

Distal Gender Minority Stress and Psychological Well-Being Among Transgender and Gender-Nonconforming Adults: The Mediating Role of Psychological Flexibility

Stela G. Ivanova (7687974)

Department of Clinical Psychology, Utrecht University

201500819: Master Thesis

Supervisor: Dr. Michaela Schok

April 15, 2022

Abstract

On top of general life stress, transgender and gender non-conforming (TGNC) people experience gender minority stress (GMS), contributing to mental health disparities in this population. Using an international sample of 73 self-identified TGNC adults, the present study aimed to examine whether psychological flexibility (PF) mediates the association between experiences of external prejudice events (i.e., distal GMS) and psychological well-being. Mediation analysis was performed to test the hypothesized relations using Model 4 of the PROCESS macro tool in SPSS. Results indicated that distal GMS was negatively related to psychological well-being and PF, whereas PF was positively related to psychological well-being. Notably, the mediation analysis demonstrated that PF significantly mediates the relationship between distal GMS and psychological well-being. The findings highlight that prevention and treatment strategies for improving PF may possibly protect the mental health and well-being of TGNC adults against the actual experiences of GMS.

Keywords: transgender, gender-nonconforming, mental health, distal GMS, psychological flexibility, psychological well-being

Distal Gender Minority Stress and Psychological Well-Being Among Transgender and Gender-Nonconforming Adults: The Mediating Role of Psychological Flexibility

The past decade has seen a surge in research on gender minorities (Hendricks & Testa, 2012; Valentine & Shipherd, 2018), which have been found to experience disproportionately higher rates of psychological distress and poor mental health outcomes (e.g., anxiety, depression, substance use, and suicidality) than the general population (Lefevor et al., 2019). The term *transgender and gender non-conforming* (TGNC) will be used throughout this paper as it is used in the academic literature to describe the diverse group of individuals whose gender identity or expression differs from their sex assigned at birth (e.g., male, female) or who feel that they exist between or outside the socially constructed binary notions of gender (e.g., man, woman; American Psychological Association [APA], 2015a).

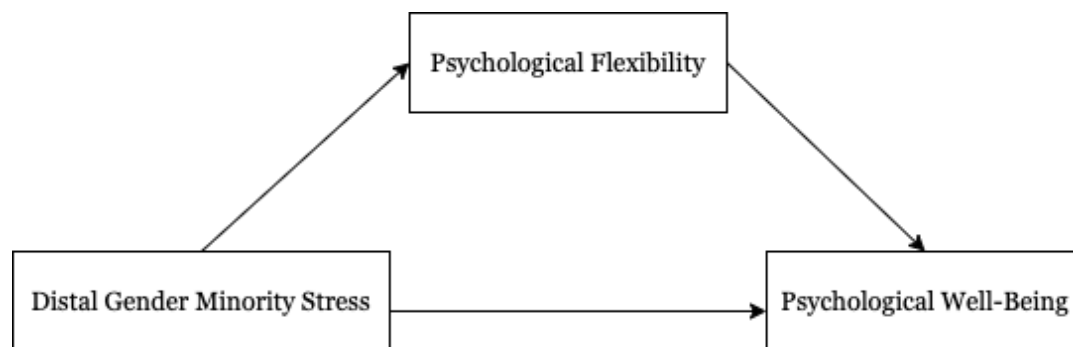
The predominant theoretical explanation for the mental health concerns among TGNC individuals is Hendricks and Testa's (2012) Gender Minority Stress (GMS) model; an adaptation of Meyer's Minority Stress Theory (2003, as cited in Valentine & Shipherd, 2018), originally proposed as a conceptual framework for the health disparities observed in sexual minorities (e.g., lesbian, gay, and bisexual [LGB] people). The GMS model postulates that, in addition to general life stressors, TGNC people experience unique, chronic stressful events explicitly or implicitly based on their gender minority status (Hendricks & Testa, 2012). Specifically, the model proposes four types of distal (external) stressors (viz., gender-related discrimination, rejection, victimization, identity non-affirmation) as an initial starting point, from which three types of proximal (internal) stressors can follow (viz., internalized transphobia, negative expectations for future events, nondisclosure), and thus, yielding disproportionate negative mental health outcomes (Testa et al., 2015). Furthermore, the model suggests that distal GMS (i.e., direct experiences of prejudice events) can directly account for the experience of psychological distress (Testa et al., 2015).

