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Zhiming Cheng
University of New South Wales

Ben Zhe Wang
Macquarie University

Zhou Jiang
Flinders University

Lucy Taksa
Macquarie University

Massimiliano Tani
University of New South Wales and IZA

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IZA – Institute of Labor Economics

Schaumburg-Lippe-Straße 5–9
53113 Bonn, Germany

Phone: +49-228-3894-0
Email: publications@iza.org

www.iza.org

ABSTRACT

English Skills and Early Labour Market Integration of Humanitarian Migrants*

We use the panel data from the Building a New Life in Australia survey to examine the relationships between proficiency in English and labour market outcomes among humanitarian migrants. Having better general or speaking skills in English is certainly associated with a higher propensity for participation in the labour force and getting a job. However, we also find that, compared to other domains of English proficiency, such as listening, reading and writing, proficiency in English speaking skills has been the least improved domain for humanitarian migrants' who have participated in an English training program. Our paper explores the channels leading to these outcomes, finding that self-esteem, self-efficacy and general health partially mediate the relationship between English proficiency and labour force participation. We also find that self-efficacy, general health and indicative serious mental illness partially mediate the relationship between better English proficiency and the chance of getting a job.

JEL Classification: F22, I26, J24, J61

Keywords: Australia, humanitarian migrant, proficiency in English, labour force participation, employment

Corresponding author:
Massimiliano Tani
School of Business
UNSW Canberra
Northcott Drive
Campbell, ACT 2612
Australia

E-mail: m.tani@adfa.edu.au

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1. Introduction

Australia has a long-standing Refugee and Humanitarian Programme, which provides onshore and offshore migration pathways for refugees and others who have been displaced as a result of persecution, conflict and human rights abuses. Australia's Refugee and Humanitarian Programme has been the world's second-biggest resettlement program carried out through the United Nations High Commissioner for Refugees (UNHCR) (Kenny, 2015). In 2018-19, Australia granted 18,762 resettlement visas through this Programme (Department of Home Affairs, 2019).

Economic integration of refugees is essential for most refugees to rebuild their lives and successfully settle in the host society either through paid employment or setting up their own enterprises. The existing literature has investigated the determinants of labour market outcomes among skilled or non-refugee immigrants extensively. However, relatively less attention has been given to the factors that affect the labour market outcomes of humanitarian migrants, whose stock of human, social and psychological capital is quite distinct from that of skilled immigrants. In Australia, a few studies have investigated humanitarian migrants within the whole population of immigrants using general-purpose survey data (Chiswick et al., 2005; Cobb-Clark, 2000). Most existing studies on the labour market outcomes of humanitarian migrants in Australia focus on ethnically defined refugee groups or narrowly defined refugee groups, which exclude other humanitarian migrants. Two recent exceptions are Cheng et al. (2019) and Delaporte and Piracha (2018), who examined the general relationships between human capital and labour market outcomes using representative panel data of humanitarian migrants in Australia. However, as we will elaborate shortly, these scholars did not examine the underlying mechanisms of these relationships. This results in a lack of clarity regarding the way that humanitarian migrants' human capital, such as language skills in the host country, contribute to their labour market outcomes.

To advance our knowledge on the labour market behaviour of and outcomes for humanitarian migrants in Australia, we analyse the panel data from the Building a New Life in Australia (BNLA) longitudinal study of humanitarian migrants conducted annually since 2013 (Edwards et al., 2018; Rioseco et al., 2017). In particular, we examine the relationships between English proficiency and labour market outcomes pertaining to labour force participation, employment status and wages; the relationship between participation in English language training programs and English proficiency; and the mechanisms through which English ability influences labour market outcomes.

We find that those who have better general English abilities or better English speaking skills are more likely to participate in the labour force and obtain jobs. More importantly, we find that participating in an English training program is strongly and positively associated with gaining better language skills. Our analysis of the potential mechanisms through which English ability influences the labour market outcomes finds that self-esteem, self-efficacy and general health partially mediate the link between better English proficiency and labour force participation. We also find that general health and probable mental illness partially mediate the relationship between better English proficiency and the chance of getting a job.

