Social Connectedness as a Moderator between Post-Migration Stressors and Depression in a Sample of Displaced Persons

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Abstract

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Introduction: Social connectedness is an understudied protective factor for displaced persons. With the ongoing global migration crisis, this study seeks to assess the potential buffering impact of social connectedness.

Objective: We examined the role of social connectedness to serve as a potential buffer between migration-related stress and depression and between perceived discrimination and depression among displaced persons.

Method: Displaced persons (N= 217) who identified as either refugee, asylum seeker, internally displaced, or stateless and possessed basic English proficiency, were eligible for the study. Measures included social connectedness (SCS-R), post-migration living difficulties (PMLD), everyday discrimination (EDS-R), and depression (PHQ-9).

Results: Both higher levels of post-migration stressors, $b = .23$, $p < .001$, 95% CI = [.16, .29]) and lower social connectedness, $b = -.34$, $p < .001$, 95% CI = [-.48, -.21]) was associated with higher levels of depression. Social connectedness moderated the relationship between post-migration living difficulties and social connectedness on depression, ($b = .06$, $p < .05$, 95% CI = [.03, .09]). Similarly, social connectedness moderated the relationship between everyday discrimination and depression ($b = .09$, $p < .05$, 95% CI = .04, .14]).

Conclusion: Social connectedness can serve as a protective factor for adverse mental health outcomes and can potentially assuage post-migrations stressors experienced during the resettlement process. Further research is needed to study the effect of long-term impact of everyday discrimination on depression.

Keywords: displaced persons, discrimination, post-migration living difficulties, depression, social connectedness

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Background

Social connectedness, refers to the degree in which a person feels close to another person or group (Lee et al., 2001). Oftentimes, there is a shared interest, culture, or lived experience which helps fosters deep interpersonal relationships. Humans are social species who rely on close knit positive exchanges. These exchanges are not to be confused with social support which has some theoretical overlap but focuses partially on care, access to resources, mutual aid, and formal or informal assistance from other people or institutions (Ashida et al., 2008). Social connectedness can serve as an integral piece in lowering psychological morbidities that stem from post-migration stressors by promoting interpersonal relatedness.

The environments we live and function in can influence our mental health – critical periods of development across the life course can be interrupted by many factors. For displaced groups, migrating to an unfamiliar place is difficult and a tough reality to fully grasp. Displaced persons experience a multitude of hardship, that includes racism, xenophobia, unfair political rhetoric, negative portrayal in the media, and hostility from local residents. The stigmatization of displaced persons creates an unsafe and vulnerable environment that can lead to the further development of mental health problems. Additionally, distal influences like some of the examples mentioned above and major climatic events can also result in the manifestation of mental health complications.

Displaced persons experience varying post-migration living difficulties which consist of acculturation, resettlement, isolation, and trauma. Globally, social relationships have been shown to have a robust effect on health. Stronger social relationships have been shown to be a protective factor against morbidity and all-cause mortality (Holt-Lunstad et al., 2010). According to the United Nations High Commissioners for Refugees (UNHCR), 79.5 million people have

been displaced as of 2019; among them 4.2 million are stateless, 2 million are asylum applicants, and 107,800 have resettled in 26 countries (UNHCR, 2019). It is essential to understand that displaced persons can have varying psychological, social, behavioral, and somatic experiences and hardships which can potentially be abated through social connectedness.

Social connectedness as a protective factor against depression is understudied. Hold-Lunstad and colleagues conducted a meta-analytic review to examine the linkage between social relationships and mortality risk (Holt-Lunstad et al., 2010). In their review, they found that despite the introduction of this relationship by researchers, many major public health institutions have not officially recognized social connectedness as a risk factor for comorbidities. The paucity of empirical research creates a challenge in recognizing this connection which stems from a lack of "precision and control preferred in biomedical research" (p. 2, Holt-Lunstad et al., 2010). This precision and control refer to how efficiently we can use traditional diagnostic tools and methodologies to better understand the influence of social connectedness in displaced populations. Another challenge in establishing this connection can be linked to the rise of technology and globalization, some findings suggest that people are becoming more socially withdrawn (Holt-Lunstad et al., 2010). However, there are a lack of generated hypotheses that examine these findings in relation to displaced populations and how social connectedness is defined among them.

To gain a theoretical understanding of social connectedness, the Bio-Ecological Adaptive (BEAM) Model draws upon Bronfenbrenner's (1977, 2005) bio-ecological theory and Silove's (1999) Adaptation and Development After Persecution and Trauma (ADAPT) framework (Wong & Schweitzer, 2017). The BEAM Model is helpful in understanding how to enhance social connectedness among displaced populations with fragmented familial and social dynamics. The

BEAM model stresses the importance of mending psychosocial ruptures to multilevel systems experienced by people from refugee backgrounds at premigration and at migration to facilitate recovery and adaptation at post settlement (Wong & Schweitzer, 2017). Although the model focuses on adolescents, there is some applicability in assessing the predictive relationship between post-migration stressors and psychological outcomes which is paramount to improving adverse mental health outcomes in displaced adults.

