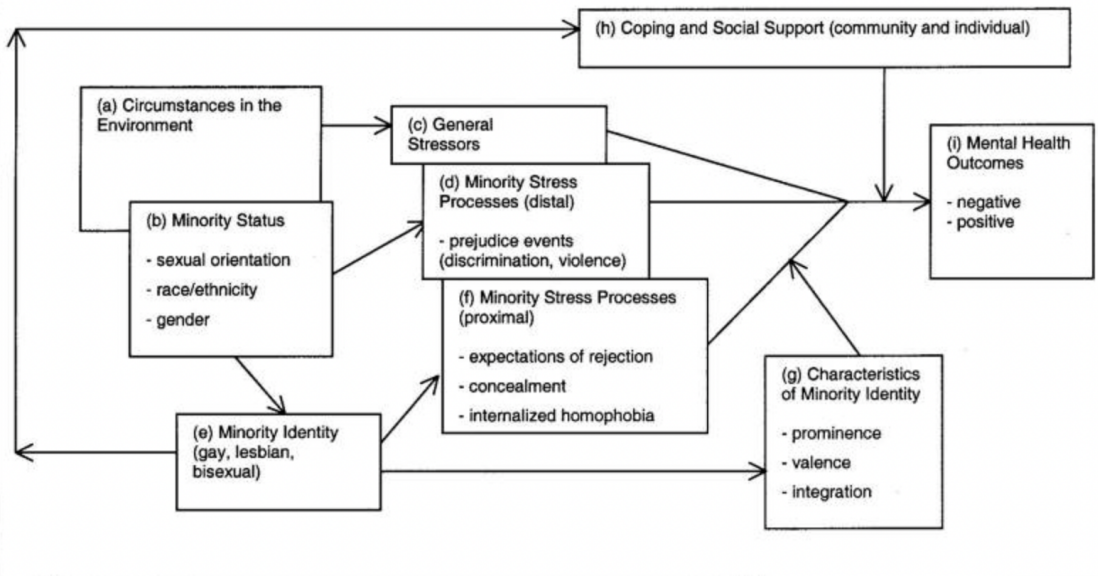
Therefore, if employees in general perceive their work to be incongruent to their own identity or desired status, work is unlikely to facilitate psychological meaningfulness. Similarly, psychological meaningfulness becomes compromised with interactions that inhibit the interpersonal connections needed for successful completion and enjoyment of tasks. Further, untrustworthy, unaccepting, rigid, and threatening dynamics and actions afforded at any organisation level are likely to compromise psychological safety for employees. Given the unique nature of mental health of LGBTQIA+, they are likely not to have congruence in their work experiences. As mentioned before, poor mental health among LGBTQIA+ people are exacerbated because of stress they perceive within family, community, and societal dynamics (see Owens et al., 2022). With work being a social environment, it is yet another environment that can increase and trigger mental health.

Minority stress is distinguished from stress that stems from events and conditions that result in the need for an individual to change and adapt to new circumstances by accounting for the excess stress that exists due to stigmatised minority social positions (Meyer, 2003). The minority stress model suggests that minority groups are alienated from social structures, norms, and institutions, and experience an incongruency of dominant social values and ways of living (Meyer, 2003). Given the need for humans to have interactions with others to achieve a sense of self (Cooley, 1922), the need for normality and social control to function in society (Durkheim, 1951), and the need for harmony between the dominant group and the individual to facilitate healthy living (Selye, 1982), minority stress can result in detrimental outcomes.

In their application of minority stress to lesbians, gay men, and bisexuals (LGB), Meyer (2003) proposed that sexual prejudice, stigma, and discrimination create hostile and stressful environments that contribute to a higher prevalence of mental disorders among LGB individuals compared to heterosexual individuals. Three processes of minority stress were identified that are relevant to LGB individuals to develop the minority stress model: 1) external, objective, and stressful events and conditions (chronic and acute); 2) expectations of such events and the vigilance associated with them; and 3) the internalisation of negative attitudes. These processes are described to exist along a continuum from distal stress to proximal stress. Distal stress is objective and does not rely on perceptions or interpretations from the individual and can be independent from identification with minority status. For instance, a man dates men, but does not identify as gay, yet receives discrimination due to others' perception of him as gay (Meyer, 2003). Proximal stress is subjective and thus typically relates to self-identity as LGB (Meyer, 2003). Personal meanings attached to one's identity vary according to the subjective stress experienced (Meyer, 2003). For instance, a female employee who identifies as lesbian tells her co-workers that she is in a relationship with a man due to fears of rejection and internalised shame associated with her sexual identity. Figure 1 provides a summary of minority stress model.