Our study advances scholarship in three ways. First, we contribute to the literature on the integration of humanitarian migrants, which differs considerably from that of typical economic immigrants who seek an improved standard of living by benefiting from greater economic opportunities in the host country (Becker & Ferrara, 2019; Bevelander, 2016; Brell et al., 2020; Chin & Cortes, 2015). For instance, skilled immigrants to Australia are usually required to possess a certain level of English proficiency. By contrast, this requirement does not extend to humanitarian migrants, a large proportion of who have low or no English skills. Thus, a more in-depth understanding of the role of English proficiency as a specific type of human capital needed for labour market integration is warranted. Second, by examining the relationships between participation in government-sponsored English training programs, English skills and labour market outcomes among humanitarian migrants, we add to the emerging literature on cross-sector collaborations between governments, support organisations, education and training providers in improving refugee workforce integration (Lee et al., 2020). Third, by recognising that 'the refugee experience itself adds complexity to the integration of these migrants' (Brell et al., 2020: 94), we contribute to the studies that consider the ways that refugee experiences mediate human capital and labour market outcomes. More specifically, our study specifically examines whether the effect of English skills on early labour market integration are mediated by psychological resources, perceived discrimination and different dimensions of health.

2. Existing Literature

Some studies suggest that insufficient English proficiency is associated with inadequate labour market integration, including for those with high levels of completed foreign education (Rajendran et al., 2017; Rajendran et al., 2020; Sardana et al., 2016). Other studies based on data collected among recent skilled immigrants from Asia suggest that English skills are an unlikely barrier to labour market success (Derby et al., 2020). Neither group of studies, however, focuses on the labour market outcomes of humanitarian migrants even though they are a significant sub-population of immigrants in Australia, whose pathway to settlement is vastly different from the one experienced by skilled migrants. Cheng et al. (2019) used the first two BNLA survey waves to examine a series of human capital indicators, finding that humanitarian migrants' higher proficiency in spoken English is associated with an increased probability of their labour force participation. Using the first three waves of the BNLA survey data, Delaporte and Piracha (2018) found that English proficiency was associated with access to (stable) employment, the wage/earnings level and the education-occupation mismatch. Yet these studies did not attempt to identify the underlying causal relationship nor the mechanisms through which English proficiency affects labour market outcomes. Another related study is Blake et al. (2019), which used the first wave of BNLA to examine the correlation between oral English proficiency and self-sufficiency, including access to help, information and services, but it do not examine other domains of English skills nor employment outcomes.

Many refugees face significant language barriers in the host country (Campion, 2018), which add to the challenges of uncertainty, family separation, social disconnectedness and pre-flight trauma usually experienced by refugees during the immigration process (Esses et al., 2013). Reducing language obstacles is considered pivotal for refugee resettlement (Auer, 2018), particularly for employment (Campion, 2018) since proficiency in the local language can help refugees develop and harness social networks needed to boost career opportunities (Campion, 2018). However, as with existing studies on skilled immigrants (Derby et al., 2020), findings

from the refugee population are inconclusive about the role language proficiency plays in re-establishing careers after resettlement. For example, a small-scale study on refugees living in the northern Australian city of Brisbane found that local language proficiency is not a significant predictor of employment (Correa-Velez et al., 2015). Such findings contradict prior research that found strong local language skills to be crucial for refugees' securing employment (Arendt et al., 2020; de Vroome & van Tubergen, 2010; Fang et al., 2018; Khawaja & Hebbani, 2018). These inconsistencies in the literature raise the need to investigate the roles of language proficiency for refugees' economic integration in terms of employment outcomes.

While existing research on humanitarian migrants' economic integration has focused on general proficiency in the host country language (Correa-Velez et al., 2015; de Vroome & van Tubergen, 2010), it has tended to overlook specific domains of language skills, such as listening, speaking, reading and writing. The neglect of these distinct skills may explain why previous studies have not found consistent relationships between language and employment among refugees. Auer (2018) suggests that while different types of language skills may be interrelated, they nevertheless represent distinctive communication capabilities, which can have a variable impact an individual's career and employment outcomes. Refugees also require unique contextual support, such as language training. To address this point, our paper examines the effects of both general and specific English language skills on employment outcomes of humanitarian migrants in Australia, including labour force participation, employment status (getting a job), and wages. By doing so, we extend the regional and ethnic focus of previous studies in Australia to a national perspective and offer finer-grained insights regarding what specific types of language skills may more meaningfully contribute towards refugees' labour market integration.

