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The association between visa insecurity and mental health, disability and social engagement in refugees living in Australia

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ABSTRACT

Background: The vast majority of the world's refugees and people seeking asylum live in a state of sustained displacement. Little is known, however, about the mental health impact of prolonged insecurity.

Objective: This study aimed to investigate the association between insecure visa status and mental health, suicidality, disability and social engagement in a sample of refugees and asylum-seekers living in Australia

Method: Participants were 1,085 refugees with secure (i.e. permanent residency or Australian citizenship, $n = 826$, 76.1%) and insecure (i.e. asylum-seeker claim, bridging visa, temporary visa, $n = 259$, 23.9%) visa status who had arrived in Australia since January 2011, and were from Arabic, Farsi, Tamil or English-speaking backgrounds. Participants completed an online survey assessing pre- and post-migration experiences, mental health, disability and social engagement.

Results: Results indicated that, after controlling for background factors, refugees with insecure visas had significantly greater PTSD symptoms, depression symptoms, thoughts of being better off dead and suicidal intent compared to those with secure visas. There were no group differences in disability. Refugees with insecure visas received support from significantly more groups in the Australian community than those with secure visas. Further, refugees with insecure visa status who had low group membership showed greater depression symptoms and suicidal intent than those with secure visa status who had low group membership.

Conclusion: Findings highlight the negative mental health consequences of living in a state of protracted uncertainty for refugees and people seeking asylum, and the key role of social engagement in influencing mental health amongst insecure visa holders. Results also underscore the importance of designing and implementing policies and services that facilitate improved mental health for those with visa insecurity.

La asociación entre la inseguridad de la visa y la salud mental, la discapacidad y la participación social en los refugiados que viven en Australia

Antecedentes: la mayoría de los refugiados del mundo y las personas que solicitan asilo viven en un estado de desplazamiento sostenido. Sin embargo, se conoce muy poco sobre el impacto en la salud mental de la inseguridad prolongada.

Objetivo: este estudio investiga la asociación entre el estatus inseguro de la visa y la salud mental, la suicidalidad, la discapacidad y la participación social en una gran muestra de refugiados y solicitantes de asilo que viven en Australia.

Metodología: Los participantes fueron 1.085 refugiados. Un grupo tenía un estatus seguro de la visa (como por ejemplo residencia permanente o ciudadanía australiana $n=826$, 76.1%) y otro grupo tenía un estatus inseguro de su visa (como por ejemplo solicitantes de asilo, visa puente¹, visas temporales, $n = 259$, 23,9%). Los sujetos llegaron a Australia desde Enero de 2011, y eran de origen árabe, farsi, tamil o angloparlante. Los participantes completaron un cuestionario online que evaluaba las experiencias pre y post migración, salud mental, discapacidad y participación social.

Resultados: Los resultados indican que después de controlar factores contextuales importantes, los refugiados con visas inseguras tuvieron síntomas de TEPT significativamente mayores ($\beta=0.15$, 95%; intervalo de confianza (IC) = 0,05-0,26), síntomas depresivos ($\beta=0.22$, 95% CI=0.069-0.34), pensamientos de estar mejor muerto (OR=1.9, 95% CI=1.26-2.89) e intentos suicidas (OR=2.41, 95% CI=1.03-5.62), comparados con aquellos que contaban con visas seguras. No existen diferencias entre grupos para la discapacidad. Los

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PALABRAS CLAVE

Trastorno de estrés postraumático; Depresión; Suicidio; Refugiados; Estatus de la visa; Participación social

关键词

创伤后应激障碍; 抑郁; 自杀; 难民; 签证身份; 社会参与

HIGHLIGHTS

- Little is known about the mental health impact of prolonged insecurity in people from a refugee background.
- We investigated mental health, social engagement and disability in a sample of 1085 refugees with secure and insecure visa status.
- Refugees with insecure visa status reported greater PTSD symptoms, depression symptoms and suicidality than those with secure visa status.
- Refugees with insecure visa status who were active members of more social groups showed lower depression and suicidality than those who reported low group involvement.
- The mental health effects of visa insecurity should be considered in service and policy development.

refugiados con visas inseguras recibieron el apoyo de muchos más grupos que aquellos que tenían visas seguras ($\chi^2 = 33.01, p < .001$). Además, los refugiados con estatus de visa inseguro con baja pertenencia al grupo mostraron mayores síntomas de depresión ($B = 0.17, t = 3.85, p < .001$) e intentos suicidas que aquellos que tenían un estatus de visa seguro y una baja pertenencia a un grupo ($B = -1.25, OR = 0.29, p = 0.006$).

Conclusión: Los resultados destacan las consecuencias negativas para la salud mental de vivir en un estado de incertidumbre prolongada para los refugiados y las personas que solicitan asilo, y el papel clave de la participación social para influir en la salud mental entre los titulares de visas inseguras. Los resultados también subrayan la importancia de diseñar e implementar políticas y servicios que faciliten una mejor salud mental para las personas con visas inseguras.

居住在澳大利亚的难民的签证不安全与心理健康, 残疾和社会参与之间的联系

背景: 世界上大多数难民和寻求庇护者都处于持续流离失所的状态。然而, 人们对于长期不安全感对精神健康的影响知之甚少。

目标: 本研究考查了大量居住在澳大利亚的难民和寻求庇护者的不安全签证身份与心理健康, 自杀, 残疾和社会参与之间的关系。

方法: 参与者为1,085名自2011年1月起从阿拉伯语, 波斯语, 泰米尔语或英语背景地区来到澳大利亚居住的难民, 其中826名难民(76.1%)具有安全的签证身份(即永久居留权或澳大利亚公民身份), 259名难民(23.9%)签证身份不安全(即寻求庇护者的申请, 过渡签证, 临时签证)。参与者完成了一项评估移民前后经历, 心理健康, 残疾和社会参与度的在线调查。