Figure 1

Minority Stress Processes in Lesbian, Gay, and Bisexual populations



Note. General environmental circumstances (box a), for example, homelessness is interdependent with minority status (box b). For instance, homelessness for a gay adolescent being associated with being excluded from the family home. These factors lead to exposure to stressors, such as loss of employment (box c) and stressors associated with minority status, such as violence (box d) that are also interdependent with proximal stressors, such as internalising homophobia (box f). One's identification with minority status (box e) can also lead to proximal stress processes. Characteristics of minority identity can strengthen or weaken stress processes (box g), for instance health outcomes are impacted more when the LGB identity is prominent than when it is secondary to self-identification. LGB identity may also be a strength (box h) for instance, when it facilitated community connection. From Meyer, I. H. (2003). Prejudice, Social Stress, and Mental Health in Lesbian, Gay, and Bisexual Populations: Conceptual Issues and Research Evidence. *Psychological Bulletin*, *129*(5), 674–697. https://doi.org/10.1037/0033-2909.129.5.674

Daily psychological conditions and work engagement

As discussed, Kahn's (1990) theory of employee engagement posits that to facilitate personal engagement in work, psychological meaningfulness, psychological availability, and psychological safety must be fulfilled. In the absence of these psychological conditions, disengagement is a likely consequence (Kahn, 1990; May et al., 2004). In their study, Chikoko et al. (2014) found psychological meaningfulness to be a predictor of engagement, while Frazier et al., (2017) found psychological safety to be positively related to engagement. Geldenhuys and Łaba (2018) found that psychological availability predicted engagement among women in professional and business roles across time. However, as mentioned, few studies (see Banihani et al. 2013 and Rudstam et al. 2012) have applied this model to minority samples. Of those that have, significant barriers (Banihani et al., 2013) were uncovered that prevented employees from attaining the psychological conditions.

The minority stress model (Meyer, 2003) can be used to understand the unique stressors evident in workplace contexts that go beyond general day-to-day work stress, as well as supportive ameliorating factors that can buffer against stressors for LGBTQIA+ employees. In applying the minority stress model to the workplace context, Holman et al. (2019) identifies two types of workplace climates; hostile, characterised by demeaning interactions between colleagues or harassment and supportive, characterised by organisation-wide policy prohibiting

discrimination based on sexual orientation, diversity trainings, and public support. The predicament of disclosing or concealing one's sexual identity also complicates LGBTQIA+ employees' experiences at work (Newheiser et al., 2016). For instance, disclosing contributes to feelings of vulnerability, while concealing reduces feelings of belonging (Newheiser et al., 2016). Given the distinct and unique climates and stressors that can exist for LGBTQI+ employees, it is too possible that this minority population experiences barriers to the fulfilment of psychological meaningfulness, psychological availability, and psychological safety.

Further, existing research largely focuses on the relationship between psychological meaningfulness, psychological availability, psychological safety, and engagement at one point in time, with the exclusion of Geldenhuys and Łaba (2018). An important aspect of engagement for employees is that it is susceptible to day-to-day level fluctuations (Kahn, 1990). Bailey and Madden (2016) concluded that meaningfulness arose in an episodic way rather than in a sustained way. That is, employees would experience highly meaningful moments or feelings related to their work, yet this was not shown to sustain over a single working day. Thus, while these experiences likely contribute to an overall sense of meaningfulness and engagement, which may explain previous findings of the relationship, there is the potential that psychological conditions are not met every day. Similarly, Saks (2006) notes that employees engage themselves to varying degrees according to the resources provided to them from the organisation, suggesting that psychological availability is too susceptible to fluctuations depending on the availability and provision of employer resources. Interestingly however, Geldenhuys and Łaba (2018) was the first study to investigate the relationship between psychological availability and engagement using a day-level design.

There is a need to investigate the relationship of psychological meaningfulness, psychological availability, and psychological safety using a longitudinal design to not only capture differences between participants, but also within participants at the day level. This is particularly important for LGBTQIA+ employees given that disclosure of one's sexual or gender identity, which is commonly the basis for discrimination in the workplace (Newheiser, et al., 2017; Rengers, et al., 2021) is a continuum rather than a dichotomy (Rengers, et al., 2021). That is, disclosure of one's sexual or gender identity is a selective process, whereby employees may disclose to some colleagues, but not others. Thus, depending on who an employee works with at given times, engagement is likely to fluctuate if indeed it is found that the possession of the psychological conditions is influenced by supportive or hostile workplace climates.