Despite the growing public awareness and social acceptance of gender diversity, people who do not fit the stereotypical (general) perception of gender shaped by sociocultural norms continue to be confronted pervasively with prejudice events, highlighting the need for an understanding of factors that alleviate and protect the mental health and well-being of TGNC populations (Lefevor et al., 2019; Valentine & Shipherd, 2018). A promising approach to understanding the link between distal GMS and psychological well-being would be through the lens of Hatzenbuehler's Psychological Mediation Framework (2009, as cited in Scandurra et al., 2018), which posits that, apart from proximal stressors, general psychological processes can also be mediators of this relationship. Therefore, from the theoretical perspective of Acceptance and Commitment Therapy (ACT), one potential strategy to buffer the association between stress and well-being is to improve psychological flexibility (Gloster et al., 2017; Hayes et al., 2012).

Psychological flexibility (PF) is defined as the ability to remain in the present moment with full awareness and openness to one's internal and external experiences while simultaneously choosing to act in a manner that is consistent with one's chosen values (Hayes et al., 2012). In particular, the PF model underlying ACT consists of six core interrelated psychological processes responsible for human functioning and collectively contributing to human adaptability: (1) acceptance (i.e., ability to accept what cannot be changed), (2) defusion (i.e., ability to separate or detach from one's thoughts), (3) contact with the present moment (e.g., the ability to continuously attend to the here and now instead of thinking about the past or the future), (4) self-as-context (i.e., ability to connect with the self on a deeper level through observing one's internal experiences), (5) chosen values (i.e., ability to connect with what brings a sense of meaning and purpose to one's life), and (6) committed action (i.e., ability to act in accordance with chosen values; see Hayes et al., 2012, for more).

Given the little literature available on possible protective factors and strategies for eliminating or reducing the deleterious effects of GMS among TGNC populations (e.g., Doyle et al., 2021; Gorman et al., 2020), there also appears to be a dearth of studies specific to the application of PF in this context. To the author's knowledge, the first investigation into these relations amongst TGNC people is a longitudinal study, which found evidence of the mediating effects of psychological inflexibility on the relationship of GMS with psychological distress (e.g., depression, anxiety, and stress; Lloyd et al., 2019). Unfortunately, this study did not consider other specific forms of distal GMS apart from gender-related discrimination. Following these findings (Lloyd et al., 2019), more recent evidence also supported the buffering effect of PF on the association between GMS and life satisfaction; however, this cross-sectional study only considered proximal minority stressors related to gender (viz., internalized transphobia and nondisclosure; Flynn & Bhambhani, 2021). Although these studies give some useful information, additional empirical research is required to understand the role of PF in explaining how direct experiences of prejudice events relate to psychological well-being in TGNC people.

The current study aims to extend current knowledge of psychological flexibility (PF) as a promoting factor of psychological well-being in an international sample of self-identified TGNC adults experiencing distal gender minority stress (GMS; as conceptualized by Testa et al., 2015). Specifically, the present study hypothesized that there would be a negative association between experiences of distal GMS and psychological well-being and that this relationship would be mediated by PF (see Figure 1).

Figure 1*Conceptual Diagram of Hypothesized Mediation Model*

Methods

Research Design

This cross-sectional study was designed to examine whether psychological flexibility (PF) mediates the relationship between distal gender minority stress (GMS) and psychological well-being among transgender and gender non-conforming (TGNC) adults. The current study is one of five research studies that resulted from the master's thesis project: "Tracking psychological flexibility with the Psy-Flex: Examining correlations with gender, depression, trauma, and academic procrastination in target populations using mixed methods." This master's thesis project was approved by the Ethical Review Board of the Faculty of Social and Behavioral Sciences of Utrecht University (approval number: 21-2344; date of approval: December 28, 2021; see Appendix A). Subsequently, this research project was conducted online by the author and four other students under the supervision of Dr. Michaela Schok at the Clinical Psychology Department of Utrecht University.

Participants

Participants were recruited as a convenience sample through online advertisements on social networking venues (e.g., Reddit, LinkedIn, and Instagram) and the SONA systems (i.e., Social and Behavioral Sciences research participation system) of Utrecht University.

Additionally, to increase the gender diversity of the overall sample, the author posted recruitment messages on TGNC-specific Facebook groups after obtaining permission from the group moderators (see Appendix B). Participants recruited through the SONA systems were awarded partial study credits upon completing our survey, while the remaining participants were not compensated for their time. Participation was voluntary and confidential.