结果: 结果表明, 在控制了重要的背景因素之后, 相较于持有安全签证的难民, 签证不安全的难民的PTSD症状($\beta = 0.15, 95\%$ 置信区间(CI) = 0.05-0.26), 抑郁症状($\beta = 0.22, 95\%CI = 0.069 - 0.34$), 有不如死掉更好的想法($OR = 1.9, 95\%CI = 1.26-2.89$)和自杀意向($OR = 2.41, 95\%CI = 1.03-5.62$)显著更高。残疾方面没有组别差异。持有不安全签证的难民明显比持有安全签证的难民得到更多团体的支持(Wald卡方(1) = 33.01, $p < .001$)。此外, 团体成员少, 持有不安全签证身份的难民表现出的抑郁症状($B = -1.25, t = 3.85, t = 3.85, p < .001$)和自杀意向比团体成员少, 持有安全签证身份的难民更多($OR = 0.29, p = 0.006$)。

结论: 调查结果突出表明了长期在不确定状态下生活对难民和寻求庇护者精神健康的负面影响, 以及社会参与在影响持有不安全签证者心理健康的关键作用。结果还强调了设计, 实施有助于改善持有不安全签证者心理健康政策和服务的重要性。

There are currently over 23 million refugees and asylum-seekers forcibly displaced worldwide (UNHCR, 2019), yet in 2016, less than 1% of forcibly displaced persons were resettled (UNHCR, 2018a). Notably, in 2017, there was a 54% decrease in the number of permanent resettlement places globally compared to 2016 (UNHCR, 2018b). This mirrors the rise, in recent years, of temporary protection policies in a number of countries that have traditionally focused on the permanent resettlement of refugees (Ghezelbash, 2018; Jakubowicz, 2018; Miller, 2018). Following the increase in displaced persons and decrease in permanent resettlement places, many refugees live in host countries in a state of prolonged insecurity, with little certainty or control over their futures. Despite the overwhelming majority of refugees² living in situations of sustained displacement, including both in countries that are adjacent to those with humanitarian crises (e.g. Jordan, Lebanon) and in countries of resettlement (e.g. Australia, USA, European countries), relatively little is known about the mental health consequences of prolonged insecurity. Given the current global refugee landscape, it is critical to understand the psychological and functional impact of prolonged resettlement uncertainty to inform the development of effective policies and

interventions for the tens of millions of refugees living in sustained displacement.

Past research has documented high levels of psychopathology amongst people seeking asylum (i.e. individuals who have applied for refugee status) residing in host countries (Heeren et al., 2012; Hengst, Smid, & Laban, 2018; Hocking, Kennedy, & Sundram, 2015; Ichikawa, Nakahara, & Wakai, 2006; Morgan, Melluish, & Welham, 2017; Premand et al., 2018). The few studies that have directly compared psychopathology between individuals with temporary status (both people seeking asylum and those who have been granted temporary protection visas) and refugees with permanent visas have found that rates of psychological disorders are considerably higher in the former (Momartin et al., 2006; Silove, Steel, McGorry, & Mohan, 1998; Steel et al., 2006a). Specifically, these studies have indicated that individuals with insecure visa status have higher levels of PTSD symptoms, depression symptoms, and suicidality compared to those with secure visas (Heeren et al., 2012; Hengst et al., 2018; Hocking et al., 2015; Ichikawa et al., 2006; Morgan et al., 2017; Premand et al., 2018; Silove et al., 1998; Steel et al., 2006a). Consistent with this, Nickerson, Steel, Bryant, Brooks, and Silove (2011) found that having one's

visa status converted from temporary to permanent was associated with a significant decrease in psychological symptoms in a sample of Iraqi refugees living in Australia, with this decrease being mediated by a reduction in post-migration stressors. To date, however, studies have tended to focus specifically on psychopathological outcomes, which does not allow for the investigation of the broader societal impact of visa insecurity, including the extent to which individuals with insecure visa status are able to engage in the host community. It may be the case, for example, that if higher levels of psychological distress are seen amongst those with insecure visas, this manifests in greater withdrawal (i.e. lower social engagement), and reduced capacity to function in daily life (i.e. greater disability).

Further, most studies investigating the mental health consequences of prolonged insecurity have either (a) been limited by small sample sizes, (b) focused on only one or two cultural groups, (c) not compared individuals with secure and insecure visa status, or (d) failed to control for important potential confounding factors (e.g. age, gender, trauma exposure) (Heeren et al., 2012; Hengst et al., 2018; Hocking et al., 2015; Ichikawa et al., 2006; Momartin et al., 2006; Morgan et al., 2017; Nickerson et al., 2011; Premand et al., 2018; Silove et al., 1998; Steel et al., 2006a). The latter may be especially important given that exposure to potentially traumatic events has been found to vary markedly between those with secure and insecure visa status (Steel et al., 2006a), potentially accounting for ultimate differences in psychological distress. For example, individuals with insecure visa status are likely to have been in environments where trauma exposure is widespread even after leaving the home country (i.e. undertaking perilous journeys by boat (Silove, Steel, & Watters, 2000), being held in immigration detention (Steel et al., 2006a)).

1. Aims of the study

The current study aimed to investigate the differences in pre- and post-migration experiences between refugees with insecure and secure visa status. Further, this study proposed to examine the association between insecure visa status and mental health, suicidality, disability and social engagement, controlling for other potentially important factors including gender, age, education, marital status, pre-migration trauma exposure and time in Australia. In Australia, refugees can be resettled via two pathways; first, individuals who apply for and are granted refugee status before arriving in Australia (i.e. via the United Nations High Commissioner for Refugees or Australia's humanitarian program) are typically provided with permanent visas which allow them to remain in Australia

indefinitely (Australian Government Department of Home Affairs, 2019). Second, individuals who arrive in Australia without a valid visa or who hold a non-refugee visa and subsequently apply for refugee status may face lengthy processing times, and for those in particular who arrive without a valid visa, ultimately may only be granted temporary visas (Andrew and Renata Kaldor Centre for International Law, 2019; Australian Government Department of Home Affairs, 2019). Those with temporary visas often have restricted access to services, legal and settlement support, and are typically required to reapply for their visa every three to five years. Based on past research, we hypothesized that those with insecure visa status would have been exposed to more potentially traumatic events (PTEs) and post-migration stressors due to differential experiences in the country of origin (i.e. factors precipitating displacement), during the journey to asylum, and in the post-settlement environment (i.e. greater likelihood of being held in immigration detention). We also predicted that insecure visa status would be associated with poorer mental health, greater suicidality, greater disability, and poorer social engagement compared to secure visa status, over and above the impact of prior PTE exposure. In an exploratory aim, we also examined the extent to which social engagement was associated with mental health and disability, and whether this relationship differed according to visa security.