Hypothesis 1*: Daily a) Psychological meaningfulness, b) psychological availability, and c) psychological safety has a positive direct effect on work engagement of LGBTQIA+ employees*.

Daily psychological meaningfulness, psychological availability, psychological safety, work engagement and overall mental health

Levels of engagement in the workplace have been linked to how employees perceive and experience aspects of their life beyond work, commonly referred to as psychological wellbeing. For instance, in a sample of health care workers, Shuck and Reio (2013) investigated whether engagement moderated the relationship between workplace climate and emotional exhaustion, depersonalisation, psychological wellbeing, and personal accomplishment. It was found that employees with high levels of engagement exhibited higher overall psychological wellbeing, while employees who had low levels of engagement experienced exhaustion and depersonalisation. Further, Roiguez-Muñoz et al. (2014) found that engaged employees experience a spill-over effect of daily happiness in their lives as a result of engagement in the workplace (Roiguez-Muñoz et al., 2014). Similarly, in a longitudinal design, Shimazu et al.

(2015) found that engagement predicted future wellbeing, as indicated by psychological health and high job satisfaction following a two-year interval.

While psychological wellbeing is an important outcome to measure, it is also important to examine clinical mental health problems that may arise in the workplace. Specifically, depression and anxiety are common mental health diagnoses that are found to arise as psychological outcomes in Australian organisations (Black Dog Institute, 2016). Depression is characterised by the World Health Organisation (2023) as persistent sadness, a lack of interest or pleasure in enjoyable activities, and disruptions with sleep, appetite, tiredness, and poor concentration. Anxiety is characterised by persistent and excessive worry, often about daily situations, such as family, life, or work that is difficult to control (Australian Psychological Society, 2021). There is limited research that investigates the workplace antecedents of these outcomes and thus it is critical address these specifically.

Given the established relationship between psychological meaningfulness, psychological availability, psychological safety, and work engagement and between work engagement and psychological wellbeing, it is important to understand how these relationships interact together. We also know very little about how these relationships manifest for LGBTQIA+ employees. As stated, given the evidence of poor mental health outcomes for LGBTQIA+ employees, it is imperative to determine the potential buffering effects of these positive workplace factors on overall clinical mental health outcomes especially because they find it more difficult to fully experience meaningfulness, availability, and safety at work due to ongoing discrimination and hostile interactions at work. To fill these gaps, this research measures anxiety and depression over the period of five days to capture these variations and demonstrate not only overall mental health, but also work-related mental health among LGBTQIA+ employees. The rationale for a five-day investigation stems from previous research (see Bakker, 2014 and Sanz-Vergel & Rodriguez-Munoz, 2013) that have found within person daily fluctuations on variables including engagement, wellbeing, and mental health.

Hypothesis 2*: Daily a) psychological meaningfulness, b) psychological safety, c) psychological availability and d) work engagement has a negative direct effect on depression.*

Hypothesis 3*: Daily a) psychological meaningfulness, b) psychological safety, c) psychological availability and d) work engagement has a negative direct effect on anxiety.*

Method

Procedure

Ethics approval was obtained from the Navitas Human Research Committee (Approval number: 749090721). Advertisements that were placed on Facebook and Instagram included a link to the expression of interest form, which was hosted by the online data collection software, Qualtrics (https://www.qualtrics.com). Students recruited from the Australian College of Applied Psychology accessed the same link via their online student research platform. The expression of interest survey included information about the study, including what was required of them if they chose to participate. Upon consenting to participation, by indicating 'yes' to the question, 'I consent to participate in this study', participants were sent the link to the first of five surveys on the next coming Monday at 5pm. On Tuesday, Wednesday, Thursday, and Friday, participants were sent the relevant links for the four remaining surveys. Each time participants were sent a link via email they were provided with a link to opt out if they chose to. Each of the surveys also included a psychological services sheet and a debriefing statement at the end. Participants from the general public were also given the option to go in the prize draw at the conclusion of the fifth survey.