From January 6 to January 27, 2022, a total of 376 individuals responded to our anonymous online survey. Inclusion criteria for the current study were as follows: (1) self-identified as TGNC, (2) aged 18 years or above, and (3) provision of informed consent. Data of respondents in the following conditions were removed from the dataset: (a) refused to participate ($n = 2$), (b) aged below 18 ($n = 1$), (c) provided only informed consent ($n = 29$), and (d) self-identified as a cisgender man ($n = 68$) or woman ($n = 155$). Not all respondents answered every survey questionnaire, possibly due to the force-response answer format of the survey. Hence, participants with scale-level missing values on the distal GMS, PF, and psychological well-being measures were also excluded from the sample frame ($n = 48$). As a result, the final sample consisted of 73 participants, with a median age of 28 years ($M = 31.3$, $SD = 12.7$), ranging from 18 to 84. The majority of the participants were assigned female at birth, currently self-identified as genderqueer/non-binary, and were either American or British. Only five respondents selected “other” and used the write-in option for current gender identity or expression. Specifically, one participant identified as transmasculine non-binary, another as agender, the third as bi-gender, the fourth as demiboy, and the final one typed in several gender identities (viz., non-binary and agender). Table 1 shows a detailed overview of the sample’s demographic characteristics.

Table 1*Sample Demographic Characteristics*

Variable	<i>n</i>	%
Sex assigned at birth		
Male	22	30.1
Female	50	68.5
Intersex	0	0
Prefer not to say	1	1.4
Current gender identity		
Transgender man	10	13.7
Transgender woman	11	15.1
Genderqueer/Non-binary	27	37
Genderfluid	20	27.4
Other, please specify	5	6.8
Nationality		
Austria	1	1.4
Belgium	1	1.4
Bulgaria	2	2.7
Canada	2	2.7
Germany	1	1.4
Israel	2	2.7
Netherlands	3	4.1
New Zealand	1	1.4
Portugal	1	1.4
Sweden	1	1.4
United Kingdom	24	32.9
United States	34	46.6

Measures

An online cross-sectional survey was developed and administered with Qualtrics, a web-based survey platform. The survey consisted of four sections: (1) information letter and

informed consent form (see Appendices C and D), (2) demographic questionnaire, (3) mental health-related measures, and (4) invitation to voluntarily participate in an intervention and/or interview of choice. Because this study focuses solely on GMS, PF, and psychological well-being, only the related measures are presented here.

Demographic Questionnaire

Participants answered questions describing their age in years, nationality, sex, and gender. The generally accepted use of the term sex refers to an individual's biological status (e.g., chromosomes, physical anatomy), whereas gender refers to the sociocultural traits based on the individual's biological sex (e.g., behaviors, roles) and thus, gender identity relates to the subjective feeling of belonging to a gender that may or may not be discordant with the individual's sex assigned at birth (APA, 2015b). Therefore, respondents whose sex assigned at birth did not align with their current gender identity were classified as TGNC. The two-step question method was applied to capture the respondents' sex assigned at birth and current gender identity (Deutsch et al., 2013). Specifically, response options for sex assigned at birth were as follows: 1 (*male*), 2 (*female*), 3 (*intersex*), 4 (*I prefer not to say*); while for current gender identity: 1 (*man*), 2 (*woman*), 3 (*genderqueer/non-binary*), 4 (*genderfluid*), 5 (*Other, please specify*), 6 (*I prefer not to say*).

Distal Gender Minority Stress

The Gender Minority Stress and Resilience (GMSR) is a validated 56-item self-report questionnaire designed to assess nine constructs related to GMS and resilience factors in TGNC people (viz., gender-related discrimination [D], gender-related rejection [R], gender-related victimization [V], non-affirmation of gender identity [NA], internalized transphobia, negative expectations for future events, nondisclosure, community connectedness, and pride; Testa et al., 2015). In the current study, only the D, R, V, and NA subscales of the GMSR were used to assess the experiences of distal GMS. Items of the D (0–5; e.g., “I have