2. Materials and methods

2.1. Participants

Participants in this study were 1085 refugees with secure ($n = 826$, 76.1%) and insecure ($n = 259$, 23.9%) visa status who had arrived in Australia since January 2011. Participants were recruited from Arabic, Farsi, Tamil or English-speaking refugee communities. These communities were chosen as they represented over 50% of individuals being granted refugee status in Australia either via the offshore humanitarian program, or after lodging an application onshore, between 2012 and 2015 (when this study began) (Australian Government Department of Immigration and Border Protection, 2014a, 2014b; Australian Department of Immigration and Border Protection, 2013). Recruitment methods included advertising at centres and services across Australia supporting refugees and people seeking asylum, advertising on social media platforms (i.e. Facebook), and snowball sampling where participants were asked to indicate whether other members of their family or friends would have interest in participating. Snowball sampling has been found to be an effective method of accessing difficult-to-reach populations (Sadler, Lee, Lim, & Fullerton, 2010),

such as individuals with insecure visa status in this study. Inclusion criteria in this study were: (a) refugee or asylum-seeking background, (b) literate in Arabic, Farsi, Tamil or English, (c) over 18 years of age, and (d) arrived in Australia in January 2011 or later.

2.2. Measures

All measures were translated into study languages by accredited translators. Translated measures were pilot-tested with individuals from each language group with varying levels of education, and adjusted according to feedback from these participants. Measures were then blind back-translated into study languages following gold-standard procedures (World Health Organization, n.d.). Minor discrepancies were rectified by the research team in consultation with accredited translators with experience in working with mental health-related information.

2.2.1. Exposure to potentially traumatic events (PTEs)

The 16-item Harvard Trauma Questionnaire (Mollica et al., 1992) was used to measure exposure to PTEs. This scale indexes lifetime exposure to traumatic events commonly experienced by refugees including lack of food or water, rape, murder of family or friend and torture. Participants indicate whether they experienced and/or witnessed each trauma type. A total count of exposure to potentially traumatic events was derived, representing the number of types of events the individual had experienced and/or witnessed.

2.2.2. Post-migration stressors

A 36-item version of the Post-migration Living Difficulties Checklist (Silove et al., 1998; Steel, Silove, Bird, McGorry, & Mohan, 1999), adapted to the current Australian context, was used to measure exposure to post-migration stressors. This scale indexed living difficulties including social and economic difficulties, fear for the future, immigration-related problems, family separation, and language difficulties. Participants rated each living difficulty on a 5-point scale (1 = *was not a problem/did not happen*, 5 = *a very serious problem*). Living difficulties were considered to be present if they were rated as being at least a score of 3 (i.e. a moderately serious problem). A total count of living difficulties present was computed.

2.2.3. Posttraumatic stress disorder

The 16-item Posttraumatic Diagnostic Scale for DSM-IV (Foa, 1996) was used to index PTSD. As the DSM-5 version of the PDS was not available at the start of the study, four additional items were included to measure DSM-5 symptoms of PTSD. These items included

negative expectations about oneself or the world, distorted self- or other-blame, pervasive negative emotional states, and reckless or self-destructive behaviour. This version of the scale has been used in previous research with refugee samples (e.g. Nickerson et al., 2015a, 2015b; Schick et al., 2016). Participants were asked to indicate on a 4-point scale (0 = *not at all or only once*, 3 = *5 or more times a week/almost always*) how often each symptom bothered them in the past month. Symptoms that were rated as at least 1 (once a week or less/at least once in a while) were considered to be present (Foa, 1996). Following DSM-5 PTSD criteria, to meet probable diagnostic threshold participants were required to have one or more intrusive symptoms, one or more avoidance symptoms, two or more negative alterations in cognition and mood, and two or more arousal symptoms (American Psychiatric Association, 2013). A total sum score of PTSD symptoms was also calculated. Internal consistency for this scale in this study was $\alpha = 0.96$

2.2.4. Depression

The 9-item Patient Health Questionnaire (Kroenke, Spitzer, & Williams, 2001) was used to measure depression. Participants were asked to indicate on a 4-point scale (0 = *not at all*, 3 = *nearly every day*) how often they had been bothered by symptoms in the past two weeks. A DSM-5 derived algorithm was used to derive probable depression diagnosis (American Psychiatric Association, 2013). Symptoms that were rated as at least 2 (*more than half the days*) were considered present. To meet diagnostic threshold, participants were required to report experiencing 'little interest or pleasure in doing things' or 'feeling down, depressed or hopeless' nearly every day. In addition, participants were required to report experiencing 4 or more other symptoms. In addition, a total sum score of depression symptoms was calculated to use in analyses; to differentiate depression symptoms from suicidality, item 9 (thoughts of being better off dead) was removed from the total score. This scale has been used with a number of refugee groups to index depression (e.g. Comtesse & Rosner, 2019; Leiler, Bjarta, Ekdahl, & Wasteson, 2019; Wulfes, Del Pozo, Buhr-Riehm, Heinrichs, & Kroger, 2019). Internal consistency for this scale in this study was $\alpha = 0.93$.

2.2.5. Suicidality

Two items were used in this study to assess 'thoughts of being better off dead' and suicidal intent. First, item 9 of the PHQ-9 was used to index the extent to which participants believed they would be better off dead (Kroenke et al., 2001). This item specifically assessed '*thoughts that you would be better off dead or of hurting yourself in some way*'. Participants were asked to indicate on a 4-point scale how often they had been bothered by these thoughts in the past two weeks (0 = *not at all*, 1 = *several days*, 2 = *more than*

half the days, 3 = nearly every day). Next, participants who scored 1 or greater on this item, were asked about suicidal intent. Specifically, this item assessed 'in the past two weeks, have you made specific plans for suicide, intended to take your own life, or taken steps towards putting your plan to kill yourself into action'. Participants responded yes/no to this item. Participants who responded yes were contacted by telephone by a clinical psychologist and referred to appropriate support. These two items were transformed into a single variable for analyses where 0 = no suicidality (participants scored 0 on the first item), 1 = thoughts of being better off dead (participant scored 1, 2 or 3 on first item, and responded negatively to second item), 2 = suicidal intent (participant scored 1, 2 or 3 on first item and responded affirmatively to second item).