Participants

Participants were $N = 27$ ($N = 135$ observations) members of the general public and students enrolled in first-year psychology units at a higher education institution, holding employment. Female participants constituted 48.1% ($N = 13$) of the sample, 22.2% ($N = 6$) were male, 11.1% ($N = 3$) were non-binary, 11.1% ($N = 3$) were transgender, and 7.4% ($N = 2$) were genderqueer. Participants identifying as gay constituted 33.3% ($N = 9$) of the sample, 7.4% ($N = 2$) identified as lesbian, 40.7% ($N = 11$) identified as bisexual, and 18.5% ($N = 5$) identified as pansexual. Participants were eligible to participate if they were over 18 years of age, identified as LGBTQIA+, were proficient in English, and had held the same job for at least one year. Participants from the general public were recruited through convenience sampling via Facebook and Instagram and were offered the opportunity to go in the draw to win a gift voucher. Given participant numbers, this provided them with a one in 5.4% chance of winning.

The data from the participants recruited from the higher education institution were managed through an online student research platform. Participation was voluntary and consent was obtained prior to commencement of the questionnaire each day. The intended sample size of 50 was chosen based on the rationale that for a day level design, a sample size smaller than 30 may lead to biased results and thus, an increased sample size at the person level has been demonstrated to have a greater impact than increasing sample size at a day level and increases the likelihood of generalisability (Scherbaum & Ferreter 2009). Additionally, multilevel modelling requires a sample size of at least 30 to provide sufficient statistical power (Maas & Hox, 2004).

Measuring Instruments

The five-day study and an initial expression of interest survey were hosted by Qualtrics (https://www.qualtrics.com). The expression of interest survey consisted of a demographic survey and an option to consent or not consent to participate. The first of five surveys consisted of six self-report tests and the remaining four surveys consisted of five self-report tests. All scales were adapted to gauge the participants experience on the day rather than over a longer period. For instance, 'Today at work, I felt busting with energy'.

Demographics

Participants provided their gender (open text), length of time in current work role (1-2 years, 2-3 years, 4-5 years, 5+ years), job status (full time, part time, casual, temporary, contract, other), position in the organisation (open text), whether they were self-employed (yes or no), sexual orientation (open text), and ethnic group (open text).

Control Variables

A workplace climate measure was used to determine the environment in which the participants worked and whether they felt supported or not. The lesbian, gay, bisexual, and transgendered climate inventory (LGBTCI; Liddle et al., 2004) was adopted for this purpose and was administered once. We also controlled for the effects of job status.

Lesbian, Gay, Bisexual, and Transgendered Climate Inventory

The LGBTCI is a 20-item self-report measure that assesses the atmosphere of a workplace in terms of the degree of supportiveness and hostility evident in the workplace (Liddle et al., 2004). The items are scored on a 4-point Likert scale from 1 (doesn't describe at all) to 5 (describes extremely well) (Chronbach's $\alpha = .96$). Twelve items are positively geared, for example, "LGBT people consider is a comfortable place to work" and the remaining eight

are negatively geared, for example, "employees are expected to not act too gay" and are reverse scored. Total scores range from 20 to 80, with low scores indicating a hostile work climate and high scores indicating a supportive work climate. The scores from this questionnaire were used to establish a measure of supportiveness (high scores) and hostility (low scores).

The Depression, Anxiety, and Stress Scale

The Depression, Anxiety, and Stress Scale (DASS-21; Lovibond & Lovibond, 1995) is a 21-item self-report screening measure that assesses the emotional states, depression, anxiety, and stress. The items are scored on a 4-point Likert scale measuring the frequency or severity of participants' experiences from the day (Chronbach's α ranging from .92-.95). The scale ranges from 0 (did not apply to me at all) to 3 (applied to me very much, or most of the time). Example items include, 'I found it difficult to relax' and 'I felt down-hearted and blue'.

The Utrecht Work Engagement Scale

The Utrecht Work Engagement Scale (UWES; Schaufeli et al., 2006) is a 17-item measure which has been validated using Australian samples used to assess engagement. It includes three subscales: vigour (Chronbach's α =.82), dedication (Chronbach's α =.89), and absorption (Chronbach's α =.83). The items are scored on a 6-point Likert scale measuring the frequency of experiences from 1 (Almost never) to 6 (Always). Example items include, 'today, I was immersed in my work' and 'today, I was proud of the work that I did'.