experienced difficulty getting identity documents that match my gender identity.”), R (0–6; e.g., ”I have been rejected or distanced from friends because of my gender identity or expression.”), and V (0–6; e.g., ”I have been threatened with physical harm because of my gender identity or expression.”) subscales were scored as zero if the respondent had never experienced the specific stressor and one if the respondent had experienced the stressor at any point during their lifetime. Items of the NA (0–6; e.g., ”I have to repeatedly explain my gender identity to people or correct the pronouns people use.”) subscale were scored on a 5-point Likert scale, ranging from 0 (*strongly disagree*) to 4 (*strongly agree*). Similar to previous studies (e.g., Brennan et al., 2017; Hunter et al., 2021), scores on the four subscales were summed to yield an overall distal GMS scale score, with higher total scores depicting greater levels of distal GMS. Cronbach’s alpha for the composite distal GMS scale in the current sample was .80, similarly to another study using a TGNC adult sample ($\alpha = .83$; Brennan et al., 2017).

Psychological Flexibility

Psy-Flex (Gloster et al., 2021) is a six-item contextually-sensitive self-report measure of PF. Each item assesses the presence of one of the core skills of PF in the last seven days. Items were scored on a 5-point Likert scale, ranging from 1 (*very rarely*) to 5 (*very often*). Example items include: ”If need be, I can let unpleasant thoughts and experiences happen without having to get rid of them immediately.” and ”Even if thoughts and experiences are confusing me, I can notice something like a steady core inside of me.” Responses on the items were then summed, with higher total scores indicating higher levels of PF. The Psy-Flex has evidenced good internal consistency (Raykov coefficient = .63 – .79) and discriminant validity (i.e., the ability to differentiate between clinical and non-clinical samples) of 0.32, and also significantly correlates with other measures of PF, such as the Acceptance and Action Questionnaire (AAQ-II; $r = -.71$), the Cognitive Fusion

Questionnaire (CFQ-7; $r = -.71$), and all the subscales of the Five Facets Mindfulness Questionnaire – Short Form (FFMQ-SF; Gloster et al., 2021). Although the Psy-Flex has not been validated using a TGNC sample before, it evidenced good internal consistency in the current sample ($\alpha = .86$).

Psychological Well-Being

The Mental Health Continuum – Short Form (MHC-SF; Kelley, 2002) is a widely used 14-item measure that examines the emotional, psychological, and social aspects of well-being during the past month. In the current study, only the psychological subscale of the MHC-SF was applied to capture the participants' levels of psychological well-being. Participants responded to six items on a 5-point Likert scale, ranging from 0 (*never*) to 5 (*every day*). Example items include: “During the past month, how often did you feel confident to think or express your own ideas and opinions?” and “During the past month, how often did you feel that your life has a sense of direction or meaning to it?” Responses on the items were then summed, with higher total scores indicating higher levels of psychological well-being. A previously published study using a TGNC sample showed that the psychological subscale of the MHC-SF evidenced excellent internal consistency ($\alpha = .91$; Woodrum et al., 2021). Cronbach's alpha for the MHC-SF psychological well-being subscale in this study was .81.

Data Collection

After obtaining ethical approval, data collection took place from January 6 to January 27, 2022, through distributing an anonymous link to the Qualtrics survey. By clicking on the link, potential participants were directed to the first page of the survey, where they were presented with the study description and informed consent form. Consenting participants were admitted to the survey questionnaires presented in a force-response answer format to minimize the dropout rate and thus, reduce the amount of missingness. To this point, data

collected was completely anonymous, without recording personally identifying information, including IP addresses. Upon completing the survey questionnaires, respondents were thanked for their participation and invited to enter their email addresses if they wished to voluntarily participate in an intervention and/or interview of choice. Collected data was transferred directly from Qualtrics into an SPSS file and shared with the students and supervisor of this research project.

Data Analysis

Data were analyzed using IBM SPSS Statistics for Macintosh (Version 28) with a significance level of $p = .05$. First, descriptive statistics (i.e., frequencies, percentages, means, standard deviations) of the study variables were analyzed. Second, the assumptions of regression analysis were examined. Third, mediation analysis was conducted to examine whether PF mediated the association between distal GMS and psychological well-being.