Post-migration stressors are indicative of life stress and are among the strongest proximal risk factors for depression (e.g., Slavich & Irwin, 2014). Globally, 260 million people of all ages suffer from depression (WHO, 2020). In low-middle income settings, access to diagnosis and treatment is limited. Depression left untreated can result in more physical and psychological detriments (WHO, 2020). In populations experiencing displacement, difficulties can arise from struggling to adjust to a new life in a foreign setting. Displaced groups may struggle with employment, lack of support from municipal systems, poverty, discrimination, communication difficulties and many other adverse life events (Bentley et al., 2019). Discrimination is also one of many factors that contributes to displacement, many groups experience xenophobia, racism, and intolerance both in their countries of origin and residence. Experiencing social rejection and alienation as a result of perceived discrimination can potentially be remedied through social connectedness by interacting with one's own affinity group, however someone defines their affinity group. These domains of life that are ruptured can increase the risk of depression as well as exacerbate it (Jensen et al., 2019). For many displaced populations having community membership that is tailored towards their mutual experience can be beneficial. According to social-capital theory, the exercise of reciprocal help giving and receiving is fundamental to the development and maintenance of social capital (Strang & Quinn, 2019). These interactions can

help foster social connectedness and promote solidarity and among displaced populations while also simultaneously reducing depressive symptoms.

We are witnessing a growing migration crisis that is alarming, which makes this study incredibly timely. There are now nearly 79.5 million people around the world who have been forcibly displaced, a number that has doubled in the last decade. Much of the displacement can be contributed to conflict, persecution, and other crises (UNHCR, 2019). The present study was a cross-sectional study that evaluated the relationship between post-migration stressors and depressive symptoms, and if social connectedness modifies the relationship within a sample of displaced persons. Similarly, the study examined the relationship between everyday discrimination and depressive symptoms, and if social connectedness buffers the relationship. The study hypothesized that higher levels of social connectedness would change the impact of post-migration living difficulties and everyday discrimination on depressive symptoms in displaced groups, such as levels of social connectedness increase the association between post-migration stressors (PMLD) or everyday discrimination and depressive symptoms would decrease. With more government restrictions being placed on refugees, immigrants, internally displaced persons (IDPs), and asylum seekers, the time to act is crucial. By highlighting the grave importance of social connectivity among vulnerable populations, we hope this study can aid in using findings that can contribute to creating culturally relevant and congruent interventions aimed at ameliorating post-migration stressors and resultant mental health difficulties among displaced populations.

Method

Participants

Two hundred and seventeen individuals who identified as a displaced person participated in the study. Participants were recruited though Amazon's Mechanical Turk (MTurk), where users must be 18 years and older, which is a crowdsourcing platform that allows workers to complete piecemeal tasks and surveys posted by businesses or academic institutions. Anyone on MTurk could access the initial screener. Using a brief screening question, respondents had to self-identify as a displaced person under United Nations definitions (UNHCR, 2005) which included refugees, asylum seekers, internally displaced personas, and stateless people. Respondents who did not self-identify in one of these categories did not advance to the main survey. Additionally, individuals who were not proficient in basic English did not meet inclusion criteria for the study. Participants viewed a survey titled: "Faith, Stress, Resilience, and Refugee Experiences." As of May 13, 2021, 1,997 MTurk workers were screened. Out of the total who were initially screened, 252 were eligible to complete the longer 30-min survey.

Measures

For the purpose of this study, we focused on 4 out of the 17 measures included in the larger study. The Social Connectedness Scale-Revised (SCS-R), The Post-Migration Living Difficulties scale (PMLD), the Everyday Discrimination Scale (EDS-R), and the Patient Health Questionnaire- 9 item to measure depressive symptoms (PHQ-9).

Social Connectedness. The Social Connectedness Scale – Revised (SCS-R; Lee et al., 2001) measures interpersonal behaviors, connections, and social belongingness and adjustment among displaced persons. The revised measure includes 20-items that are measured on a 6-point Likert scale that range from 1 (*strongly disagree)* to 6 (*strongly agree*). For the purpose of the study, 7 items that targeted differing domains of social connectedness were chosen (Lee et al., 2001), specifically "I don't feel I participate with anyone or any group;" "I feel close to people;"

"Even around people I know, I don't feel that I really belong;" "I am unable to connect with other people;" "I feel understood by people I know;" "I have little sense of togetherness with my community;" and "Even among my community, there is no sense of brother/sisterhood." A higher total score indicates more social connectedness to other people. There is evidence of discriminant and convergent validity, showing a negative correlation with loneliness (r = -.80), positive correlation three of the four types of collective self-esteem (membership r = .49, private r = .42, public r = .39), independent self-construal (r = .37), and negative associations with social avoidance (r = -.57) and distress (r = -.55). In this sample, internal consistency was α = .68, suggesting an acceptable level.

Post-Migration Living Difficulties. The Post-Migration Living Difficulties Questionnaire (PMLD) - Social and Cultural Isolation subscales (Silove et al., 1997) is used to measure the extent of post-migration stressors displaced people experience. It's an important concept that measures life experiences other than war. The 23-item checklist was shortened to seven items, based on factor analysis (Silove et al., 1997), that covered areas related to communication difficulties, family concerns, employment, access to social and medical services, fears being sent back home, and general adaptation. Respondents were asked within the last month if any of these stressors had interfered with their resettlement progress, using 5-point scale which ranged from 1 *(No problem at all)* to 5 *(A very serious problem)*. A high cumulative PMLD scores indicates an elevated vulnerability and exposure to postmigration stressors. "The PMLD has been used as a questionnaire about life experiences while treating each item as a separate incident or stressor. As such, no internal consistency statistics have been reported in the literature (p. 459, Bentley et al., 2012)". In the present sample, the internal consistency was α = .91 for the 7-item measure.

