EDLD 651 Final Project: Discriminatory Experiences, Chronic Strain, Social

Connectedness, and Psychological Wellbeing Among Individuals With Marginalized Sexual

Orientations

Maggie Head[1], Sarah Spafford[1], & Heather Terral[1]

[1] University of Oregon

Author Note

Correspondence concerning this article should be addressed to Maggie Head, 1215 University of Oregon, Eugene, OR 97403-1215. E-mail: mhead@uoregon.edu

Abstract

Individuals with marginalized sexual orientations experience higher rates of physical and psychiatric comorbidities compared to their heterosexual counterparts. These disparities are considered the result of minority stress, such that the stress attached to navigating pervasive prejudice and discrimination precipitates deleterious mental health outcomes. Less is known about factors that are related to positive mental health outcomes in individuals with marginalized sexual orientations. Using data from 360 men and women with marginalized sexual orientations(i.e., lesbian, gay, bisexual, queer, or other LGB orientation) who participated in a three year longitudinal study in New York City, we examined the links between discriminatory experiences, chronic strain, social connectedness to the gay community, and psychological wellbeing. Results from a multiple regression analysis revealed discriminatory experiences and chronic strain were significantly negatively associated with psychological wellbeing. Consistent with hypotheses, social connectedness was significantly positively associated with psychological wellbeing. These findings provide further evidence for the relationship between minority stress and mental health and highlight the importance of social connectedness in promoting psychological wellbeing among LGBQ individuals.

Keywords: minority stress, sexual minorities, LGBQ, health, social connectedness

Word count: X

EDLD 651 Final Project: Discriminatory Experiences, Chronic Strain, Social Connectedness, and Psychological Wellbeing Among Individuals With Marginalized Sexual Orientations

Introduction

Inherent to living with a marginalized identity is the excess stress that accompanies stigma-related experiences and discriminatory conditions (Frost, Lehavot, & Meyer, 2015). An extensive body of literature demonstrates that chronic exposure to stress compromises physical and mental health (see Thoits, 2010), and ultimately elevates susceptibility to a myriad of physiological and psychiatric disorders (Salleh, 2008). It is not surprising, then, that individuals who identify as gay, bisexual, lesbian, and queer (LGBQ) experience higher rates of psychopathology than their heterosexual counterparts, including substance use disorders (Green & Feinstein, 2012), eating disorders (Parker & Harriger, 2020), deliberate self-injury (King et al., 2008), suicidality, and suicide attempts (Haas et al., 2010). The term "minority stress" has been used to describe the phenomenon of elevated mental health concerns resulting from the societal stigmatization of LGBQ sexual orientation status (Meyer, 1995). The link between minority stress and poor health outcomes may be direct, such that discriminatory experiences lead to increased cortisol (Korous, Causadias, & Casper, 2017) and cardiovascular reactivity (Panza et al., 2019). However, minority stress may also impact health indirectly through the cognitive burden, strain, and behavioral coping strategies that are required to navigate marginalization (Frost et al., 2015).

Given that morbidity and mortality is intimately tied to social and interpersonal conditions, researchers have come to recognize the importance of relationships and support (Cohen, 2004 ; Pescosolido, 2011). Social connectedness, which refers to the sense of subjective belonging that people feel in relation to individuals and groups of others, is considered a pivotal factor in individual and population-level health (Haslam, Cruwys, Haslam, & Jetten, 2015). Burgeoning evidence indicates that, among individuals with marginalized identities, connection with others who are marginalized for the same

characteristic may mitigate detrimental stress responses (Austin & Goodman, 2017). Indeed, social connectedness is associated with positive health outcomes and has been found to buffer the negative effects of discrimination and perceived stress among many groups of marginalized individuals(Kim & Fredriksen-Goldsen, 2017; Liao, Weng, & West, 2016; Liu, Li, Wang, Wei, & Ko, 2020). Yet, social connectedness is markedly overlooked in research examining the health of LGBQ individuals. Thus, the purpose of the current study was to examine the longitudinal relationships between discriminatory experiences, chronic strain, social connectedness, and psychological wellbeing among LGBQ individuals.