Preliminary Data Screening

First, analysis of standard residuals showed that the data contained no outliers (Std. Residual Min = -2.02 , Std. Residual Max = 2.22). Also, Cook's Distance values were all under 1, suggesting individual cases were not unduly influencing the model. Second, correlation analysis showed that distal GMS scores were significantly negatively associated with psychological well-being and PF scores, while PF scores were significantly positively associated with psychological well-being scores (see Table 2). Third, the data has met the assumptions of no multicollinearity among the predictors (GMSR Distal GMS scores, Tolerance = $.93$, VIF = 1.08 ; Psy-Flex scores, Tolerance = $.93$, VIF = 1.08). Furthermore, visual inspection of a histogram of standardized residuals revealed that the data contained approximately normally distributed errors, as did the normal probability-probability (P-P) plot of standardized residuals, which showed the data points fell very close to the diagonal line. Additionally, the Kolmogorov–Smirnov test, $D(73) = 0.081$, $p = .200$, and Shapiro-Wilk

test, $W(73) = 0.979$, $p = .276$, also demonstrated that the residuals did not deviate significantly from a normal distribution. The data also met the assumption of independent errors (Durbin-Watson value = 2.20). Last, the scatterplot of standardized residuals showed that the data met the assumptions of linearity and homogeneity of variance (i.e., homoscedasticity). The Breusch-Pagan test (0.568 , $p = .753$) and Koenker test (0.968 , $p = .616$) also indicated homoscedasticity of the data.

Table 2

Mean Scores, Standard Deviations, and Bivariate Correlations Between Mediation Variables

Variable	<i>M</i>	<i>SD</i>	1	2	3
1. GMSR Distal GMS	24.3	7.2	—		
2. Psy-Flex	20.3	5.1	-.27*	—	
3. MHC-SF Psychological well-being	15.1	6.5	-.25*	.51***	—

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

Hypothesis Testing

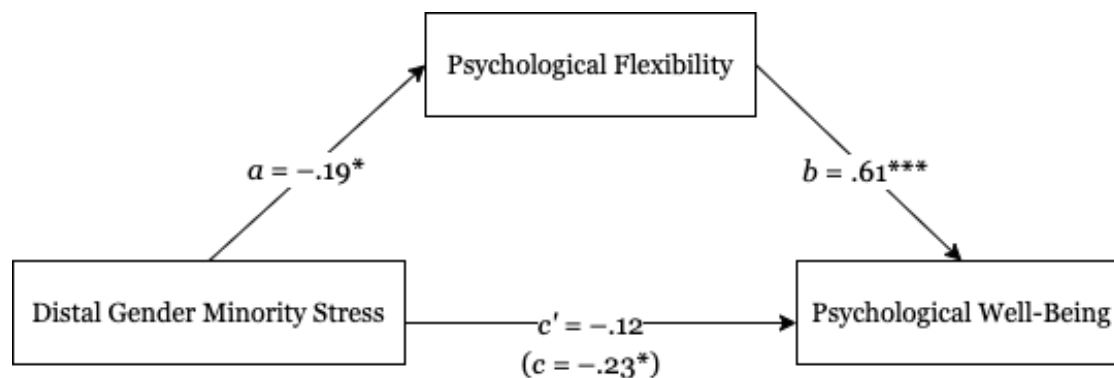
Mediation analysis was conducted with GMSR Distal GMS scale scores as the predictor variable (*X*), Psy-Flex scores as the mediator (*M*), and MHC-SF Psychological well-being subscale scores as the outcome variable (*Y*). The mediation was performed using Model 4 of the PROCESS macro tool in SPSS with 95% percentile confidence intervals for the indirect effect using 5000 bootstrap samples (Hayes, 2022). If the 95% bootstrap confidence interval did not include zero, this provided evidence that the indirect effect (i.e., the effect of distal GMS on psychological well-being through PF) was statistically significant (Hayes, 2022).

Results

Mediation analysis with distal GMS (GMSR Distal GMS scale scores) as the predictor, psychological flexibility (Psy-Flex scores) as the mediator, and psychological well-being (MHC-SF Psychological well-being subscale scores) as the outcome was carried out. The overall model explained a significant amount of the variance in psychological well-being, $R^2 = .06$, $F(1, 71) = 4.7$, $p = .034$. As predicted, the indirect effect of distal GMS on psychological well-being through PF was statistically significant, $ab = -0.12$, $BootSE = 0.06$, 95% BootCI $[-0.232, -0.009]$. However, once controlling for PF, the direct effect of distal GMS on psychological well-being was not found to be significant, $t(70) = -1.14$, $p = 0.257$. Therefore, as the direct effect was nonsignificant and closer to zero than the total effect, PF was deemed to completely mediate the statistical effect of distal GMS on psychological well-being (Hayes, 2022, p. 120). Figure 2 summarizes the results of the mediation analysis.