This raises the importance of the effectiveness of language training programs, which researchers of refugee studies argue to be a crucial means of facilitating refugee integration (Khawaja & Hebbani, 2018). Scholars generally recommend that training initiatives be implemented to help new migrants acquire essential language skills that improve their chances of integrating into the local labour market (Koopmans, 2016; Syed & Murray, 2009). In Australia, there are multiple English training programs in which refugees and migrants can participate to develop language skills that prepare them for employment, such as those provided by the Adult Migration English Program (AMEP), Skills for Education and Employment (SEE) program, and the Technical and Future Education (TAFE) system. However, there is limited empirical evidence on whether government-supported English training has effectively enhanced refugees' general and specific English skills (i.e., listening, speaking, reading and writing skills). Examining the associations between participation in English training programs and English proficiency allows for prompt and accurate assessments of training effectiveness at the national level and can potentially guide policymakers in allocating resources to support refugees. Our analysis therefore considers whether, and to what extent, participating in government-sponsored language training is associated with higher English language skills among humanitarian migrants.

Although the migration literature has indicated some possible pathways that link language to employment, it has not yet identified mechanisms or mediators to interpret how language skills can influence employment outcomes. Despite being mostly untested, migration scholars have suggested that psychological capital and resources (Newman et al., 2018a; Newman et al., 2018b; Xu et al., 2019), societal and cultural adaptability (Ravasi et al., 2015; Ryan et al., 2008),

the experience of discrimination (Khan-Gökkaya & Mösko, 2020; Koopmans, 2016; Syed & Murray, 2009), perceived (in)ability in matching occupational requirements (McCoy & Masuch, 2007), and health and wellbeing (Steel et al., 2015) may have a significant impact. This stream of literature underscores three critical categories of potential mechanisms, including personal psychological resources, health, and contextual/social experiences. Our focus in this paper closely aligns with these categories. Specifically, drawing from the BNLA panel data, we examine self-efficacy (confidence) and self-esteem, which represent psychological resources (Xanthopoulou et al., 2009); general health, post-traumatic stress disorder, and indicative mental illness as health-related indicators; and perceived discrimination as a type of social experience.

3. Data and Methods

Our panel data is drawn from waves 1-4 of the BNLA longitudinal study commissioned and funded by the Australian Government's Department of Social Services and undertaken by the Australian Institute of Family Studies.[1] Following a large cohort of humanitarian migrants, the BNLA survey has collected data annually since 2013. Wave 1 data was collected between October 2013 to March 2014, wave 2 from October 2014 to February 2015, wave 3 from October 2015 to February 2016, and wave 4 from October 2016 to February 2017.

The BNLA survey recruited 2,399 individuals who had been granted permanent humanitarian visas via Australia's offshore and onshore pathways under the Humanitarian Programme. Humanitarian migrants were eligible for selection into the BNLA if, in the three to six months before the study, they had arrived in Australia under the offshore program or they had been granted their humanitarian visas under the onshore program. Most BNLA participants (84 per cent) arrived through an offshore pathway, reflecting the actual composition of Australia's Refugee and Humanitarian Programme at the time of the participant recruitment in wave 1.

Most humanitarian migrants to Australia have come from the Middle East, Southeast Asia and Africa. Approximately half of the humanitarian migrant samples in the BNLA were born in Iraq (26 per cent) or Afghanistan (24 per cent), followed by Myanmar (12 per cent), Iran (10 per cent), Pakistan (5 per cent), Egypt (3 per cent) and other countries. Approximately 73 per cent of the humanitarian migrants came to Australia with other household members. Approximately 90 per cent of humanitarian migrants settled in major cities, with the rest settling in regional areas.

It is challenging for researchers to locate or collect adequate and representative data on refugees (Åslund & Rooth, 2007; Connor, 2010; de Vroome & van Tubergen, 2010; Spring et al., 2003). Only a few countries, notably Australia, Canada, Denmark, Italy, Sweden and the USA, enable researchers to identify refugees in their populations using linked general-purpose survey and administrative data (Chin & Cortes, 2015; Ortensi, 2015). For Australian research, the BNLA data is extremely valuable because it draws a sample from the full population of recently arrived/approved humanitarian migrants through both onshore and offshore migration pathways (i.e. asylum seekers and refugees who were granted a permanent visa). The survey collects rich information on personal backgrounds, migration pathways, housing, language, employment, education and related social and economic characteristics. For this paper, the

[1] See the BNLA project website www.aifs.gov.au/bnla for more information.

analytical samples have been limited to those who were aged 15–64 years. Table 1 presents the summary statistics.

[Table 1 here]

We estimate the following function

$$y_{it} = \alpha + E'_{it}\beta + x'_{it}\gamma + c_{it} + u_{it} \qquad \ldots\ldots(1)$$

where y_{it} is a labour market outcome variable for individual i in wave t. The labour market outcomes we examine include labour force participation, employment status and weekly wages in natural logarithm. E'_{it} is a general measure, or a vector of measures, of English proficiency. The measures of proficiencies in English include self-assessed proficiencies in understanding spoken English, speaking in English, and reading and writing English on a four-point scale (1=not at all; 4=very well). We also construct a principal component score of general English proficiency from the four individual measures.[2]

X'_{it} is a vector of control variables, including health status, age and its square term, gender, marital status, household financial hardship, years since immigration, education, employment status before immigration, participation in study/training in Australia, job searching skills and local socioeconomic disadvantage. c_{it} is an individual-specific effect and u_{it} is an idiosyncratic error term.