Methods

Participants

Project STRIDE (Meyer, Dohrenwend, Schwartz, Hunter, & Kertzner, 2016) participants included individuals who had been residing in New York City for a minimum of two years, self-identified as lesbian, gay, bisexual (LGB), or straight, and self-identified as White, Black, or Latino (Meyer et al., 2016). Participants were excluded from the present study if they identified as heterosexual or did not complete the main study measures ($n = 360$). Participants were aged 18-59 years ($M = 32.41$, $SD = 9.25$) and were predominantly White (34%), followed by Black/African-American (33%), and Latino/Hispanic (32%). The distribution of sexual orientations in the study sample can be seen in Table 1.

Table 1.

Distribution of self-identified sexual orientations

Sexual Orientation	Count
Gay	160
Lesbian	104
Queer	12
Bisexual	63
Homosexual	16
Other - LGB	5

Measures

Discriminatory experiences. The discriminatory experiences 8-item measure was adapted from Williams, Yu, Jackson, and Anderson (1997) to be inclusive of all minority groups (e.g. gender minorities). This scale assessed how often discriminatory experiences (e.g. being treated with less respect, being threatened or harassed) occurred throughout their lifetimes. Each question was rated on a 4-point scale (1 = *"often"* through 4 = *"never"*) and coded so that higher scores represented more discriminatory experiences (Meyer, Frost, Narvaez, & Dietrich, 2006). For these analyses, the total number of types (0-8) of everyday discrimination experiences were used.

Chronic strain. The chronic strain measure was adapted from a scale by Wheaton (1999), which measures strain in 9 areas of life, including general problems, financial issues, work relationships, parenting, family, social life, residence, and health. Responses were coded such that higher scores indicated higher levels of chronic strain (Meyer et al., 2006).

Social connectedness. Social connectedness was contextualized as connectedness to the gay community, as measured by an 8-item scale adapted from Mills et al. (2001) to be more relevant to the geographic area. Each response was rated from 1 (*"agree strongly"*) to 4 (*"disagree strongly"*) and coded so that higher scores indicated a greater level of connectedness to the gay community (Meyer et al., 2006).

Psychological wellbeing. Psychological wellbeing was assessed using an 18-item measure adapted from Ryff (1989) and Ryff and Keyes (1995). This measured psychological wellbeing on six dimensions including dimensions of self-acceptance, purpose in life, environmental mastery, positive relations with others, personal growth, and autonomy. All responses were coded such that higher scores indicated higher levels of wellbeing (Meyer et al., 2006).

Procedure

For additional details on data collection procedures for Project STRIDE, please see Meyer et al. (2006).

Data Analytic Strategy and Hypotheses

Prior to the main analysis, data were screened for missingness. Pearson bivariate correlations were conducted among discriminatory experiences, chronic strain, social connectedness, and psychological wellbeing. To examine the proposed model, a multivariate regression analysis was conducted. Discriminatory experiences, chronic strain, and social connectedness were entered as the predictor variables. Psychological wellbeing was entered as the outcome variable. We expected a negative association between discriminatory experiences and psychological wellbeing (Hypothesis 1). We also expected a negative association between chronic strain and psychological wellbeing (Hypothesis 2). In contrast, we expected a positive association between social connectedness and psychological wellbeing (Hypothesis 3).

We used R (Version 3.6.2; R Core Team, 2020) and the R-packages *apaTables* (Version 2.0.5; Stanley, 2018), *dplyr* (Version 1.0.2; Wickham et al., 2020), *forcats* (Version 0.4.0; Wickham, 2019a), *gdtools* (Version 0.2.2; Gohel, Wickham, Henry, & Ooms, 2020), *ggiraphExtra* (Version 0.3.0; Moon, 2020), *ggplot2* (Version 3.3.2; Wickham, 2016), *haven* (Version 2.2.0; Wickham & Miller, 2020), *janitor* (Version 2.0.1; Firke, 2020), *knitr* (Version 1.28; Xie, 2015), *lavaan* (Version 0.6.7; Rosseel, 2012; Lishinski, 2018), *lavaanPlot*