Figure 2

Diagram of Unstandardized Path Coefficients of the Mediation Model



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

Discussion

The current study aimed to examine the relations between distal gender minority stress (GMS), psychological flexibility (PF), and psychological well-being. Specifically, by

merging the GMS framework (Hendricks & Testa, 2012) and ACT theory (Hayes et al., 2012), this study investigated the possible mediating role of PF in the association between distal GMS and psychological well-being in a sample of self-identified transgender and gender non-conforming (TGNC) adults. As hypothesized, higher levels of distal GMS were associated with lower levels of psychological well-being in the current sample. Moreover, consistent with previous research (Lloyd et al., 2019), the results revealed that PF is a significant mediator of this negative relationship, as initially predicted. In other words, PF appears to be a pathway through which distal GMS may negatively impact psychological well-being. Specifically, experiences of external prejudice events may lead to reductions in the levels of PF, which may contribute to a decrease in its possible protective effects on psychological well-being. Therefore, these findings suggest that promoting psychological flexibility may be a promising approach to protecting and strengthening TGNC people's mental health and well-being in the face of external prejudice events.

Strengths, Limitations, and Future Directions

The current study has important strengths. First, to the author's knowledge, this is the first study to investigate the role of psychological flexibility in the context of TGNC adults experiencing distal GMS as indexed by the combined effects of the four types of external gender-related stressors identified by Testa et al. (viz., discrimination, rejection, victimization, and identity non-affirmation; 2015). Second, the obtained TGNC sample was relatively more representative as it also included gender non-binary individuals, as opposed to the majority of the studies, which often adopt the binary gender approach to exploring the experiences of gender minorities (Lefevor et al., 2019; Valentine & Shipherd, 2018). Third, this study used a newly developed measure of psychological flexibility, namely the Psy-Flex, evidenced as robust to the constraints of other widely-used measures due to its situational and temporal specifiers (Gloster et al., 2021), thus increasing confidence in the current findings.

Despite these strengths, several limitations warrant consideration. First, the hypothesized mediation model was tested in a cross-sectional dataset, limiting the ability to draw causal inferences, thus, demonstrating the need for future studies to examine these results longitudinally. Second, this study used a convenience sample of TGNC adults predominantly recruited from TGNC-specific Facebook groups, primarily based in the US and the UK, limiting the generalization of the results to the broader TGNC adult population. Furthermore, data were analyzed on the sample as a whole, and individual differences across gender identity status were not explored due to the small number of participants per subgroup. Therefore, future studies examining this mediation model in larger TGNC adult samples with greater demographic diversity are needed to determine the generalizability of these findings. Third, while the findings suggest that PF completely mediates the link between distal GMS and psychological well-being, such a claim is difficult to make (Rucker et al., 2011, as cited in Rasoolimanesh et al., 2021). For instance, previous researchers have conceptualized proximal stressors as partial mediators of the relationship between distal GMS and mental health outcomes (Testa, 2015). Hence, future researchers may wish to consider the influence of both distal and proximal gender minority stressors to fully grasp the possible protective function of PF on the psychological well-being of TGNC people.

Conclusions

Despite the above-reviewed limitations, the findings from this study add to emerging evidence of psychological flexibility as a possible mental health promoter among transgender and gender non-conforming people in times of distal gender minority stress. Moreover, this study shows that TGNC people still face societal stigma in their daily life. Hopefully, this study inspires future research on the efficacy and effectiveness of PF-related interventions aiming to prevent or reduce the detrimental effects of GMS on the TGNC population. It is crucial to note, however, that although these findings suggest that targeting psychological

flexibility in prevention and treatment may fortify TGNC people against experiences of GMS, this study also calls upon society to continuously strive towards positive change against the stigmatization and marginalization of people who do not identify with the binary notions of gender.