Psychological Meaningfulness, Psychological Availability and Psychological Safety Scale

The Psychological Meaningfulness (Spreitzer, 1995; May, 2003), Psychological Availability (May et al., 2004), and Psychological Safety (May et al., 2004) Scale is a 14-item self-report measure used to assess the degree of psychological meaningfulness (Chronbach's α = .90), psychological availability (Chronbach's α =.85) and psychological safety (Chronbach's α =.71) one experiences at work. The items are scored on a 5-point Likert scale ranges from 1 (strongly disagree) to 5 (strongly agree). The psychological meaningfulness scale consists of six items, example items include, 'today, my job activities were personally meaningful to me' and today, my job activities were significant to me. The psychological availability scale consists of five items, example items include, 'today I was confident in my ability to think clearly at work' and 'today, I was confident in my ability to display the appropriate emotions at work'. The psychological safety scale consists of three items, one is positively geared and two are negatively geared, example items include, 'today, I was not afraid to be myself at work' and 'today, there was a threatening environment at work'.

Statistical Analysis

Assumption tests for multilevel regression analysis were performed using SPSS, including the linearity of relationships, normality, homoscedasticity, and normal residual errors, as suggested by Field (2013). Descriptive statistics were also analysed for each of the scales used, including, means, standard deviations, correlations, skewness, kurtosis, and reliabilities. The Multilevel Mediational Analysis was then conducted using the *R* statistical programme (version 3.1.3, R Core Team, 2015, Culpepper & Aguinis 2011), specifically the *psych* (Revelle, 2016) statistical package, *nlme* (Pinheiro, et al., 2016), *lme4* (Bates, et al., 2015) and the PROCESS mediate statistical packages were used. Analyses were conducted at the between person level and the within person level. Day-level data (level 1: within-persons) was nested within the person (level 2: between persons). Both an intercept-only (Null model) and intercept-slope (Hypothesised) model were adopted for each analysis with the slope model

allowing for daily-level variation of the relationships. To determine if daily-level variation was evident, Log Liklihood (LogLik) scores, variance, a chi-square difference test, the Akaike Information Criterion (AIC), and the Bayesian Information Criterion (BIC) were applied. Additionally, the interclass correlation coefficients (ICC's) were determined for each variable.

Results

Preliminary Analysis

The assumptions of linearity and normality were met with all predictor variables on the outcome variables. Homogeneity of variance was met for all the variables, except for psychological safety and depression and anxiety, psychological availability and depression, and psychological availability and depression and anxiety. However, the sample size is equal for each of the outcome variables which means that homogeneity of variance is not needed (Field, 2013). The residuals of the model were also normally distributed and there was no evidence of multicollinearity, with all VIFs <10.

Descriptive Statistics

The means, standard deviations, reliabilities, and correlations among the observed study variables are included in Table 1 in addition to the ICC values for each variable. The ICC values ranged between .53 and .76, showing sufficient support for variance in the variables across days and confirming that multilevel regression was appropriate for the analysis (Zhang & Wang, 2022). Based on comparison of the fit statistics, the hypothesised model, that is, the intercept and slope model, fit the data best. Using a growth curve analysis to determine how the variables varied across days, our results showed psychological meaningfulness fluctuated over the five days (γ = -.89; $p < 0.05$), psychological safety remained relatively stable (γ = -.05; $p > 0.05$), psychological availability fluctuated over the five days (γ = -.95; $p < 0.05$), work engagement fluctuated over the five days (γ = -1.21; $p < 0.001$), anxiety (state) fluctuated over five days (γ = -.67; $p < 0.05$) and while depression did not vary much over the five days (γ = .04; $p > 0.05$).

Table 1

Descriptive Statistics, Interclass Correlation Coefficients and Correlation Coefficients

	M	*SD*	ICC	1	2	3	4	5	6
1. Meaning	3.46	1.20	.66	-					
2. Availability	3.70	0.77	.45	.47*	-				
3. Safety	3.79	0.83	.70	.14	.43*	-			
4. Depression	8.65	8.09	.76	.01	.39*	-.26*	-		
5. Anxiety	7.08	7.51	.53	.06	.32*	-.48*	.63*	-	
6. Work Engagement	68.07	11.34	.55	.77*	.62*	.24*	.03	.05	
7. Workplace Climate				.06	.33*	.60*	-.28*	-.59	.25*