(Version 0.5.1; Lishinski, 2018), *lm.beta* (Version 1.5.1; Behrendt, 2014), *magick* (Version 2.5.2; Ooms, 2020, 2020), *papaja* (Version 0.1.0.9997; Aust & Barth, 2020), *probemod* (Version 0.2.1; Tan, 2015), *psych* (Version 2.0.9; Revelle, 2020), *purrr* (Version 0.3.3; Henry & Wickham, 2019), *qwraps2* (Version 0.5.0; DeWitt, 2020), *readr* (Version 1.3.1; Wickham, Hester, & Francois, 2018), *rio* (Version 0.5.16; Chan, Chan, Leeper, & Becker, 2018), *rockchalk* (Version 1.8.144; Johnson, 2019), *stringr* (Version 1.4.0; Wickham, 2019b), *tibble* (Version 3.0.3; Müller & Wickham, 2020), *tidyr* (Version 1.0.2; Wickham & Henry, 2020), and *tidyverse* (Version 1.3.0; Wickham, Averick, et al., 2019) for all our analyses.

Results

Preliminary Analyses

Missing data were minimal; thus, listwise deletion was employed. Means, standard deviations, minimum and maximum values of the main study measures for the total sample can be seen in Table 2. Means, standard deviations, minimum and maximum values of the main study variables according to sexual orientation can be seen in Table 3. Of particular concern is the substantial number of discriminatory experiences reported by participants. Figure 1 displays the average number of everyday discriminatory experiences according to sexual orientation. Pearson bivariate correlations revealed small to moderate correlations among the main study variables (see Figure 2).

Table 2.

Descriptive statistics for main study variables.

|	stridy (N = 360)
Everyday Discrmination	
min	0
median	7
max	8
mean (sd)	6.59 ± 1.86
Chronic Strain	
min	1
median	1.67
max	3
mean (sd)	1.71 ± 0.55
Psychological Wellbeing	
min	3
median	5.56
max	7
mean (sd)	5.47 ± 0.79
Social Connectedness	
min	1.38
median	3.38
max	4
mean (sd)	3.29 ± 0.51

Table 3.

Descriptive statistics for main study variables by sexual orientation

	Gay (N = 160)	Lesbian (N = 104)	Queer (N = 12)	Bisexual (N = 63)	Homosexual (N = 16)	Other - LGB (N = 5)
Everyday Discrmination						
min	0	0	5	0	0	5
median	7	7	7	7	8	6
max	8	8	8	8	8	8
mean (sd)	6.63 ± 1.72	6.52 ± 1.99	7.25 ± 0.87	6.43 ± 2.13	6.88 ± 2.03	6.40 ± 1.14
Chronic Strain						
min	1	1	1	1	1	1.33
median	1.67	1.67	1.5	2	1.33	2
max	3	3	3	2.67	1.67	2.67
mean (sd)	1.65 ± 0.53	1.77 ± 0.58	1.64 ± 0.61	1.88 ± 0.51	1.35 ± 0.26	1.87 ± 0.56
Psychological Wellbeing						
min	3	3.41	4.29	3.18	3.12	3.88
median	5.62	5.53	6.03	5.24	5.74	5.12
max	7	6.82	7	6.82	6.59	5.76
mean (sd)	5.51 ± 0.79	5.53 ± 0.70	5.75 ± 0.78	5.24 ± 0.85	5.47 ± 1.01	4.95 ± 0.72

|	Gay (N = 160)	Lesbian (N = 104)	Queer (N = 12)	Bisexual (N = 63)	Homosexual (N = 16)	Other - LGB (N = 5)
Social Connectedness						
min	1.38	2.12	3.25	1.88	2.62	2.12
median	3.25	3.38	3.44	3.12	3.5	2.75
max	4	4	4	4	3.88	3.75
mean (sd)	3.26 ± 0.54	3.41 ± 0.45	3.51 ± 0.25	3.14 ± 0.51	3.38 ± 0.40	2.95 ± 0.71

Figure 1.