References

- American Psychological Association. (2015a). Guidelines for psychological practice with transgender and gender nonconforming people. *American Psychologist*, 70(9), 832–864. <http://dx.doi.org/10.1037/a0039906>
- American Psychological Association. (2015b). *Definitions Related to Sexual Orientation and Gender Diversity in APA Documents*. Retrieved March 14, 2022, from <https://www.apa.org/pi/lgbt/resources/sexuality-definitions.pdf>
- Brennan, S. L., Irwin, J., Drincic, A., Amoura, N. J., Randall, A., & Smith-Sallans, M. (2017). Relationship among gender-related stress, resilience factors, and mental health in a Midwestern US transgender and gender-nonconforming population. *International Journal of Transgenderism*, 18(4), 433–445. <https://doi.org/10.1080/15532739.2017.1365034>
- Deutsch, M. B., Green, J., Keatley, J. A., Mayer, G., Hastings, J., & Hall, A. M. (2013). Electronic medical records and the transgender patient: Recommendations from the world professional association for Transgender Health EMR working group. *Journal of the American Medical Informatics Association*, 20(4), 700–703. <https://doi.org/10.1136/amiajnl-2012-001472>
- Doyle, D. M., Begeny, C. T., Barreto, M., & Morton, T. A. (2021). Identity-related factors protect well-being against stigma for transgender and gender non-conforming people. *Archives of Sexual Behavior*, 50(7), 3191–3200. <https://doi.org/10.1007/s10508-021-02029-1>
- Gloster, A. T., Block, V. J., Klotsche, J., Villanueva, J., Rinner, M. T., Benoy, C., Walter, M., Karekla, M., & Bader, K. (2021). Psy-Flex: A contextually sensitive measure of psychological flexibility. *Journal of Contextual Behavioral Science*, 22, 13–23. <https://doi.org/10.1016/j.jcbs.2021.09.001>

- Gorman, K. R., Shipherd, J. C., Collins, K. M., Gunn, H. A., Rubin, R. O., Rood, B. A., & Pantalone, D. W. (2022). Coping, resilience, and social support among transgender and gender diverse individuals experiencing gender-related stress. *Psychology of Sexual Orientation and Gender Diversity*, 9(1), 37–48.
<https://doi.org/10.1037/sgd0000455>
- Hayes, A. F. (2022). *Introduction to Mediation, Moderation, and Conditional Process Analysis: A Regression-Based Approach* (3rd ed.). Guilford Publications.
- Hayes, S. C., Strosahl, K. D., & Wilson, K. G. (2012). *Acceptance and commitment therapy: The process and practice of mindful change* (2nd ed.). Guilford Press.
- Hendricks, M. L., & Testa, R. J. (2012). A conceptual framework for clinical work with transgender and gender nonconforming clients: An adaptation of the Minority Stress Model. *Professional Psychology: Research and Practice*, 43(5), 460–467.
<https://doi.org/10.1037/a0029597>
- Hunter, J., Butler, C., & Cooper, K. (2021). Gender minority stress in trans and gender diverse adolescents and young people. *Clinical child psychology and psychiatry*, 26(4), 1182–1195. <https://doi.org/10.1177/13591045211033187>
- Kelley, C. L. M. (2002). The mental health continuum: From languishing to flourishing in life. *Journal of Health and Social Behavior*, 43(2), 207–222.
<https://doi.org/10.2307/3090197>
- Lefevor, G. T., Boyd-Rogers, C. C., Sprague, B. M., & Janis, R. A. (2019). Health disparities between genderqueer, transgender, and cisgender individuals: An extension of minority stress theory. *Journal of Counseling Psychology*, 66(4), 385–395.
<https://doi.org/10.1037/cou0000339>
- Rasoolimanesh, S. M., Wang, M., Roldan, J. L., & Kunasekaran, P. (2021). Are we in right path for mediation analysis? Reviewing the literature and proposing robust

guidelines. *Journal of Hospitality and Tourism Management*, 48, 395–

405. <https://doi.org/10.1016/j.jhtm.2021.07.013>

Scandurra, C., Bochicchio, V., Amodeo, A. L., Esposito, C., Valerio, P., Maldonato, N. M.,

Bacchini, D., & Vitelli, R. (2018). Internalized transphobia, resilience, and mental

health: Applying the Psychological Mediation Framework to Italian transgender

individuals. *International journal of environmental research and public health*, 15(3),

508. <https://doi.org/10.3390/ijerph15030508>

Testa, R. J., Habarth, J., Peta, J., Balsam, K., & Bockting, W. (2015). Development of the

gender minority stress and resilience measure. *Psychology of Sexual Orientation and*

Gender Diversity, 2(1), 65–77. <https://doi.org/10.1037/sgd0000081>

Valentine, S. E., & Shipherd, J. C. (2018). A systematic review of social stress and mental

health among transgender and gender non-conforming people in the United

States. *Clinical Psychology Review*, 66, 24–38.