2.2.6. Disability

The 12-item World Health Organization Disability Assessment Schedule 2.0 (WHODAS 2.0) (World Health Organization, 2000) was used to measure disability. Participants indicated how much difficulty they had doing daily activities (including taking care of household responsibilities, learning a new task and getting dressed) over the past 30 days on a 5-point scale (1 = none, 5 = extreme or cannot do). Responses were summed to create a total disability score. Internal consistency for this scale in this study was $\alpha = 0.91$.

2.2.7. Social engagement

We used three items from the structural social capital subscale of the Short Social Capital Assessment Tool (SASCAT) (De Silva, Huttly, Harpham, & Kenward, 2007; Harpham, Grant, & Thomas, 2002) to index social engagement. The first item indexed the number of groups participants were active members of (out of a total of nine types of groups, including work related organizations, cultural community groups, women's groups, men's groups, political groups, religious groups, sports groups, student groups and charitable organizations). The second item indexed the number of groups participants received emotional or economic assistance from (out of a total of 12 types of groups, including work related organizations, cultural community groups, women's groups, men's groups, political groups, religious groups, sports groups, student groups, volunteer/charity groups, refugees from one's own community, refugees from other communities and non-refugees from the Australian community). The third item indexed the number of types of individuals participants received help from (out of a total of 12 types of individuals, including family, neighbours, friends who are not neighbours, community leaders, politicians, religious leaders, government officials, charitable organizations/non-government

organizations, volunteer groups, refugees from one's own community, refugees from other communities, and non-refugees from the Australian community) in the past 12 months.

2.3. Procedure

Data collection was undertaken between April 2015 and January 2018. Participants initially registered their interest in participating on the study website, where they completed screening questions to assess for eligibility (refugee or asylum-seeking background which was assessed by visa status reported by the participant, arrival since 2011, aged 18 or over, able to read in Arabic, Farsi, Tamil or English). Any queries regarding eligibility were assessed by a follow-up phone call from a member of the research team with an interpreter if necessary. Those who were eligible then completed on-line informed consent procedures before being directed to a personalized study link. Written informed consent was obtained from all participants. Participants were informed that their responses on these questions would in no way impact on any immigration process in which they were engaged. Measures were undertaken on-line, and took approximately 45 mins to 1 hour to complete. Potential participants who did not have access to the internet contacted the study team by telephone. Participants were screened for eligibility by a research assistant, and sent hard copies of the informed consent documents and the survey, which was returned by post. All participants were provided with an \$AUD25 shopping voucher to compensate them for costs associated with undertaking the study. The authors assert that all procedures contributing to this work comply with the ethical standards of the relevant national and institutional committees on human experimentation and with the Helsinki Declaration of 1975, as revised in 2008. All procedures involving human subjects/patients were approved by the UNSW Human Research Ethics Committee, HC14106.

2.3.1. Data analysis

All analyses were conducted in SPSS version 25. T-tests and chi-square analyses were used to examine whether participants with secure and insecure visas differed on demographic variables, trauma exposure and post-migration stressors. Chi-square analyses were used to determine whether participants with secure and insecure visas differed in exposure to specific trauma types and post-migration stressors, specific items relating to group membership and receiving help from groups and individuals, and rates of probable PTSD, probable depression, thoughts of being better off dead and suicidal intent. A Bonferroni correction was applied to account for multiple comparisons. Linear regression analyses were conducted to examine predictors of PTSD symptoms, depression symptoms, and disability.

Predictors were age, gender, marital status (in a relationship vs not in a relationship), education level, trauma exposure, time in Australia (years) and visa security. Multinomial logistic regression was used to examine predictors of suicidal ideation and suicidal intent (0 = no suicidality, 1 = thoughts of being better off dead, 2 = suicidal intent), using the same predictors as detailed above. Poisson loglinear regression was used to examine predictors of the social engagement variables, namely the number of categories of groups in which the participant was an active member, the number of categories of groups from which the participant received support, and the number of categories of individuals from which the participant received support. The same predictors as above were used for these analyses, with the addition of depression symptoms to control for social withdrawal associated with depression.

To investigate whether social engagement operated as a potential protective factor against PTSD, depression, suicidality, and disability, the three social engagement variables (group membership, group support and individual support) were included in each of the regression models described above. To examine whether the association between social engagement and mental health outcomes differed according to visa security, interaction terms (i.e. visa security x group membership, visa security x group support and visa security x individual support) were next entered into each of these regression models.

3. Results

3.1. Participant characteristics

Participants in this study were Arabic, Farsi, Tamil or English-speaking refugees with secure ($n = 826$, 76.1%) and insecure ($n = 259$, 23.8%) visa status living in the Australian community. Secure visa status included individuals with permanent residency (i.e., permanent protection visa) or Australian citizenship ($n = 826$). Insecure visa status included individuals with some form of temporary protection visa ($n = 43$, 3.9%), bridging visas ($n = 175$, 16.0%), expired visas ($n = 11$, 1.0%) or no visa ($n = 17$, 1.6%). Participant characteristics are presented in Table 1. Participants in this study had a mean age of 38.11 ($SD = 11.8$) years, with over half of participants being male ($n = 618$, 56.9%). Over two-thirds of participants completed the survey in Arabic ($n = 741$, 68.3%), followed by Farsi ($n = 186$, 17.1%), English ($n = 104$, 9.6%), and Tamil ($n = 54$, 5.0%). Approximately half of participants were from Iraq ($n = 589$, 54.3%), with approximately 15% of participants being from Iran and Syria ($n = 174$, 16.0%; and $n = 162$, 14.9% respectively). Approximately three-quarters of participants were married or in a relationship ($n = 773$, 71.2%). The majority of participants had completed high school ($n = 378$, 35.3%) or university ($n = 428$, 39.9%).

Participants had been in Australia for a mean of 1.98 years ($SD = 1.65$).