The variables that were significantly correlated were psychological meaning and psychological availability (r = .47, $p < .05$) psychological meaning and work engagement (r = .77, $p < .05$), psychological availability and psychological safety (r = .43, $p < .05$), psychological availability and depression (r = .39, $p < .05$) psychological availability and anxiety (r = .32, $p < .05$), psychological availability and work engagement (r = .62, $p < .05$), psychological availability and workplace climate (r = .33, $p < .05$), psychological safety and depression (r = -.26, $p < .05$), psychological safety and anxiety (r = .48, $p < .05$),

psychological safety and work engagement (r = .24, p < .05), psychological safety and workplace climate (r = .60, p < .05) and work engagement and workplace climate (r = .25, p < .05). While, work engagement and psychological meaning were highly correlated (r = .77), Tabachnick and Fidell (2014) note that variables should only be considered redundant if the correlation is above .90.

Hypothesis Testing

Hypothesis 1 stated that daily a) psychological availability, b) psychological safety, and c) psychological meaningfulness has a positive direct effect on work engagement. The results in Table 2 demonstrate that while controlling for workplace climate and job status, daily psychological availability (γ = .18; p < 0.001; R^2 = 0.16), psychological meaningfulness (γ = .60; p < 0.001; R^2 = 0.49) and psychological safety (γ = -.89; p < 0.05) were positively related to daily work engagement. There was no significant direct effect of workplace culture and job status on work engagement. Thus, the results provide support for hypothesis 1a, 1b, and 1c.

Table 2

Weekly Psychological Conditions predicts weekly Work Engagement

	Null Model (Intercept only) (fixed model		Model 1 Hypothesized model (Intercept and slope) (Random effects)	
Variable	Estimate	*SE*	Estimate	*SE*
Intercept (person-job fit)	3.36	0.92	3.31	0.06
Control: Work Culture			-0.05	0.01
Control: Job Status			0.23	0.17
Psychological meaningfulness			0.60**	0.08
Psychological availability			0.18**	0.08
Psychological safety			0.17*	0.08
-2 x log (deviance)		222.00		204.1
Δ - 2 log				17.90*
Df		7		9
AIC		276.10		236.00
BIC		380.70		256.34
Variance				
Between-person				
Random intercept variance		0.42		
Random slope variance				0.22

Within-person				
Residual variance	0.22	0.46	0.18	0.40

Note. AIC, Akaike information criterion; BIC, Bayesian information criterion **p < .001, *p < .05. Chi-square difference test *p < 0.05

Hypothesis 2 stated that daily a) psychological meaningfulness, b) psychological availability, c) psychological safety and d) work engagement has a negative direct effect on depression. We controlled for the effects of workplace culture and job status. Neither had significant direct effects on depression. The results in Table 3 demonstrate a direct effect of daily psychological meaningfulness on depression while controlling for workplace climate and job status (γ =-0.91; $p < .001$; $R^2 = 0.33$). Further, while controlling for workplace climate and job status, daily psychological availability (γ = -1.76; $p < .001$; $R^2 = 0.24$) had a negative direct effect on depression. However, there was no significant relationship between psychological safety (γ = -0.97; $p > .05$) and depression, nor work engagement (γ = 1.12; $p > .05$) and depression (γ = -.176; $p < .001$).

Hypothesis 3 stated that while controlling for workplace climate, daily a) psychological meaningfulness, b) psychological availability, and c) psychological safety has a negative indirect effect on anxiety through work engagement. We controlled for the effects of workplace climate and job status. Workplace culture (γ = -.89; $p < 0.05$) and job status (Part time: γ = -6.67; $p < 0.001$; Full time: γ = -4.08; $p < 0.001$) had a significant direct effect on anxiety. The results in Table 3 show that while controlling for workplace climate and job status, psychological safety (γ = -1.80; $p < .001$; $R^2 = 0.64$) negatively predicted anxiety. There was no direct relationship between psychological meaningfulness (γ = -0.79; $p > .05$) and anxiety, nor psychological availability (γ = 0.29; $p > .05$) and anxiety, nor work engagement (γ = 1.03; $p > .05$) and anxiety while controlling for workplace climate and job status. Daily psychological meaningfulness indirectly affected anxiety through work engagement (95% CI = [0.382; 0.740]; $p < 0.001$; Estimate = 0.555). The results provide support for hypothesis 3b.