We use the random effects (RE) logit estimator. In equation 1, English proficiency may be endogenous because unobservable factors may simultaneously influence the respondent's English proficiency and his/her labour market outcomes. We overcome this challenge by instrumenting for general English proficiency with an instrumental variable based on an interaction term between age at immigration (AAI) and a dummy for non-English-speaking (NES) countries of birth. This instrumental variable is similar to that used in existing studies based on language acquisition theory, which suggests children with earlier exposure to the English language can attain a higher level of English proficiency (Bleakley & Chin, 2004; Chiswick & Wang, 2019; Guven & Islam, 2015). Thus, those younger humanitarian migrants from non-English-speaking countries could have similar or comparable English ability to humanitarian migrants from English-speaking countries through catch-up English learning. Nonetheless, there would be a significant difference in English language proficiency for those who immigrate at older ages.

On this basis, we create the instrumental variable in the form of an interaction term *max*(0, AAI-11)×NES. The instrumental variable equals zero if the respondent was under age 11 and/or was born in an English-speaking country, or it equals AAI-11 for those who are 11 years old and over from a non-English-speaking country. This interaction term captures the fact that non-English speaking humanitarian migrants would have decreased ability to learn English after the age of 11 (Guven & Islam, 2015). In other words, we expect the coefficient of the instrumental variable to be negatively correlated with English proficiency in the first-stage

[2] The four items for English proficiency factor to one, with Eigenvalue =3.55; Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy=0.822; and Bartlett test of sphericity: Chi-square=38885.020 (*p*-value=0.000). We follow the literature to use KMO>0.5 and Bartlett test *p*-value <0.05 as the standards for a useful component analysis.

estimation of two-stage least squares (2SLS) regression due to the reduction of English-learning ability with age at immigration. Figure 1 shows the fitted unconditional relationships between English proficiencies and AAI-11, indicating a decreasing ability to acquire English skills as the respondents age.

[Figure 1 here]

We extend our analysis by examining whether participation in an English training program, such as those provided through the Adult Migration English Program (AMEP), Skills for Education and Employment (SEE) program, and the Technical and Future Education (TAFE) system, is associated with increased English proficiencies. We also explore the potential mechanisms through which general English proficiency impacts labour market outcomes.

4. Results

Regarding the relationship between English proficiencies and labour market outcomes, models 1 and 3 in Table 2 show that those having better general English proficiency are more likely to participate in the labour force and obtain a job, respectively. Models 2 and 4 suggest that, among all individual measures of English proficiency, having better proficiency in spoken English is associated with higher probabilities of participating in the labour force and obtaining a job, respectively. We do not find proficiencies in English correlate with weekly wages.

[Table 2 here]

Table 3 presents the results from instrumental variable estimators. Model 1 shows that better proficiency in general English skills increases the probability of participating in the labour force. Model 2 shows that better proficiency in general English skills raises the probability of obtaining a job. The results in Table 3 provide evidence that English proficiency does have a causal impact on labour force participation and employment.[3]

[Table 3 here]

In regard to the relationship between participation in an English training program and proficiencies in English, Table 4 suggests that English training program attendance is positively associated with general English proficiency (Model 1) and individual domains of English proficiency, namely understanding spoken English, speaking, reading and writing (Models 2-5). These findings imply that the English training programs sponsored by the Australian government are associated with effective improvement in English ability, which is important for the economic success of humanitarian migrants. In Table 2, we show that English speaking skill is the only specific one among the four domains of English proficiency that is associated with labour force participation and employment outcomes. However, among the four domains of English proficiency, speaking skill is the least improved after participation in English training. This finding suggest that Australian English programs should pay more attention to

[3] The directions and magnitudes of coefficients in models 1 and 2 in Table 3 are consistent those in the existing literature which finds a similar pattern using this type of instrumental variable (Chiswick & Miller, 1995, 2010; Chiswick & Wang, 2019; Guven & Islam, 2015; Wang et al., 2019; Wang et al., 2017). One potential explanation is that similar omitted variables may be in play in both first and second stage equations (Chiswick & Miller, 1995; Chiswick & Wang, 2019).