Experiences of everyday discrimination according to sexual orientation.
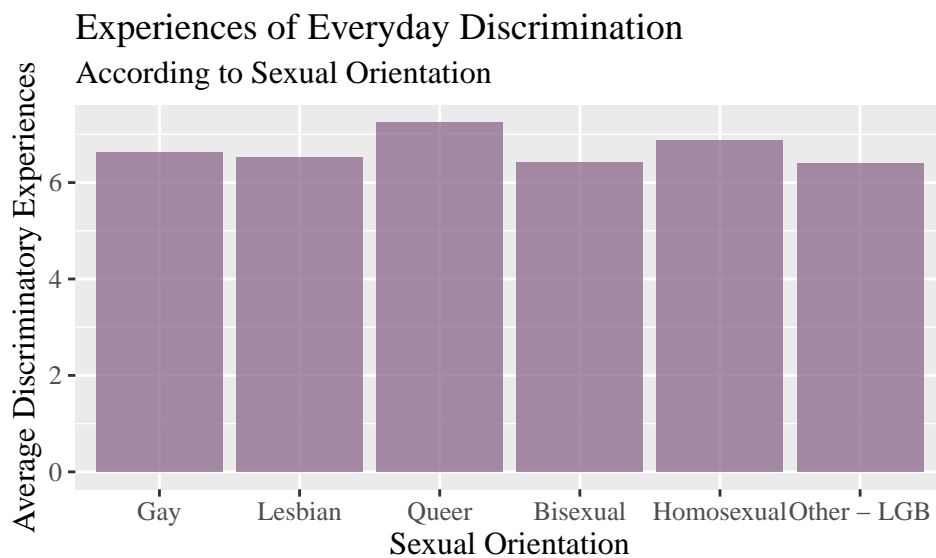
Figure 2.

Correlation Panels and Distributions For All Variables Included in the Model.
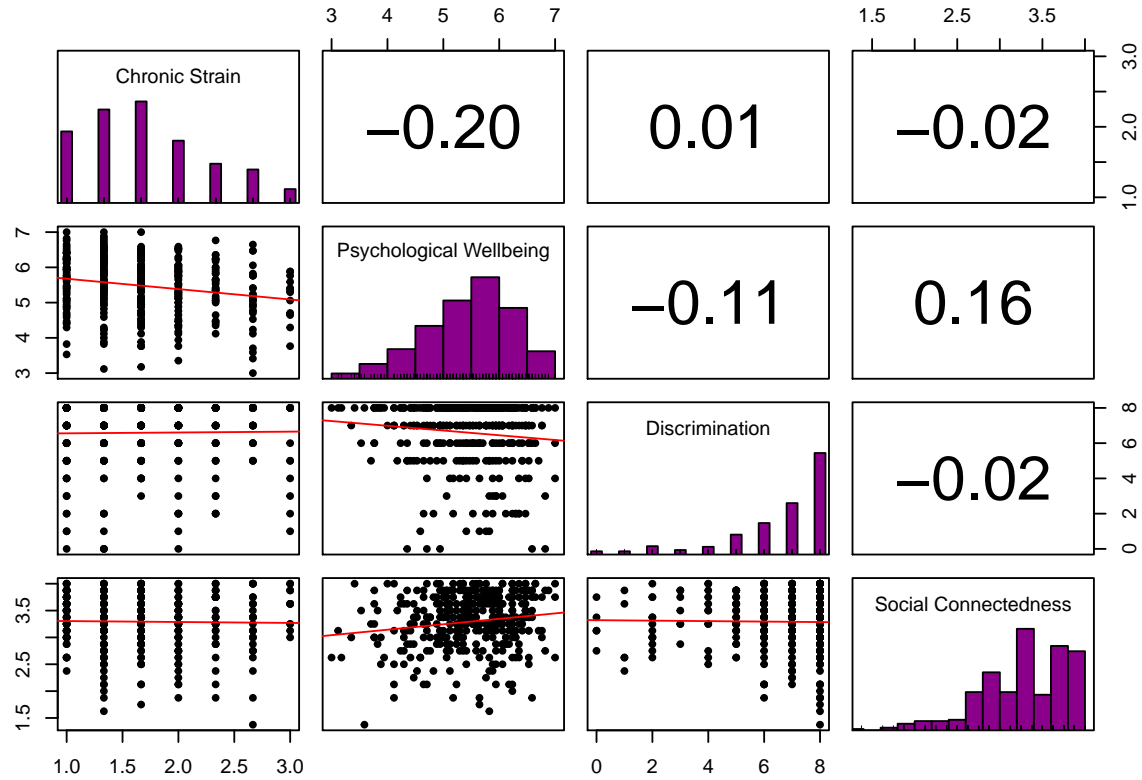
Primary Analyses