Participants with insecure visa status were younger, more likely to be male, more likely to be from Farsi or Tamil-speaking backgrounds, and less likely to be married than those with secure visa status (see Table 1). Participants with insecure visas were more likely to have travelled to Australia by boat than those with secure visa status. Participants with insecure visas were more likely to have been held in offshore and onshore detention than those with secure visa status. Those with insecure visa status had been in Australia longer than those with secure visa status, and were more likely to be separated from all members of their immediate family (i.e. parents, children, siblings or spouse).

3.2. Visa security and refugee experiences

3.2.1. Potentially traumatic events (PTEs)

Participants with insecure visa status had been exposed to significantly more post-migration living difficulties ($M = 16.46$, $SD = 8.05$) than those with secure visa status ($M = 6.01$, $SD = 6.50$; $t(210.28) = 15.28$, $p < .001$). Participants with insecure visa status had been exposed to significantly more types of PTEs ($M = 7.21$, $SD = 4.83$) than those with secure visas ($M = 3.30$, $SD = 3.30$, $t(364.54) = 11.86$, $p < .001$). Applying a Bonferroni correction for multiple comparisons ($p = 0.003$), participants with insecure visas were significantly more likely to have been exposed to all types of PTEs, except lack of food or water than those with secure visas (see Table A in Supplementary Materials).

3.2.2. Post-migration stressors

Applying a Bonferroni correction for multiple comparisons ($p = 0.001$), refugees with insecure visa status were more likely to endorse all types of post-migration stressors than those with secure visa status, with the exception of 'conflict with your community', 'difficulties engaging in cultural practices' and "discrimination or conflict with other ethnic groups in Australia (see Table B in Supplementary Materials).

3.3. Visa security, group membership and receiving assistance from groups/individuals

Participants with insecure visa status reported being members of significantly more types of groups ($M = 0.90$, $SD = 1.20$) than those with secure visa status ($M = 0.50$, $SD = 0.87$, Wald chi-square (1) = 50.75, $p < .001$). Participants with insecure visa status reported receiving assistance from significantly more types of groups ($M = 0.66$, $SD = 1.14$) than those with secure visa status ($M = 0.38$, $SD = 0.76$, Wald chi-square (1) = 33.01, $p < .001$). Participants with insecure visa status reported receiving assistance from significantly more types of individuals ($M = 1.17$, $SD = 1.61$) than those with secure visa status ($M = 0.84$, $SD = 1.18$, Wald

Table 1. Participant characteristics.

	All participants	Secure visa status (<i>n</i> = 826)	Insecure visa status (<i>n</i> = 259)	
Age	38.11 (11.79)	38.96 (12.52)	35.40 (8.58)	$t(625.08) = 5.14, p < .001$
Gender (Female)	465 (42.9%)	384 (46.6%)	81 (31.4%)	$\chi^2(1) = 18.54, p < .001$
Language				$\chi^2(3) = 488.73, p < .001$
Arabic	741 (68.3%)	698 (84.5%)	43 (16.6%)	
Farsi	186 (17.1%)	60 (7.3%)	126 (48.6%)	
English	104 (9.6%)	65 (7.9%)	39 (15.1%)	
Tamil	54 (5.0%)	3 (0.4%)	51 (19.7%)	
Country of birth				$\chi^2(5) = 574.88, p < .001$
Iraq	589 (54.3%)	557 (67.4%)	32 (12.4%)	
Iran	174 (16.0%)	50 (6.1%)	124 (47.9%)	
Syria	162 (14.9%)	161 (19.5%)	1 (0.4%)	
Sri Lanka	58 (5.3%)	2 (0.2%)	56 (21.6%)	
Afghanistan	37 (3.4%)	26 (3.1%)	11 (4.2%)	
Other	65 (6.0%)	30 (3.6%)	35 (13.5%)	
Mode of travel to Australia				
Boat	243 (22.4%)	35 (4.2%)	208 (80.3%)	$\chi^2(1) = 653.52, p < .001$
Plane	842 (77.6%)	791 (93.8%)	51 (6.1%)	
Held in immigration detention in Australia or offshore	211 (19.4%)	41 (5.3%)	170 (75.6%)	$\chi^2(1) = 512.73, p < .001$
No immediate family in Australia	251 (23.2%)	122 (14.8%)	129 (50.2%)	$\chi^2(1) = 137.35, p < .001$
Marital Status				$\chi^2(1) = 23.36, p < .001$
Married or in a relationship	773 (71.2%)	619 (75.0%)	154 (59.2%)	
Not married or in a relationship	311 (28.7%)	206 (25.0%)	105 (40.5%)	
Education				
Little/no formal education	48 (4.5%)	38 (4.7%)	10 (3.9%)	$\chi^2(4) = 15.19, p = .004$
Completed primary school	122 (11.4%)	100 (12.3%)	22 (8.6%)	
Completed high school	378 (35.3%)	266 (32.6%)	112 (43.8%)	
Completed university	428 (39.9%)	329 (40.3%)	99 (38.7%)	
Completed other training (vocational, apprenticeship)	96 (8.8%)	83 (10.2%)	13 (5.1%)	
Time in Australia	1.98 (1.65)	1.44 (1.37)	3.65 (1.32)	$t(1025) = 22.39, p < .001$

chi-square (1) = 22.32, $p < .001$). Further, item-level analyses revealed that individuals with insecure visa status were more likely to be an active member of religious groups, sport groups, political groups and volunteer charity groups than those with secure visa status. Further, those with insecure visa status were more likely to receive assistance from political groups and non-refugees from the Australian community compared to those with secure visa status. Finally, participants with insecure visa status were more likely to receive assistance from political groups, volunteer/charity groups non-refugees from the Australian community compared to those with secure visa status (see Supplementary Table C).