Everyday Discrimination. The Everyday Discrimination Scale– Revised (EDS-R; Williams et al., 1997) examines an individual's daily exposure to discrimination that is perceived as covert (e.g., Panter, Daye, Allen, Wightman, & Deo, 2008). The EDS-R measures includes 10-item responses. Responses are measured using a 6-point Likert scales that range from 1 *(Never)* to 6 *(Almost every day)*. The last item included potential demographic linkages and reasons to perceived everyday discrimination such as race, religion, gender, and ethnicity. Higher scores indicated more experiences of everyday discrimination (Williams et al., 1997). The EDS-R has been shown to strongly correlate with cognitive interview findings; "You are treated with less courtesy than other people" and "You are treated with less respect than other people," were highly correlated (.69 to .72; Reeve et al., 2011). The EDS-R measure has been shown to have a strong convergent validity with measure stress and typically has an internal consistency that is around $\alpha = .88$ (Stucky et al., 2011). In the present sample, the internal consistency was $\alpha = .92$.

Depression. The Patient Health Questionnaire (PHQ) is a diagnostic tool that is self-administered which is used to asses for common mental disorders (Kroenke et al., 2001). The PHQ-9 is a depression module that measures varying levels of depression severity. The PHQ-9 includes nine symptom related items which asks participants about daily mundane activities and views of self. The prompt states, "In THIS LAST MONTH, how often have you been bothered by any of the following problems?" Participants respond using a 4-point Likert scale that ranges from 0 (*not all all)* to 3 (*nearly every day)*. With these responses, the PHQ-9 generates total scores that range from 0-27 in depression severity. Scores of 5 or higher indicate minimal depression whereas scores of 20 or higher indicates severe depression. Generally, when the PHQ-9 is administered it helps patients understand what severity level of depression they fall under and helps with generating a treatment plan and intervention response. The PHQ-9 has been

shown to have strong convergent validity with measure depression severity such as the Hamilton Depression Inventory (HAM-D). When the scale is given repeatedly, test-retest reliability is good (r =.74) (Sun et al., 2020). Internal consistency of the PHQ-9 to be satisfactory with Cronbach's α of .89 (Kroenke et al., 2001. In the present sample, we had an internal consistency $\alpha\ of$ .90.

Procedure

The larger study's objectives were to longitudinally study displacement, trauma exposure, anxiety, depression, religious coping, resilience, and related mental health outcomes within a sample of displaced persons that is in accordance with United Nations definitions (UNHCR) during COVID-19. Data was collected through a series of self-report questionnaires in an online survey format via Qualtrics, completed through Amazon's Mechanical Turk (MTurk). The MTurk page was linked directly through Qualtrics, and retained no identifying information about the participants. Participants were initially pre-screened for displacement status (which included refugee, asylum seeker, internally displaced, and stateless) and self-reported proficiency in English. If they did not meet these initial criteria, they were deemed ineligible to complete the larger survey. The larger survey consisted of a screening question, demographic information, and 17 core measures including the PHQ-9, SCS-R, PMLD, and EDS-R. When assessing for the validity of responses, 35 potential participants failed validity checks that included incorrectly answering an attention check question asking the participant to select a specific anchor and patterned line-item screening which is when respondents choose the same answer repeatedly (straightlining). The remaining 217 participants were included in the final analyses. Participants were able to earn $0.10 USD for completing the screener survey, and an additional $3 USD bonus for advancing to the longer, 30-min survey. Participants were also told about further pay

($3 USD) for two follow-up surveys made available 1 month and 3 months post-baseline, respectively. Participants who completed all additional surveys, qualified for an additional $1.

Data Analysis

We conducted a power calculation to determine the sample size needed to conduct a moderation analysis of the direct effect. Using G* Power, we estimated a sample size of 76 participants needed to test the main hypotheses of this study, based on a moderate effect size of $f^2 = .15$, Type I error of $\alpha = .05$, and power of $(1- \beta) = .80$.

Statistical analyses were conducted using SPSS 20 and PROCESS macro v.3.5 (Hayes, 2013). Data were initially screened for validity of responses, missingness, and univariate outliers. Predictor variables were mean centered. A residual analysis was performed to check regression model assumptions. Scatter plots of jackknife residuals vs. fitted values were used to assess linearity and equal variance. QQ plots were used to check the normality assumption. Multicollinearity was examined using a variance inflation factor (VIF), resulting in a value of 1.005 meaning there is no multicollinearity present among the predictor variables. Statistical measures of Mahalanobis, Cook's distance, and leverage values were examined for multivariate outlier detection. Mahalanobis distance (Tabachnick et al., 2007) was used as the outlier metric, which measures the distance of a case from the centroid of that multidimensional mean based on all the variables. Two cases were identified as potential multivariate outliers that exceeded the generated cut off score. Sensitivity analyses that included potential outliers and excluded outliers was conducted. Analyses did not differ significantly, so cases were retained in the analyses.