A multiple regression analysis was conducted to examine the effects of discriminatory experiences, chronic strain, social connectedness on psychological wellbeing among LGBQ individuals. When all variables were entered into the model, discriminatory experiences were negatively associated with psychological wellbeing, $\hat{\beta}_1 = -0.05, SE(\hat{\beta}_1) = -0.11, t(356) = -2.14, p = .03$. Likewise, consistent with hypothesis 2, chronic strain was signi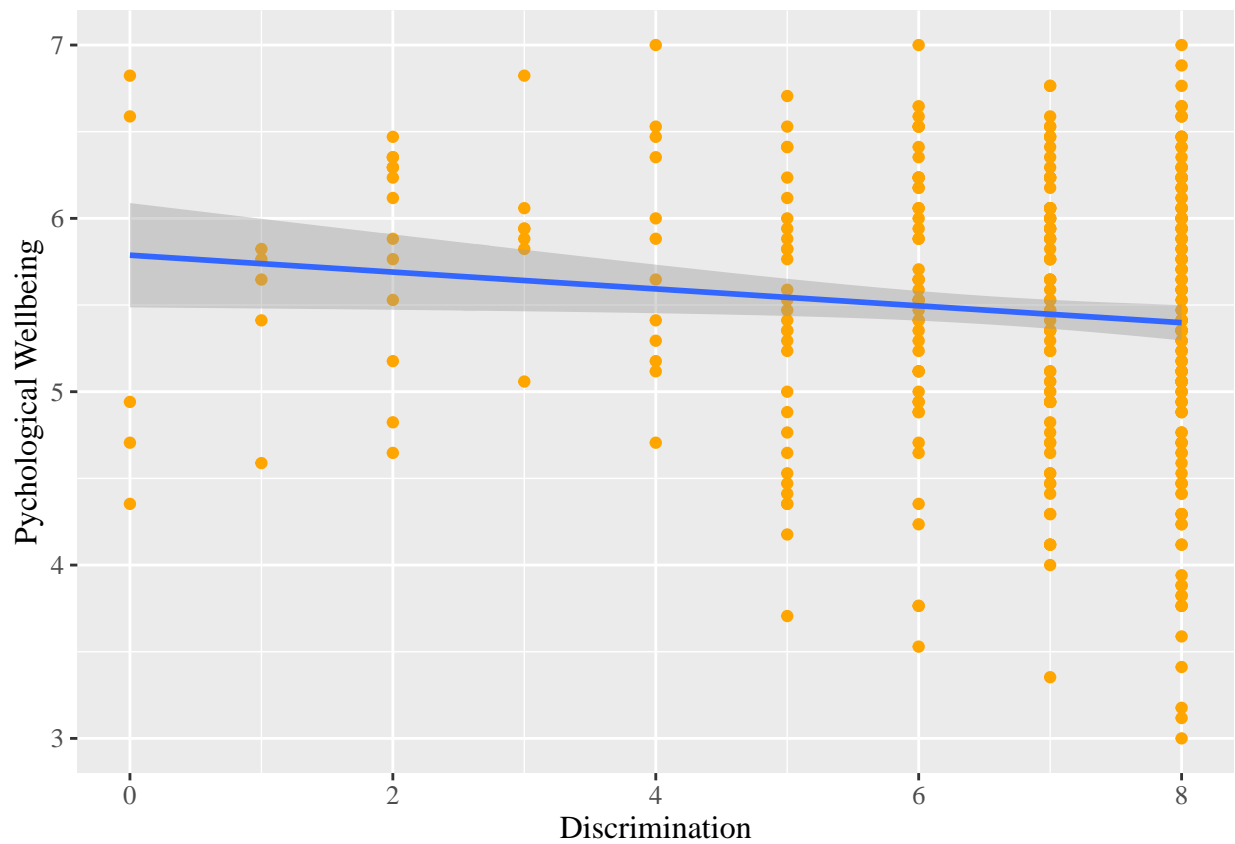ficantly negatively associated with psychological wellbeing, $\hat{\beta}_2 = -0.29, SE(\hat{\beta}_2) = -0.20, t(356) = -3.91, p < .001$. Consistent with hypothesis 3, social connectedness was significantly positively associated with psychological wellbeing, $\hat{\beta}_3 = 0.24, SE(\hat{\beta}_3) = 0.15, t(356) = 2.99, p < .001$. Taken together, all three predictors

explained approximately 7.7% of the variance in psychological wellbeing, $F(3, 356) = 9.90, p < .001, R^2 = .077$. Figure 3 displays the relationship between everyday discrimination and psychological wellbeing. Figure 4 displays the path model with corresponding beta coefficients.