3.4. Visa security, mental health, suicidality, and disability

Participants with insecure visas had significantly higher rates of probable PTSD diagnosis ($n = 115$, 48.9%) than those with secure visa status ($n = 230$, 29.9%, $\chi^2(1) = 28.75, p < .001$). Participants with insecure visa status had significantly higher rates of probable depression ($n = 110$, 43.3%) than those with secure visa status ($n = 136$, 16.9%, chi square (1) = 75.53, $p < .001$). Participants with insecure visa status were more likely to report thoughts of being better off dead ($n = 102$, 39.5%) than those with secure visa status ($n = 154$, 18.7%), and more likely to report suicidal intent ($n = 21$, 8.1%) than those with secure visa status ($n = 12$, 1.5%, chi square

(2) = 84.38, $p < .001$). There were no differences in severity of disability between those with insecure ($M = 15.42, SD = 10.73$) and secure visa status ($M = 14.46, SD = 10.15, t(1044) = 1.28, p = 0.20$).

3.4.1. Predictors of mental health, suicidality, disability and social engagement

Results of linear regression analyses for PTSD and depression symptoms are presented in Table 2. Significant predictors of both PTSD and depression symptoms were female gender, longer time in Australia, greater PTE exposure and visa insecurity. Results of a linear regression analysis predicting disability severity are also presented in Table 2. Significant predictors of disability were older age, female gender and greater PTE exposure. Visa insecurity did not predict disability. Results of a multinomial logistic regression predicting 'thoughts of being better off dead' and suicidal intent are presented in Table 3. Significant predictors of thoughts of being better off dead were PTE exposure and visa insecurity. Significant predictors of suicidal intent were marital status (single), longer time in Australia, PTE exposure and visa insecurity.

Results of poisson regression analysis predicting social engagement are presented in Table 4. Depression symptoms were included in this analysis to control for social withdrawal and the higher rates of depression amongst individuals with insecure visa status. Significant predictors of greater membership of

Table 2. Linear regression analyses predicting PTSD symptoms, depression symptoms and disability in refugees with secure and insecure visa status.

	PTSD Symptoms				Depression Symptoms				Disability			
	$R^2 = 0.35, F(10, 943) = 50.94, p < .001$				$R^2 = 0.27, F(10, 976) = 36.13, p < .001$				$R^2 = 0.08, F(10, 966) = 8.76, p < .001$			
	B (SE)	β	sig	95% CI	B (SE)	β	sig	95% CI	B (SE)	β	sig	95% CI
Age	0.01 (0.01)	0.03	0.322	[-0.01, 0.01]	0.01 (0.01)	0.01	0.779	[-0.01, 0.01]	0.06 (0.03)	0.07	0.038	[0.01, 0.12]
Gender (female)	0.14 (0.04)	0.10	<.001	[0.07, 0.22]	0.13 (0.05)	0.08	0.004	[0.04, 0.22]	1.44 (0.66)	0.07	0.030	[0.14, 2.74]
Married/in relationship	0.03 (0.04)	0.02	0.497	[-0.06, 0.12]	0.01 (0.05)	0.01	0.854	[-0.09, 0.11]	-1.03 (0.75)	-0.05	0.169	[-2.51, 0.41]
Education												
Little or no education	-	-	-	-	-	-	-	-	-	-	-	-
Primary school	0.12 (0.11)	0.05	0.282	[-0.10, 0.33]	0.08 (0.13)	0.03	0.555	[-0.17, 0.32]	0.69 (1.84)	0.02	0.708	[-2.92, 4.29]
High school	0.10 (0.10)	0.06	0.334	[-1.00, 0.29]	0.11 (0.12)	0.07	0.338	[-0.11, 0.34]	0.16 (1.67)	0.01	0.922	[-3.11, 3.43]
Other training	0.15 (0.10)	0.10	0.126	[-0.04, 0.34]	0.15 (0.11)	0.09	0.183	[-0.07, 0.37]	-0.06 (1.64)	-0.01	0.969	[-3.27, 3.15]
University	0.20 (0.11)	0.08	0.068	[-0.02, 0.42]	0.24 (0.13)	0.09	0.064	[-0.02, .50]	0.70 (1.89)	0.02	0.710	[-3.00, 4.40]
Time in Australia (yrs)	0.03 (0.01)	0.07	0.026	[0.01, 0.06]	0.06 (0.02)	0.12	<.001	[0.03, 0.09]	-0.05 (0.24)	-0.01	0.844	[-0.52, 0.43]
PTE Exposure	0.08 (0.01)	0.52	<.001	[0.07, 0.09]	0.07 (0.01)	0.40	<.001	[0.06, 0.08]	0.70 (0.08)	0.30	<.001	[0.54, 0.86]
Visa insecurity*	0.15 (0.05)	0.09	0.005	[0.05, 0.26]	0.22 (0.06)	0.12	0.001	[0.09, 0.34]	-1.08 (0.94)	-0.04	0.252	[-2.92, 0.77]

*Reference category: Secure visa

Table 3. Multinomial logistic regression analysis predicting thoughts of being better off dead and suicidal intent in refugees with secure and insecure visa status.

	Thoughts of being better off dead					Suicidal intent				
	$\chi^2(20) = 175.44, p < .001$									
	B (SE)	OR	95% CI	Wald χ^2	p	B (SE)	OR	95% CI	Wald χ^2	p
Age	-0.01 (0.01)	1.00	[0.94, 1.01]	0.24	0.623	-0.02 (0.02)	0.98	[0.94, 1.03]	0.73	0.392
Gender (female)	0.24 (0.17)	1.28	[0.92, 1.77]	2.13	0.144	0.79 (0.44)	2.21	[0.94, 5.23]	3.27	0.071
Married/in relationship	0.18 (0.18)	1.19	[0.84, 1.71]	0.95	0.331	1.02 (0.42)	2.77	[1.23, 6.26]	6.03	0.014
Education										
Little or no education	0.40 (0.53)	1.49	[0.53, 4.16]	0.57	0.451	-0.59 (1.05)	0.55	[0.07, 4.37]	0.32	0.574
Primary school	0.40 (0.49)	1.49	[0.58, 3.86]	0.67	0.412	-0.82 (0.90)	0.44	[0.08, 2.57]	0.83	0.363
High school	0.16 (0.48)	1.17	[0.45, 3.02]	0.11	0.743	-0.86 (0.91)	0.42	[0.07, 2.53]	0.89	0.345
Other training	0.54 (0.53)	1.72	[0.61, 4.90]	1.04	0.308	-0.24 (1.06)	0.79	[0.10, 6.31]	0.05	0.823
University										
Time in Australia (yrs)	0.04 (0.06)	1.04	[0.93, 1.17]	0.51	0.476	0.27 (0.13)	1.32	[1.03, 1.68]	4.71	0.030
PTE Exposure	0.13 (0.02)	1.14	[1.10, 1.18]	45.57	<.001	0.25 (0.05)	1.29	[1.18, 1.41]	29.28	<.001
Visa insecurity*	0.64 (0.21)	1.90	[1.26, 2.88]	9.31	0.002	0.88 (0.43)	2.41	[1.03, 5.62]	4.12	0.042