Main analyses were simultaneous multiple linear regressions. Simple moderation analyses were conducted using Model 4 in PROCESS. A descriptive analysis was performed to report the distribution of relevant study variables and demographics information. A descriptive

table with sample characteristics was generated to display a statistical summary of the study, which showed the mean, range, and standard deviation. All analyses were done at the significance level of 5%. If the analysis results from a value that was not within the 95% CI, it was concluded that there was evidence at the 0.05 level to reject the null hypothesis. In the case of failing to reject the null hypothesis, the confidence interval was used to determine whether there is strong evidence of no association or inadequacy of precision. InterActive (McCabe et al., 2018) was used to display data visualization which included simple slopes across panels that represented high and low levels of social connectedness for one and two standard deviations above the mean, at the mean, and below the mean of the potential moderator.

Results

Frequencies and Correlations of Post-Migration Living Difficulties, Everyday Discrimination, Social Connectedness, and Depression.

Table 1 shows demographic information and means, standard deviations, and ranges for main measures. On the main measure of depression (PHQ-9), some of the most frequently endorsed items in the last month for *several days* to *more than half the days* were "little interest or pleasure in doing things" (n = 175; 80.7%), "feeling bad about yourself or that you're a failure or have let yourself or your family down" (n = 162; 74.7%), "Feeling tired or having little energy" (n = 162; 74.6%), "Poor appetite or overeating" (n = 152; 70.1%). In **Table 3**, which displays a distribution of self-reported PHQ-9 total scores, 61 participants had a total score that ranged from 15-19, that indicates moderately severe levels of depression (28.2%). Forty participants had a total score that exceeded 20 on the PHQ-9 scale which indicates severe levels of depression (18.6%). For social connectedness (SCS-R), frequently endorsed as *slightly agree* to *strongly agree* items included. "I have little sense of togetherness with my community" (n =

168; 77.4%), “I feel understood by people I know” (*n* = 158; 72.8%), and “I am unable to connect with other people” (*n* = 157; 72.4%). Responses were enumerated from the post-migration stressors (PMLD) checklist as displayed in **Table 4,** the most frequently endorsed as a *moderately serious* to *very serious* living difficulty were “worries about not being unable to return home in an emergency” (*n* = 167; 77.0%), “worries about family back at home” (*n* = 165; 76.1%) and “isolation” (*n* = 162; 74.7%). On the everyday discrimination measure (EDS-R), 81.1% of participants (*n* = 176) reported ancestry/national origins as a main reason for experiencing discrimination, followed by race (*n* = 166; 76.5%;) and religion (*n* = 143; 53.0%).

Table 2 displays bivariate correlations, means, and standard deviation. There was a weak correlation between age and depression, $r = -.12$. Gender was weakly correlated with everyday discrimination, $r = -.17$. Post-migration stressors (PMLD) were strongly correlated with depression, $r = -.51$. Social connectedness (SCS-R), was moderately correlated with depression, $r = -.43$. For the everyday discrimination (EDS-R), it was weakly correlated with depression, $r = .15$.-However, there was a moderate correlation between everyday discrimination (EDS-R) and social connectedness (SCS-R), $r = -.31$.

Moderation Analyses for Social Connectedness

To explore the relationship between the moderation of social connectedness between post-migration stressors (PMLD) and depression. We conducted a moderation analysis that yielded a significant overall model, $F(2, 214) = 56.01$, $R^2 = .34$, $p < 0.001$. The main effect of post-migration living difficulties on depression was significant, higher levels of post-migration stressors resulted in higher levels of depression ($b = .23$, $p < .001$, 95% CI = [.17, .30). Social connectedness was also significantly associated with depression ($b = -.35$, $p < .001$, 95% CI = [-.48, -.21]). As social connectedness decreased, depression increased. There was a significant

indirect effect between post-migration living difficulties and social connectedness on depression, (*b* = .05, $p < .05$, 95% CI = [.03, .09]). The findings are represented in **Figure 1**, which depicts simple slope line plots generated by InterActive (McCabe et al., 2018) to visualize the moderation analysis. Those with the lowest levels of social connectedness at two standard deviations below the mean suggests a small, weak but significant relationship, there is a strong relationship between post migration living difficulties and depression; the higher post-migration stressors, the slightly higher depression (*b* = 0.16, $p < .05$, 95% CI = [0.04 – 0.29]). Those with the highest levels of social connectedness at two standard deviations above the mean generally had lower levels of depression, with the association between post-migration stressors (PMLD) and depression being slightly stronger (*b* = 0.31, $p < .05$, 95% CI = [0.18 – 0.43]). Overall, there is a slightly stronger relationship between stressors (PMLD) and depression as social connectedness increased. Social connectedness moderated the relationship between post-migration living difficulties and depression.