Figure 3.

Linear regression results demonstrating the effect of discrimination on psychological wellbeing.

Figure 4.

Path model for the effect of discrimination, chronic strain, and social connectedness on psychological wellbeing.

Discussion

Findings that social connectedness was positively associated with psychological well-being are simultaneously intuitive and in synchrony with the literature. For members of the LGB community, both physical and virtual spaces in which members can create and maintain meaningful relationships with each other may be one method to increase resilience within these groups. Although this analysis did not examine how these variables may vary by additional identities, such as race/ethnicity and gender, intersectionality theory suggests that members of the LGB community who simulatenously hold additional marginalized identities would experience and report higher level of discrimination and strain than their relatively more privileged peers. In considering interventions to improve health and well-being among LGB communities, it is important to not place the burden on these groups; a preventative approach in line with a social ecological perspective must also include mechanisms designed to reduce both implicit and explicit bias in the general population. Approval of LGBT+ individuals has decreased among young people in the United States ages 18 - 34 (Miller, 2019). Furthermore, the presidential administration of 2016 - 2020 took several actions during their tenure which further marginalized this population (Acosta, 2020). Examples include the removal of the LGBT issues page from the White House website within hours of the administration's commencement, and the attempted exclusion of trans people from United States military service. Although this study did not measure social connectedness outside of the LGB community, future research examining perceived acceptance by the general population may better inform health promotion interventions for this group.

Strengths and Limitations

The availability and tidyness of the data from this robust sample gathered by Meyer et al. (2016) are a clear strength of the present work. However, it is unclear whether or not these results are applicable to LGB members outside of New York City itself, and furthermore within rural areas. Future work may benefit from examining whether LGB individuals who relocate to large cities share similiar rates of discrimination and may be systematically different from community members who have no relocated.Additionally, the intentional exclusion of trans people from this sample limits the richness of this dataset and interpretability.

References

Acosta, L. (2020). A list of trump's "unprecedented steps" for the lgbtq community. Retrieved from https://www.hrc.org/news/the-list-of-trumps-unprecedented-steps-for-the-lgbtq-community

Aust, F., & Barth, M. (2020). *papaja: Create APA manuscripts with R Markdown.* Retrieved from https://github.com/crsh/papaja

Austin, A., & Goodman, R. (2017). The impact of social connectedness and internalized transphobic stigma on self-esteem among transgender and gender non-conforming adults. *Journal of Homosexuality, 64*(6), 825–841.

Behrendt, S. (2014). *Lm.beta: Add standardized regression coefficients to lm-objects.* Retrieved from https://CRAN.R-project.org/package=lm.beta

Chan, C.-h., Chan, G. C., Leeper, T. J., & Becker, J. (2018). *Rio: A swiss-army knife for data file i/o.*

Cohen, S. (2004). Social relationships and health. *American Psychologist, 59*(8), 676.

DeWitt, P. (2020). *Qwraps2: Quick wraps 2.* Retrieved from https://CRAN.R-project.org/package=qwraps2

Firke, S. (2020). *Janitor: Simple tools for examining and cleaning dirty data.* Retrieved from https://CRAN.R-project.org/package=janitor

Frost, D. M., Lehavot, K., & Meyer, I. H. (2015). Minority stress and physical health among sexual minority individuals. *Journal of Behavioral Medicine, 38*(1), 1–8.

Gohel, D., Wickham, H., Henry, L., & Ooms, J. (2020). *Gdtools: Utilities for graphical rendering.* Retrieved from https://CRAN.R-project.org/package=gdtools

Green, K. E., & Feinstein, B. A. (2012). Substance use in lesbian, gay, and bisexual populations: An update on empirical research and implications for treatment. *Psychology of Addictive Behaviors, 26*(2), 265.