Table 3

Weekly Psychological Conditions, Work Engagement and Mental Health

	Null Model (Intercept only)		**Model 1 (Intercept and slope)**	
Variable	Estimate	*SE*	Estimate	*SE*
	Psych conditions → Work engagement → Depression			
Intercept	4.78	2.94	21.682	1.19
Control: Work culture			-0.11	0.08
Control: Job Status			FT: 5.86* | PT: 5.10	FT: 2.31 | PT: 5.10
Psychological meaningfulness			-0.91**	0.84
Psychological availability			-1.76**	0.74
Psychological safety			-0.97	0.67
Work engagement			1.21	0.92
-2 x log		803.97		794.80

Δ - 2 log				9.17*
df		8		22
AIC		838.78		819.97
BIC		902.03		843.04
Variance				
Between-person				
Random intercept variance		6.39		
Random slope variance				5.36
Within-person				
Residual variance	15.06	3.87	13.37	3.29

Note. AIC; Akaike information criterion; BIC, Bayesian information criterion; **p < .001.

	Null Model (Intercept only)		**Null Model (Intercept only)**	
	Estimate	*SE*	Estimate	*SE*
	Psychological conditions → Work engagement → Anxiety			
Intercept	3.62	2.88	10.09	0.28
Control: Work culture			-0.44**	0.07
Control: Job Status			FT: 4.08* | PT: 6.77*	FT: 1.7 | PT: 2.17
Psychological meaningfulness			-0.79	0.96
Psychological availability			0.29	0.64
Psychological safety			-1.80**	0.78
Work engagement			1.03	0.92
-2 x log		819.12		800.38
Δ - 2 log				18.74*
df		8		22
AIC		844.38		835.12
BIC		908.30		858.36
Variance				
Between-person				
Random intercept variance		5.66		
Random slope variance				10.04
Within-person				
Residual variance	15.59	3.94	9.52	3.08

Note. AIC; Akaike information criterion; BIC, Bayesian information criterion; **p < .001.

Discussion

Given the gaps in the current literature, the aim of this research was to examine how psychological meaningfulness, psychological availability, and psychological safety directly relate to work engagement with LGBTQIA+ employees. Further, it aimed to investigate the relationship between psychological meaningfulness, psychological availability, and psychological safety and work engagement on overall psychological wellbeing over time. These findings are discussed in the sections that follow.

Daily psychological meaningfulness, psychological availability, psychological safety, and engagement

The results of the study confirm that daily psychological meaningfulness and psychological availability positively relate to work engagement for LGBTQIA+ employees. However, psychological safety does not. That is, when LGBTQIA+ employees feel they are receiving rewards because of their physical, cognitive, or emotional investments in their work (psychological meaningfulness) they are likely to feel engaged in their work. Further, when they feel that they have the physical, emotional, and psychological resources needed for investment and preparedness in role tasks (psychological availability), engagement in work is facilitated. This finding lends partial support for Kahn's (1990) theory of employee engagement and extends it further by demonstrating its application to LGBTQIA+ employees. Additionally, fluctuations in levels of work engagement were examined among LGBTQIA+ employees demonstrating support for Geldenhuys and Łaba (2018) and Bailey and Madden (2016) who confirmed the episodic nature of engagement in the workplace suggested by Kahn.

The unexpected result that psychological safety does not relate to engagement may indicate that LGBTQIA+ employees do not feel as though they can show and employ themselves in the absence of fear of negative consequences to self-image, status, or career to the degree to foster engagement. Given that workplace climate was controlled for and not significant, the hypothesis could not be explained by a hostile work environment that presents these threats. However, only 33% of participants reported having disclosed their sexual or gender identity to everyone or mostly everyone at work. Kahn (1990) suggests that psychological safety is facilitated by employees staying within the bounds of acceptable behaviour at work. This may suggest that rather than external factors, such as discrimination in the workplace, perhaps the risk of not staying within the boundaries of acceptable behaviour is sufficient to impede the fulfilment of psychological safety and thus, work engagement. Indeed, Newheiser et al. (2017) suggest that concealing one's identity is a common management strategy whose primary value is to protect themselves against devaluation.

It is also important to note that previous research investigating the relationship between psychological safety and work engagement had a weak relationship. For instance, Olivier and Rothmann (2007) found that psychological safety was a weak predictor of engagement compared to psychological meaningfulness and psychological availability.

Daily psychological meaningfulness, psychological availability, psychological safety, work engagement, and mental health

The results of this study found that there was a direct negative relationship between psychological meaningfulness and depression through work engagement. This finding suggests that when employees experience high levels of or continuing reward for the cognitive, physical, and emotional investment in their work daily and when they are engaged in their work depressive symptoms may reduce. When employees feel the fulfilment of physical, emotional, and psychological resources needed for investment in role tasks and engagement is harnessed,

depressive symptoms may reduce. Psychological safety did not influence engagement or depression, which may be explained by the aforementioned rationale.