*Reference category: Secure visa

groups were being married or in a relationship, having completed university or other training, greater PTE exposure, longer time in Australia, and lower depression symptoms. Significant predictors of receiving assistance from a greater number of groups included female gender, being married or in a relationship, having completed university, greater PTE exposure, lower depression symptoms, and insecure visa status. Significant predictors of receiving assistance from a greater number of individuals included female gender, having university education, and greater PTE exposure.

3.4.2. Association between social engagement and mental health outcomes for refugees with secure and insecure visa status

In relation to PTSD symptoms, neither group membership ($B = -0.02, SE = 0.02, \beta = -0.03, t = -1.04, p = 0.300$), group support ($B = 0.05, SE = 0.03, \beta = 0.06, t = 1.49, p = 0.136$) nor individual support ($B = -0.04, SE = 0.02, \beta = -0.07, t = -1.87, p = 0.062$) significantly predicted PTSD symptom severity.

There were no significant interactions predicting PTSD symptom severity.

In relation to depression symptoms, group membership emerged as a significant predictor of depression symptom severity, such that greater group membership was related to less severe depression symptoms ($B = -0.07, SE = 0.03, \beta = -0.09, t = -2.60, p = 0.010$). Neither group support ($B = -0.02, SE = 0.04, \beta = -0.02, t = -0.52, p = 0.603$) nor individual support ($B = 0.01, SE = 0.02, \beta = 0.01, t = 0.02, p = 0.985$) were significant predictors of depression symptom severity. The group membership x visa security interaction emerged as a significant predictor of depression symptom severity ($B = -0.06, SE = 0.03, \beta = -0.07, t = -2.03, p = 0.042$). Simple slopes analyses at 1 standard deviation above and below the mean of group membership revealed that amongst those with low group membership, participants with insecure visa status had significantly greater symptoms of depression compared to those with secure visa status ($B = 0.17, t = 3.85, p < .001$). There were no significant differences in depression symptoms between

those with insecure and secure visas who had high group membership ($B = 0.06$, $t = 1.64$, $p = 0.11$).

In relation to disability, group support emerged as a significant predictor of disability severity, such that greater group support was related to greater disability ($B = 1.01$, $SE = 0.51$, $\beta = 0.09$, $t = 2.01$, $p = 0.045$). Further, individual support emerged as a significant predictor of disability severity, such that greater individual support was related to less disability ($B = -1.26$, $SE = 0.32$, $\beta = -0.16$, $t = -3.95$, $p < .001$). Group membership was not associated with disability. There were no significant interactions predicting disability.

In relation to suicidality, neither group membership, group support nor individual support emerged as a significant predictor of thoughts of being better off dead nor suicidal intent. There was a significant interaction between visa security and group membership ($B = -1.25$, $SE = 0.45$, $OR = 0.29$, $p = 0.006$), suggesting that in individuals with insecure visas, greater group membership was associated with lower likelihood of suicidal intent.

4. Discussion

This study investigated the impact of visa insecurity on mental health, disability and social engagement in a large sample of refugees living in Australia. We found elevated rates of probable PTSD, depression and suicidal intent amongst insecure visa holders. These findings are consistent with previous studies that demonstrated high rates of psychological distress, including PTSD symptoms, depression symptoms and suicidality amongst individuals with insecure visa status (usually asylum-seekers) compared to those with visa security (Heeren et al., 2012; Hengst et al., 2018; Hocking et al., 2015; Ichikawa et al., 2006; Morgan et al., 2017; Premand et al., 2018; Silove et al., 1998; Steel et al., 2006a). Notably, this finding was robust even after controlling for key factors that are known to contribute to mental health in refugees, including gender, education, time in Australia, and PTE exposure. The association between visa insecurity and suicidality is especially notable, with Procter, Kenny, Eaton, and Grech (2018) coining the term 'lethal hopelessness' to describe this phenomenon. They posit that lengthy delays in processing of asylum or other visa-related applications, combined with limitations on access to mainstream services, financial support and work rights, lead to mental deterioration amongst people seeking asylum, which has resulted in a spate of successful suicide attempts in Australia in recent years (Barry, 2018; Observatory, 2018; Doherty, 2017, 2018). Overall, these findings suggest that living with prolonged uncertainty regarding one's immigration status is associated with specific and deleterious

mental health outcomes, and highlights the distinctive mental health needs of individuals with insecure residency. The possibility that immigration policy might play a contributing role in this respect is supported by other findings suggesting that transition to permanent visa status is accompanied by parallel improvements in mental health status (Nickerson et al., 2011). This finding has important policy implications, particularly at a time when international governments look to Australia's policies of temporary protection as a way to manage the influx of refugees and asylum-seekers to their shores (Ghezelbash, 2018; Jakubowicz, 2018; Miller, 2018).

Contrary to our hypotheses, we found no differences between groups in disability. This finding is important as it suggests that those with insecure visas are not more functionally impaired than those with visa security, highlighting the capacity of those with insecure visa status to engage productively in the settlement environment given appropriate support. Accordingly, we found that participants with insecure visa status received greater support from groups in the Australian community than those with secure visa status. Univariate analyses disaggregating this variable found that insecure visa holders were more likely to receive help from political groups, volunteer/charity groups and non-refugees from the Australian community. One possible explanation for this relates to the finding that individuals with insecure visa status experienced more post-migration living difficulties than those with secure visa status. It may be the case that experiencing greater logistical problems related to financial support, housing, employment etc. may have compelled those with insecure visa status to seek assistance from a variety of sources in the Australian community. Further, individuals with insecure visa status may be less likely to have existing social connections in Australia as a result of being separated from family members, and thus may be more likely to make greater efforts to engage with the broader Australian community. This is consistent with our finding that those with insecure visas were more likely to be separated from members of their immediate family than those with secure visas. This is also in line with a previous finding that those who were unsuccessful in asylum application (who were less likely to have family with them) had more social contacts in Switzerland than other asylum-seekers (Mueller, Schmidt, Staeheli, & Maier, 2011).