Haas, A. P., Eliason, M., Mays, V. M., Mathy, R. M., Cochran, S. D., D'Augelli, A. R., ... others. (2010). Suicide and suicide risk in lesbian, gay, bisexual, and transgender

populations: Review and recommendations. *Journal of Homosexuality*, *58*(1), 10–51.

Haslam, C., Cruwys, T., Haslam, S. A., & Jetten, J. (2015). Social connectedness and health. *Encyclopaedia of Geropsychology*, *2015*, 46–41.

Henry, L., & Wickham, H. (2019). *Purrr: Functional programming tools.* Retrieved from https://CRAN.R-project.org/package=purrr

Johnson, P. E. (2019). *Rockchalk: Regression estimation and presentation.* Retrieved from https://CRAN.R-project.org/package=rockchalk

Kim, H.-J., & Fredriksen-Goldsen, K. I. (2017). Disparities in mental health quality of life between hispanic and non-hispanic white lgb midlife and older adults and the influence of lifetime discrimination, social connectedness, socioeconomic status, and perceived stress. *Research on Aging*, *39*(9), 991–1012.

King, M., Semlyen, J., Tai, S. S., Killaspy, H., Osborn, D., Popelyuk, D., & Nazareth, I. (2008). A systematic review of mental disorder, suicide, and deliberate self harm in lesbian, gay and bisexual people. *BMC Psychiatry*, *8*(1), 70.

Korous, K. M., Causadias, J. M., & Casper, D. M. (2017). Racial discrimination and cortisol output: A meta-analysis. *Social Science & Medicine*, *193*, 90–100.

Liao, K. Y.-H., Weng, C.-Y., & West, L. M. (2016). Social connectedness and intolerance of uncertainty as moderators between racial microaggressions and anxiety among black individuals. *Journal of Counseling Psychology*, *63*(2), 240.

Lishinski, A. (2018). *LavaanPlot: Path diagrams for lavaan models via diagrammer.* Retrieved from https://CRAN.R-project.org/package=lavaanPlot

Liu, S., Li, C.-I., Wang, C., Wei, M., & Ko, S. (2020). Self-compassion and social connectedness buffering racial discrimination on depression among asian americans. *Mindfulness*, *11*(3), 672–682.

Meyer, I. H. (1995). Minority stress and mental health in gay men. *Journal of Health and Social Behavior*, 38–56.

Meyer, I. H., Dohrenwend, B. P., Schwartz, S., Hunter, J., & Kertzner, R. M. (2016). Project stride: Stress, identity, and mental health, new york city, 2004-2005: Version 2. Inter-University Consortium for Political; Social Research. https://doi.org/10.3886/ICPSR35525.V2

Meyer, I. H., Frost, D. M., Narvaez, R., & Dietrich, J. H. (2006). Project stride methodology and technical notes. *Unpublished Manuscript.*

Miller, S. (2019). The young are regarded as the most tolerant generation. That's why results of this lgbtq survey are 'alarming'. Retrieved from https://www.usatoday.com/story/news/nation/2019/06/24/lgbtq-acceptance-millennials-decline-glaad-survey/1503758001/

Mills, T. C., Stall, R., Pollack, L., Paul, J. P., Binson, D., Canchola, J., & Catania, J. A. (2001). Health-related characteristics of men who have sex with men: A comparison of those living in" gay ghettos" with those living elsewhere. *American Journal of Public Health*, *91*(6), 980.

Moon, K.-W. (2020). *GgiraphExtra: Make interactive 'ggplot2'. Extension to 'ggplot2' and 'ggiraph'.* Retrieved from https://CRAN.R-project.org/package=ggiraphExtra

Müller, K., & Wickham, H. (2020). *Tibble: Simple data frames.* Retrieved from https://CRAN.R-project.org/package=tibble

Ooms, J. (2020). *Magick: Advanced graphics and image-processing in r.* Retrieved from https://CRAN.R-project.org/package=magick

Panza, G. A., Puhl, R. M., Taylor, B. A., Zaleski, A. L., Livingston, J., & Pescatello, L. S. (2019). Links between discrimination and cardiovascular health among socially stigmatized groups: A systematic review. *PloS One*, *14*(6), e0217623.