To explore the relationship between the moderation of social connectedness between everyday discrimination and depression. We conducted a moderation analysis that overall yielded a significant model, $F(2, 214) = 25.29$, $R^2 = .19$, $p < .001$. In general, higher levels of everyday discrimination were not associated with higher levels of depression (*b* = .01, $p = .78$, 95% CI = [-.07, .09]). Social connectedness had a strong association with depression (*b* = -.50, $p < .001$, 95% CI = [-.65, -.35]). Social connectedness also moderated the relationship between everyday discrimination and depression (*b* = .08, $p < .05$, 95% CI = [.04, .14]). Probing the potential moderation effect, **Figure 2** depicts simple slope line plots generated by InterActive (McCabe et al., 2018). At two standard deviations below the mean on social connectedness, (*b* = 0.02, $p > .05$, 95% CI = [-0.13, 0.16]), suggesting an orthogonal relationship between everyday

discrimination and depression. Similarly, at two standard deviations above the mean on social connectedness, ($b = .01$, $p > .05$, 95%CI = [-.14, .15]), also suggesting an orthogonal relationship between everyday discrimination and depression. At the mean for individuals with average levels of social connectedness, there was also no relationship displayed ($b = 0.01$, $p > .05$, 95% CI = [-.07, .09]).

Discussion

This study is vital in demystifying some of the challenges displaced person experience, and as well, identifying factors that may help to buffer the impact of these challenges. In this sample, there were generally moderate to high levels of depressive symptoms. Within this sample of persons who have been displaced, higher post-migration living difficulties were strongly associated with high levels of depression. Higher levels of social connectedness were also strongly associated with low levels of depression. In contrast, higher levels of everyday discrimination were only slightly associated with high levels of depression. Overall, there was a moderated effect between social connectedness and post-migration living difficulties which suggests that social connectedness can serve as a buffer for depression. The findings in this study resonate with the important role and facilitation of social connectedness, the sample notes that social connectedness can be a protective factor against depression, post-migration stressor, and everyday discrimination.

Post-migration stressors focus on many aspects and facets of daily life. Although the measure doesn't capture a summative view of life, it can serve as an aperture into some of the core concerns a displaced person is tasked with navigating. Displaced persons often struggle with integration, finances, employment, language barriers, stigma, and isolation that can be linked to social and legal restrictions. In the present study, higher levels of post-migration stressor were

associated with higher levels of depression. Empirical evidence has started to document the impact of social stressors in the resettlement environment on refugees' psychological outcomes (Li et al., 2016). For example, the Social Determinants of Health framework (Marmot, 2005) postulates that disparities in social services or access to resources, arise from various political, social, and economic contexts which can shape one's physical and mental health.

The observed moderating effect of social connectedness displayed between post-migration living difficulties and depression can be explained by the social capital theory (Strang & Quinn, 2019). Upon arrival in a new place, it is common for individuals to seek out members of their affinity group. In a study conducted by Ejang and colleagues, they conducted in-depth interviews with internally displaced persons who returned to their home within Uganda after the two-decade civil war between the Lord's Resistance Army (LRA) and the Government of Uganda ended. Ejang notes, despite being displaced, the social capital of people does not completely fade away, but rather transforms either positively or negatively depending on the circumstance (Ejang et al., 2020). Ascribing to a social network can contribute to sustaining connections where there is reciprocity and integration. In the sample, higher levels of social connectedness were able to buffer the relationship between post-migration living difficulties and depression. For displaced persons whose symptoms remit or displays less severe levels of depression, assessing what tools or social relationships they might need to feel better is a starting point to asses. For example, as indicated in a study by Williams and colleagues, "social connectedness emerged as a central factor in predicting depression and self–esteem. Consistent with theoretical and empirical claims by Lee and his colleagues (Lee et al., 2001; Lee et al., 2002; Lee & Robbins, 1995, 1998, 2000), associations between psychological health and social support and social competence were largely indirect and were mediated by participants'

experience of general social connectedness (p. 869, Williams, et al., 2006)". The quality of social connections can serve as a protective factor for displaced persons. Lost social capital can potentially be restored and leveraged in a newly resettled environment.

The relationship between everyday discrimination and depression was significant but weak. This weak association can potentially be explained by the fleeting nature of everyday discrimination. The experiences of everyday discrimination may lack the intensity of major events of prejudice, bigotry, and microaggressions; but nevertheless, they are still deleterious to mental health, as the chronic and cumulative nature of everyday discrimination can lead to adverse mental and physical impacts to an individual (Qin et al., 2020). It is possible that the long-term cumulative nature from everyday discrimination can result in higher risk of depression. There is research that examined the long-term impacts of perceived discrimination among African Americans which found that older African Americans who experienced everyday discrimination, a chronic stressor, were at heightened risk of poor mental health (Geronimus, 1992). Alternatively, in a health and retirement study conducted by Ayalon and colleagues (2011) that examined the relationship between lifetime perceived discrimination and mental health among three racial and ethnic groups, older Black adults who experienced numerous discriminative events had weaker associated mental health outcomes. The research concluded these were experiences they had become accustomed to as a result of systemic oppression but also argued that social and cultural resources could serve as necessary buffers. In the same study, for older Black adults who reported high levels of social connectedness, they expressed community support and resilience as a form of coping. The EDS-R measure has frequently been used to examine racial discrimination among Black Americans with growing studies in other communities of color. Assessing the extent to which the scale can be applied to displaced

persons who also have intersecting identities is an idea that needs to be discerned more. More data will need to be collected in subsequent studies to examine this relationship deeply and address further gaps.