The finding that refugees with insecure visa status with low levels of group membership showed greater depression and suicidal intent than those with secure visa status who had low levels of group membership is important. This suggests that social isolation amongst refugees with insecure visa status may act as an important risk factor for psychological distress. One possible explanation for this finding relates to

the higher rates of family separation amongst refugees with insecure visa status noted above. It may be the case that, while refugees with secure visa status who are suffering from psychological symptoms are able to draw on the support of immediate family, isolation from community groups leaves refugees with insecure visa status with little social support; this may then exacerbate symptoms of depression and suicidal intent. While longitudinal data is needed to test this hypothesis and determine the direction of causality, this finding highlights the potential importance of linking insecure visa holders with supports in the resettlement community to protect against deleterious mental health outcomes. This is supported by findings in the current study that there were no significant differences in depression symptoms and suicidality between those with secure and insecure visas with high levels of group membership.

It is notable that both the pre- and post-migration experiences of refugees with and without secure visa status differed markedly in this study, in line with our hypotheses. We found that refugees with insecure visa status had experienced double the number of PTEs than those with secure visa status. This is consistent with previous studies that have found elevated trauma exposure in those with insecure visas (Steel et al., 2006a). Multiple potential factors may account for this finding. The first relates to the participants' mode of arrival, with the vast majority of those with insecure visa status arriving in Australia by boat, while less than 5% of those with secure visa status had travelled by this means. Travel by boat is associated with exposure to numerous aversive experiences including lack of food and water, lack of medical care, extortion, witnessing drownings, and separation from loved ones (Silove et al., 2000). Second, participants with insecure visa status were significantly more likely to have been held in immigration detention, which is associated with substantial exposure to adverse events including witnessing physical assaults and acts of self-harm, discrimination and limited access to medical care (Steel et al., 2006a). Third, it may be the case that refugees with insecure visa status were exposed to greater PTEs in the home country, potentially prompting urgent flight and necessitating perilous boat journeys. In support of this, we found rates of exposure to torture were over four times higher amongst those with insecure visa status, and rates of exposure to rape or sexual abuse were over three times higher in this group. Additionally, participants with insecure visas were disproportionately male, with young men likely being more commonly exposed to certain types of PTEs (e.g. torture, exposure to combat) in the context of persecution. Overall, findings from this study suggest that refugees with insecure visa status had been exposed to qualitatively different (i.e. more interpersonal) types of traumatic

events compared to those with secure visa status, as well as more instances of PTEs. Given the established dose-response relationship between trauma exposure and psychological symptoms (Mollica et al., 1998), this suggests that refugees with insecure visas may be more vulnerable to developing psychopathology as a result of PTE exposure in the home country or during displacement, and that these may then be exacerbated by experiences in immigration detention. This further highlights the importance of developing policies that facilitate a safe, supportive recovery environment, and the provision of mental health services to assist in recovering from these experiences.

Consistent with our hypotheses, we found that refugees with insecure visa status had been exposed to significantly more post-migration stressors than those with secure visa status. These findings are in accordance with previous studies that have noted that difficulties in the post-migration environment are common and salient amongst refugees and particularly amongst people seeking asylum or temporary visa holders (Li, Liddell, & Nickerson, 2016; Silove, Sinnerbrink, Field, Manicavasagar, & Steel, 1997; Steel et al., 2006b). When investigating these stressors individually, we found that participants with insecure visas were more likely to endorse almost every post-migration living difficulty. Notably, the greatest discrepancies between participants with secure and insecure visas were seen in immigration-related stressors relating to applying for a permanent visa, fear of being detained or being sent back to the country of origin, or fear one's refugee status will never be resolved. These findings suggest that uncertainty about the future related to visa status is a highly salient stressor for refugees with insecure visas.

4.1. Limitations

The current study had several limitations. First, representative sampling was not implemented in this study. While our sample is broadly consistent with refugees with secure and insecure visa status in the Australian community, there are also likely a number of differences that limit generalizability of findings. In addition, the use of advertising and snowball sampling for recruitment, consistent with other studies with difficult-to-access populations, may have led to higher severity levels of psychological symptoms (if more distressed participants took part) or lower levels of severity of psychological symptoms (if higher-functioning participants took part). Future research may benefit from random or representative sampling. Second, our sample was restricted to four language groups. While this again limits generalizability of findings, these groups represented four of the

top ten most commonly spoken languages amongst successful asylum applicants in Australia (Australian Government Department of Immigration and Border Protection, 2013). Third, data collection was undertaken on-line using self-report measures rather than via diagnostic interview. However, research suggests a strong concordance between self-report and interview measures in refugee groups (Lavik, Hauff, Solberg, & Laake, 1999), and this modality allowed for complete privacy for participants which may have facilitated candid responding. Four, while gold-standard translation and back-translation methods were used, measures were not specifically adapted to the cultural groups who took part in this study, thus we were unable to measure cultural idioms of distress.

5. Conclusion

Results from this study revealed that insecure visa status was associated with greater PTSD symptoms, depression symptoms and suicidality, as well as exposure to greater pre-migration trauma and post-migration stress, compared to secure visa status. It is notable that being an active member of more groups appeared to be protective against depression symptoms and suicidality for those with insecure visa status. These results suggest that social engagement represents an important potential pathway to facilitate good mental health and adaptation amongst individuals with insecure visa status. These findings highlight the importance of drawing in research evidence to inform the design and provision of policies and services to aid the recovery of individuals exposed to trauma and persecution who are in a state of protracted insecurity.

Notes

1. Tipo de visa temporal en Australia.
2. Note that, for parsimony, in this article we refer to participants as 'refugees' irrespective of whether they had been formally recognized as such (i.e. held permanent or temporary protection visas) or were in the process of seeking asylum.

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