<https://doi.org/10.1016/j.cpr.2018.03.003>

Woodrum, T. D., Mizock, L., Vivian, J., Ormerod, A. J., & Dickey, L. M. (2021).

Demoralization among TGD individuals: Distinctness from depression and

associations with community connectedness and well-being. *Stigma and Health*.

Advance online publication. <https://doi.org/10.1037/sah0000311>

Appendix A

Ethical Approval of Thesis Project

Study: “Tracking psychological flexibility with the Psy-Flex: Exploring associations with gender, depression, trauma, and academic procrastination in target populations using mixed methods”

Principal investigator: S. Tönjes

Investigators: David Jongste, Jakob Manferrari, Niina Rätsep, Steffi Tönjes, Stela Ivanova

Supervisor: Michaela Schok

The study is approved by the Ethical Review Board of the Faculty of Social and Behavioural Sciences of Utrecht University. The approval is based on the documents sent by the researchers as requested in the form of the Ethics committee and filed under number 21-2344. The approval is valid through 01 April 2022. The approval of the Ethical Review Board concerns ethical aspects, as well as data management and privacy issues (including the GDPR). It should be noticed that any changes in the research design oblige a renewed review by the Ethical Review Board.

Yours sincerely,

Peter van der Heijden, Ph.D.

Chair

This is an automatically generated document, therefore it is not signed

Appendix B

Recruitment Message

I am Stela Ivanova (she/her), a Clinical Psychology Master's student at Utrecht University. I am looking for people who self-identify as members of a gender minority (e.g., transgender and gender-nonconforming people; TGNC).

Despite the growing awareness and acceptance of gender diversity, TGNC populations experience disproportionately high rates of psychological distress and poor mental health outcomes due to the experience of gender minority stress (e.g., discrimination and stigma). Since the growing body of literature suggests that psychological flexibility is an important determinant of mental health, this study aims to investigate the extent to which psychological flexibility is associated with different aspects of mental health and well-being.

This study involves an anonymous survey that takes about 15-20 minutes to complete. Participation in the survey is voluntary and confidential.

People of all gender identities are more than welcome to participate! I will highly appreciate your help! Link: https://survey.uu.nl/jfe/form/SV_dgQOWgKHFkK4US

Appendix C

“How Psychologically Flexible Are You?” Survey: Information Letter

What is the aim of the study?

A growing body of literature suggests that psychological flexibility is an important determinant of mental health, including depression, anxiety, and stress. However, a central problem with past research on psychological flexibility is that previous studies have relied on measures that suffer from several limitations. Therefore, in this Master's Thesis study, we will investigate the extent to which psychological flexibility is associated with different aspects of mental health and well-being by using a recently developed measure of psychological flexibility that is robust to those limitations.

How will the study be carried out and what is expected from you?

This study is an anonymous survey that takes about 20-30 minutes to complete. You can participate in the study when you are 18 years of age or above. You will be first asked to provide demographic information, such as age, sex, gender, employment status. After that, you will be asked to fill out specific questionnaires on mental health, including psychological flexibility.

What will happen if you decide not to participate in this study?

Participation is completely voluntary; you decide whether you want to participate in the study. You can stop your participation at any time, without giving a reason.

What will happen with your data in this study?

During this study, data will be collected and used anonymously for research; that means that answers cannot be traced back to you as a person. All information will be kept confidential and stored at a highly secure server of the Faculty of Social and Behavioural Sciences of Utrecht University; only our team will have access to this information.

Will there be additional costs or reward if you decide to participate in this study?

If you are a Bachelor's Psychology student at Utrecht University you will be rewarded with 0.5 PPU.

Do you have any questions or remarks on the study?

Please send a mail to one of the students: d.jongste@students.uu.nl,
j.manferrari@students.uu.nl, n.r.ratsep@students.uu.nl, s.tonjes@students.uu.nl
s.g.ivanova@students.uu.nl.

Note

At the end of the survey, you will be invited to voluntarily participate in an intervention and/or an interview of your choice. Participation will be reimbursed with further 0.5 PPU.

Appendix D

“How Psychologically Flexible Are You?” Survey: Informed Consent Form

I hereby declare that:

- I am 18 years of age or older.
- I have been clearly informed about the study.
- I know that participation is voluntary and that I can stop the study at any time without negative consequences and without giving an explanation.
- I give consent to participate in this study.
 - Yes, I give consent for participation in the study.
 - No, I do not give consent for participation in the study.