Measuring trauma in displaced persons may be difficult given the various stages a displaced person experiences which can also differ based on displacement status. In a study conducted by Dolezal and colleagues that examined differences in posttraumatic and psychosocial outcomes among refugees, asylum seeks, and internally displaced persons (IDP) found that displacement statuses may differentially affect social functioning (Dolezal et al., 2020). For a refugee in a camp or a refugee who has resettled, both can experience differing trauma exposures and psychological symptoms (Dolezal et al., 2020). In contrast to an asylum seeker, IDP, or stateless person, there is great uncertainty in their status which threatens their chance in resettlement and welfare. It is important to note that refugees may be more focused on direct threats to personal safety and discrimination, which can result in more psychosocial symptoms (Dolezal et al., 2020). For all groups, relying on macrosystems as outlined in the Integrated Bio-ecological Adaptive Model impacts the facilitation of social connectedness. Legal mandates that dictate approval to resettle can be a barrier to other systems within the model that promote social connectedness. There is also optimal timing that is lost to observe the psychosocial challenges in displaced groups at various stages of their journey, since most studies tend to focus on post-migration timepoints. Measuring trauma and health status can prove to be cumbersome, considering the nuances and cultural differences of displaced persons. Western-based symptomology may not be sufficient and adequate to default to when assessing for psychosocial stressors among displaced groups (Bentley et al., 2019). This will require more

ethnographies and qualitative approaches to help uncover more anecdotal testimonies that address emergent themes.

Limitations

The study had several limitations. Refugees, defined as people fleeing conflict or persecution, who are protected under international law were overrepresented compared to other displaced groups in the study. This can be a result of more pending and pressing situations that a stateless person, asylum seeker, or an internally displaced person is experiencing, which may impact study enrollment and how they respond to the items in the social connectedness measure. They are also more vulnerable due to their unstable status. Respondents also did not represent current trends in displacement. According to the UNHCR, top hosting countries were Turkey, Colombia, Pakistan, Uganda, and Germany (UNHCR, 2019). This differed from the top hosting countries outlined in the present sample **(Table 1).** This prompted us to investigate and assess what was happening in countries that majority of participants selected that may not be included in contemporary discourse and reflective of current trends. Within the sample, majority top hosting countries and countries of origin were; India, Sri Lanka, Canada, United Kingdom, and Brazil. Utilizing a sampling strategy that reflects trends in displacement could help mitigate these processes.

Women were also underrepresented in the study. In past studies, self-reported social and health questionnaires found that women fared worse than men (Strang & Quinn 2019), arguing that the observed patterns may be more even more pronounced in women. In the sample, there was also a small correlation between everyday discrimination and gender, with women reporting lower perceived discrimination than men. Women may experience more emotional and behavioral problems than suggested and reported by their male counterparts. Studies that have

examined male experiences of depression concluded that healing is linked to recovering a masculine sense of identity (Strang & Quinn, 2019). This prompts for more research to be conducted that examines gendered patterns and characteristics between displaced men and women (Strang & Quinn 2019).

Although MTurk, has been shown to have satisfactory internal reliability and test-retest reliability in mental health measures. There have also been critiques made regarding compensation, overstimulation, and burnout by MTurk workers, Additionally, since MTurk can be used for anything conceivable – tech companies do post tasks on MTurk to help train machine learning algorithms to flag offensive content which can be disturbing to workers (Moss et al., 2020). MTurk has grown in popularity among researchers and corporations, it's imperative to establish ethical considerations when using this platform. The study required computer literacy as well as English literacy which could have limited a segment of the population of interest from the study. The survey included UN definitions of displacement; however, participants can identify differently which can augment observed indirect and direct effects. Additionally, stateless groups were only weakly represented. Not belonging to a nation state (e.g., Kurds/Tibetans) can potentially influence types of responses given, participants may not be as candid and insightful. The survey contained questions that the participants had to think about retrospectively which can result in recall bias. Additionally, since participants can choose to participate in the survey, this is a form of convenience sampling, and can result in selection bias.

Conclusion

Expanding this type of study to include a more mixed-methods approach can be helpful in uncovering and elucidating new themes and experiences that may not be captured in surveys, since cross-sectional studies limit generalizability and precluding any causal relationships. This

study can be helpful in establishing protective factors like social connectedness and risk factors for displaced groups at different periods of displacement. Pushing for less stringent policy on displaced populations can also help mitigate some of the proximal and distal stressors faced by displaced groups. We are witnessing a growth in exclusionary policies and rhetoric worldwide that deny sanctuary for displaced persons. Due to the rise in populist sentiments against immigration (Bentley et al., 2019), our findings can help with advocacy efforts to assuage post-migration stressors and remedy some of the resultant mental health challenges displaced persons face. Tackling mental health during pre-migration timepoints can help mitigate the ruminative psychological processes that exacerbate depression during post-migration periods. Providing culturally-appropriate mental health services individuals consent to that are coupled with resettlement services upon arrival may help remedy some of these issues. Additionally, facilitating social connectedness through community-based interventions (Zoellner et al., 2018) can help restore communal practices that are common in non-western settings. For displaced persons, migrating to an unfamiliar place can evoke a loss of self and former connection to a familiar reality. As the world becomes increasingly interconnected, it is imperative to change perceptions of displaced persons and to push for policy that allows a safe integration for displaced persons. This integration must package social, economic, and health services together to reduce any vulnerabilities that can become a barrier to rebuilding their lives.