Parker, L. L., & Harriger, J. A. (2020). Eating disorders and disordered eating behaviors in the lgbt population: A review of the literature. *Journal of Eating Disorders*, *8*(1), 1–20.

Pescosolido, B. (2011). Social connectedness in health, morbidity and mortality, and health

care-the contributions, limits and further potential of health and retirement study. In *Forum for health economics & policy* (Vol. 14). De Gruyter.

R Core Team. (2020). *R: A language and environment for statistical computing.* Vienna, Austria: R Foundation for Statistical Computing. Retrieved from https://www.R-project.org/

Revelle, W. (2020). *Psych: Procedures for psychological, psychometric, and personality research.* Evanston, Illinois: Northwestern University. Retrieved from https://CRAN.R-project.org/package=psych

Rosseel, Y. (2012). lavaan: An R package for structural equation modeling. *Journal of Statistical Software*, *48*(2), 1–36. Retrieved from http://www.jstatsoft.org/v48/i02/

Ryff, C. D. (1989). Happiness is everything, or is it? Explorations on the meaning of psychological well-being. *Journal of Personality and Social Psychology*, *57*(6), 1069.

Ryff, C. D., & Keyes, C. L. M. (1995). The structure of psychological well-being revisited. *Journal of Personality and Social Psychology*, *69*(4), 719.

Salleh, M. R. (2008). Life event, stress and illness. *The Malaysian Journal of Medical Sciences: MJMS*, *15*(4), 9.

Stanley, D. (2018). *ApaTables: Create american psychological association (apa) style tables.* Retrieved from https://CRAN.R-project.org/package=apaTables

Tan, J. C. (2015). *Probemod: Statistical tools for probing moderation effects.* Retrieved from https://CRAN.R-project.org/package=probemod

Thoits, P. A. (2010). Stress and health: Major findings and policy implications. *Journal of Health and Social Behavior*, *51*(1_suppl), S41–S53. https://doi.org/10.1177/0022146510383499

Wheaton, B. (1999). The nature of stressors. In A. F. Horwitz & T. L. Scheid (Eds.), *A handbook for the study of mental health: Social contexts, theories, and systems* (pp. 176–197). New York: Oxford University Press.

Wickham, H. (2016). *Ggplot2: Elegant graphics for data analysis.* Springer-Verlag New

York. Retrieved from https://ggplot2.tidyverse.org

Wickham, H. (2019a). *Forcats: Tools for working with categorical variables (factors).*
Retrieved from https://CRAN.R-project.org/package=forcats

Wickham, H. (2019b). *Stringr: Simple, consistent wrappers for common string operations.*
Retrieved from https://CRAN.R-project.org/package=stringr

Wickham, H., Averick, M., Bryan, J., Chang, W., McGowan, L. D., François, R., . . .
Yutani, H. (2019). Welcome to the tidyverse. *Journal of Open Source Software,*
4(43), 1686. https://doi.org/10.21105/joss.01686

Wickham, H., François, R., Henry, L., & Müller, K. (2020). *Dplyr: A grammar of data*
manipulation. Retrieved from https://CRAN.R-project.org/package=dplyr

Wickham, H., & Henry, L. (2020). *Tidyr: Tidy messy data.* Retrieved from
https://CRAN.R-project.org/package=tidyr

Wickham, H., Hester, J., & Francois, R. (2018). *Readr: Read rectangular text data.*
Retrieved from https://CRAN.R-project.org/package=readr

Wickham, H., & Miller, E. (2020). *Haven: Import and export 'spss', 'stata' and 'sas' files.*
Retrieved from https://CRAN.R-project.org/package=haven

Williams, D. R., Yu, Y., Jackson, J. S., & Anderson, N. B. (1997). Racial differences in
physical and mental health: Socio-economic status, stress and discrimination.
Journal of Health Psychology, 2(3), 335–351.

Xie, Y. (2015). *Dynamic documents with R and knitr* (2nd ed.). Boca Raton, Florida:
Chapman; Hall/CRC. Retrieved from https://yihui.org/knitr/