There was a direct negative relationship between psychological meaningfulness and work engagement respectively, and anxiety. Thus, when employees feel as though they are being rewarded for their cognitive, physical, and emotional investments in their work, engagement improves, and anxiety symptoms may reduce. The results also indicate that while controlling for workplace climate and job status, there was a direct negative relationship between psychological safety and anxiety. That is, when employees feel as though they can be themselves at work without fearing negative consequences and work within a supportive work environment, their anxiety may reduce regardless of whether engagement is present or not. The results further showed that a supportive workplace climate, characterised by organisation-wide policy prohibiting discrimination based on sexual orientation, inclusion of sexual orientation in company diversity statements or diversity trainings, sexual minority resource-support groups, public support of LGBTQIA+ issues, and a general sense of acceptance (Holman, 2019), decreased anxiety among LGBTQIA+ employees. Interestingly, there was also a direct negative relationship between job status as a control on anxiety. Specifically, anxiety reduced when employees were engaged on either or full time or part time basis.

These findings provide support for Shuck and Reio (2013) who found that employees with high levels of engagement exhibited higher overall psychological wellbeing and Shimazu et al. (2014) who found that engagement predicted future wellbeing, as indicated by low ill-health and high job satisfaction. Further, the current results extend on the research literature by illustrating additional factors relevant to the experience of good mental health in the workplace. That is, the role of psychological meaningfulness and psychological availability in improving work engagement and subsequently buffering the incidence of mental-ill health. While psychological safety was not found to relate to engagement, it was found to directly buffer against anxiety, suggesting that it is remains imperative to consider as a factor to foster in organisations.

Limitations and Recommendations for Future Research

Although we were able to collect important information about the positive workplace experiences of LGBTQIA+ employees, this research was not without any limitations. Firstly, the sample size was small, which may have generated bias in the results and places limits on its generalisability. Given that LGBTQIA+ individuals make up about 3-4% of the overall population (Carman, et al., 2020), it was difficult to recruit more participants. However, this study does offer preliminary findings that illuminate the need for further research that targets larger samples in this area. Secondly, we reported that daily experience of positive psychological conditions can lead to better engagement and reduced mental health concerns, however, it is necessary to determine these relationships over extended time frames, e.g., over months. Future research should also endeavour to extend on the current findings by conducting an in-depth analysis of workplace climate and its possible moderating effect on engagement and mental health to further understand its influence on LGBTQIA+ employees. Finally, given the scope of this study, we did not collect demographic data that indicated whether employers worked remotely to determine any impact this may have had on the targeted variables. This would be a useful endeavour for future research.

Practical Implications and Contribution of the Study

The relationship between psychological meaningfulness, psychological availability, and psychological safety and engagement has important implications for organisations and employees. In applying this model to employees from the LGBTQIA+ community, further

insight is gained that suggests that organisation s should facilitate psychological meaningfulness and psychological availability in the workplace so that engagement can be harnessed. It also suggests that organisations should endeavour to understand what psychological safety means to LGBTQIA+ employees and the factors needed for them to feel psychologically safe and further enhance engagement.

The relationship between psychological meaningfulness, psychological availability, and psychological safety, engagement, and mental health among LGBTQIA+ employees also has critical implications for organisations. Organisations can use these findings as a guide to develop programs, training, and supervision to target the facilitation of the psychological conditions, which are likely to lead to engagement and buffer against adverse mental health outcomes. Furthermore, these findings may provide insight to LGBTQIA+ employees by encouraging them to reflect on their mental health and potentially identify psychological conditions that may be lacking in their workplace.

The critical finding of workplace climate and its influence on anxiety illuminates the necessity to implement culturally responsive training, beyond a tokenistic effort to facilitate a supportive and inclusive workplace culture and to buffer against ill-mental health and promote good mental health.

Conclusion

The current study demonstrated that psychological availability and psychological meaningfulness fostered work engagement among LGBTQIA+ employees across time. Further, results of multilevel regression found that adverse mental health can be buffered by psychological meaningfulness and psychological availability in their facilitation of engagement. Lastly, psychological safety reduces anxiety when employees work within a supportive environment.

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