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Tables

Table 1.
Frequencies and descriptive characteristics for the overall sample (N = 217)

	M **or %**	***n***	***SD***	**Range**
Age (years)	30.95		*6.60*	18 - 56
Female	28.1%	61		
Refugee Status:				
Refugee	49.3%	107		
Asylum Seeker	22.1%	48		
Internally Displaced Persons	19.8%	43		
Stateless Person	8.8%	19		
Country of Origin				
India	35.9%	78		
Other[1]	35.9%	78		
Sri Lanka	11.1%	24		
United Kingdom	10.6%	23		
Brazil	6.5%	14		
Country of Residence				
India	43.8%	95		
Other[2]	20.2%			
United Kingdom	19.8%	43		
Brazil	8.8%	19		
Canada	7.4%	16		
Religion				
Christianity	45.2%	98		
Hinduism	30.9%	67		
Islam	14.3%	31		
None	4.1%	9		
Judaism	1.8%	4		
Buddhism	1.8%	4		
Other	1.4%	3		
Sikhism	0.5%	1		
Post-Migration Living Difficulties (PMLD)	34.00		*10.85*	10 – 60
Family Concerns Subscale (PMLD)	10.65		*3.75*	3 – 18
Everyday Discrimination (EDS-R)	33.55		*9.61*	9 – 54
Patient Health Questionnaire-9 (PHQ-9)	13.61		*6.08*	0– 26
Social Connectedness (SCS-R)	24.30		*5.17*	8 – 42

Note. PHQ-9 = Patient Health Questionnaire; SCS-R = Social Connected Scale (Revised); PMLD = Post-Migration Living Difficulties checklist; EDS-R = Everyday Discrimination Scale

[1]Other countries of origin included: Afghanistan, Bangladesh, Syria, Venezuela, and Pakistan

[2]Other countries of residence included: Italy, Pakistan, Sweden, Turkey, and United Arab Emirates

Table 2.
Correlations between Post-Migration Stressors, Depression, and Social Connectedness among Displaced Persons (N = 217)

Variable	1	2	3	4	5	6
1. Age	--					
2. Gender (0 = male, 1= female)	-.02	--				
3. Depression (PHQ-9)	-.12	-.06	--			
4. Social Connectedness (SCS-R)	.004	.02	-.43**	--		
5. Stressors (PMLD)	-.08	.07	.51**	-.34**	--	
6. Discrimination (EDS-R)	.05	-.17*	.15*	-.31**	.06	--

Note. PHQ-9 = Patient Health Questionnaire; SCS-R = Social Connected Scale (Revised); PMLD = Post-Migration Living Difficulties checklist; EDS-R = Everyday Discrimination Scale
*$p < .05$, correlation is significant at the 0.01 level (2-tailed).
** $p < .01$, correlation is significant at the 0.05 level (2-tailed).

Table 3.
Distribution of Self-Reported PHQ-9 Scores by Displaced Persons (N = 217)

Depression Severity (PHQ-9)	*n /M*	*%/SD*
Minimal, 0-4	23	10.5%
Mild, 5-9	31	14.2%
Moderate, 10-14	62	28.%
Moderately severe, 15-19	61	28.2%
Severe, 20-27	40	18.6%
Functional Impairment (0-3)	1.38	*0.78*

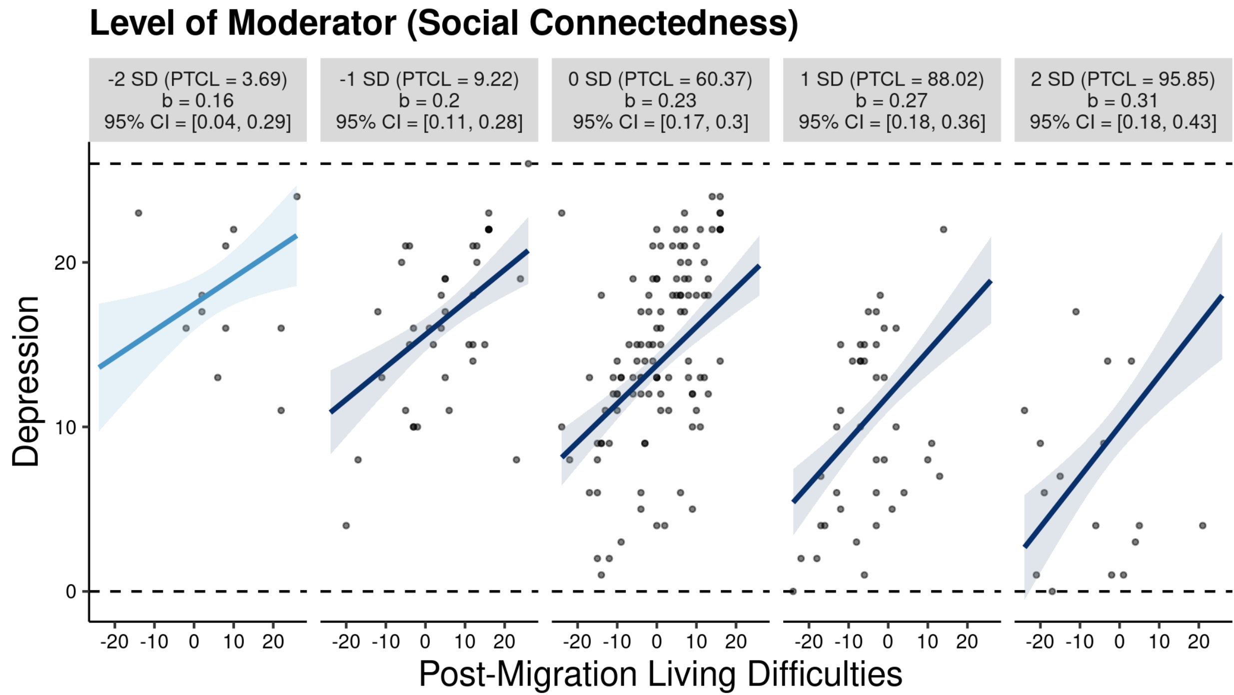
Note. Item #10 in the PHQ-9 examined functional impairment and is not included in the total depression severity score.

Table 4.
Moderately Serious to Very Serious Postmigration Living Difficulties Reported by Displaced Persons (N = 217)

Item	*n*	%
Unable to return home in an emergency	167	77.0
Worries about family back at home	165	76.1
Isolation	162	74.7
Worries about not getting treatment for health problems	161	74.2
Separation from Family	160	73.7
Not being able to find work	157	72.4
Poverty	156	71.9
Fears of being sent back home	147	67.7
Poor access to counseling services	146	67.3
Communication Difficulties	142	65.5

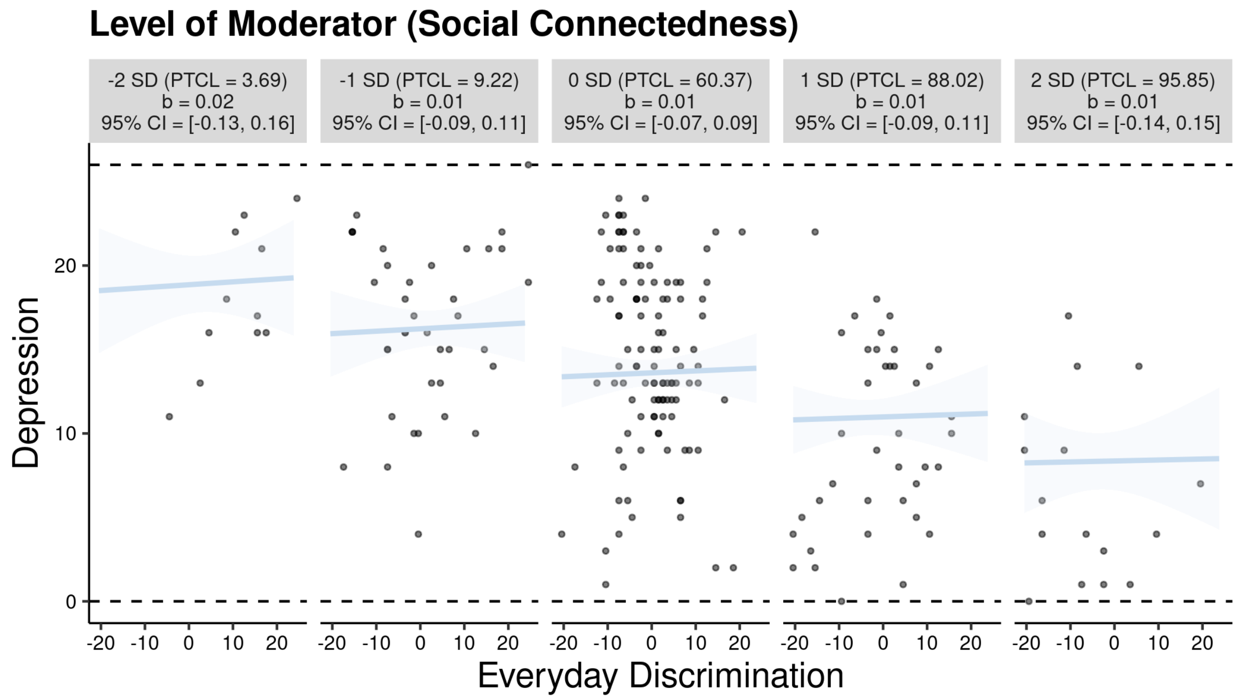
Figure 1.

Levels of social connectedness as a moderator between post-migration living difficulties and depression



Note. Each graphic shows the computed 95% confidence region (shaded area), the maximum and minimum values of the outcome (dashed horizontal lines), and grey panels that divide the sample by standard deviation from the mean. The x-axes represent the full range of the focal predictor with plotting based on mean centering. CI = confidence interval; PTCL = percentile of the sample captured by the panel.

Figure 2.
Levels of Social connectedness as a moderator between everyday discrimination and depression



Note. Each graphic shows the computed 95% confidence region (shaded area), the maximum and minimum values of the outcome (dashed horizontal lines), and grey panels that divide the sample by standard deviation from the mean. The x-axes represent the full range of the focal predictor with plotting based on mean centering. CI = confidence interval; PTCL = percentile of the sample captured by the panel.