humanitarian migrants' spoken English skill, which is important for their early labour market integration

[Table 4 here]

5. Mechanisms

We test six potential mechanisms through which English proficiency is associated with labour market outcomes.[4] The first mechanism is self-esteem, which reflects an overall sense of self-worth or personal value. Higher proficiency in the local language is associated with higher self-esteem among migrants (Pesner & Auld, 1980; Tsai et al., 2001) and higher self-esteem is associated with positive labour market outcomes, such as increased employment opportunities and higher wages and job autonomy (Drago, 2011; Goldsmith et al., 1997; Waddell, 2006). Results in Model A1 in Table 5 show that a higher level of English proficiency is associated with a higher level of self-esteem. Model A2 shows that self-esteem mediates the relationship between better English proficiency and the probability of participating in the labour force. Model A3 shows that self-esteem does not mediate the relationship between better English proficiency and the probability of getting a job.

[Table 5 here]

The second mechanism is self-efficacy, which reflects confidence in the ability to exert control over one's motivation, behaviour, and social environment (Bandura, 1997). Proficiency in host country language is positively associated with self-efficacy among migrants (Mak & Tran, 2001). For instance, Pajic et al. (2018) found that local language proficiency is positively associated with job-search self-efficacy among Syrian refugees in Greece and the Netherlands. The literature also suggests that self-efficacy positively correlates with wages, career success and job satisfaction (Abele & Spurk, 2009; Day & Allen, 2004; Kim et al., 2008). Results in Model B1 show that English proficiency is positively associated with self-efficacy. Model B2 shows that self-efficacy mediates the relationship between better English proficiency and the probability of participating in the labour market. Model B3 finds that self-efficacy plays a mediating role between English proficiency and getting a job.

We further examine three other potential mechanisms concerning general and mental health. Language proficiency can have an indirect effect through the inputs into the health production function or a direct effect through improving the efficiency of the health production function (Clark et al., 2004; Grossman, 1972). Proficiency in the national/host language can enhance migrants' physical and mental health status, access to primary and preventive care and adherence with medical advice (Feinberg et al., 2002; Lebrun, 2012). Meanwhile, a body of literature has examined the impacts of health on labour market outcomes of immigrants and refugees (Cheng et al., 2019; Ruiz & Vargas-Silva, 2018; Wang et al., 2019).

The third mechanism is perceived discrimination. Individuals who have a poor command of the host language perceive themselves to be more likely targets of discrimination (Krahé et al.,

[4] For details of the specific questions in relations to the measures of self-esteem, self-efficacy, perceived discrimination, self-rated general health status, posttraumatic stress disorder and psychological distress, see notes to Table 5.

2005; Munro, 2003), resulting in poorer labour market outcomes (Hersch, 2011). Model C1 does not find that English proficiency is associated with perceived discrimination. This finding is similar to the findings in Krahé et al. (2005) in Germany and the UK. Results from models C1, C2 and C3 suggest that perceived discrimination does not play a mediating role between English proficiency and labour market outcomes, although it has a positive direct correlation with the probabilities of participating in the labour force participation and getting a job.

The fourth mechanism is self-rated general health. Model D1 shows that a higher level of general English proficiency is associated with better general health status. Models D2 and D3 show that general health status partially mediates the relationship between English proficiency and the probability of participating in the labour force and between English proficiency and the probability of getting a job, respectively.

The fifth mechanism is post-traumatic stress disorder (PTSD) as measured by the PTSD-8 screening instruments. We construct a dichotomous variable for the presence of indicative PTSD (yes=1; no=0). Model E1 shows that higher English proficiency is associated with a lower probability of the indicative presence of PTSD. Models E3 and E4 do not suggest that the indicative presence of PTSD mediates the relationship between English proficiency and the probabilities of participating in the labour force or getting a job.

The last potential mechanism is psychological distress as measured by the Kessler 6 (K6) scale, a quantifier of non-specific psychological distress. Following the standard K6 Score Group method, we construct a dichotomous variable for the presence of a possible serious mental illness (yes=1; no=0). Model F1 shows that higher English proficiency is associated with a lower probability of having a possible serious mental illness. Model F2 shows that possible serious mental illness does not mediate the relationship between English proficiency and the probability of participating in the labour force. Model F3 shows that possible serious mental illness partially mediates the relationship between English proficiency and the probability of getting a job.

6. Discussion and Conclusion

This study examines the relationships between English language skills and labour market outcomes of humanitarian migrants who recently arrived in Australia using a cohort and nationally representative panel dataset. Our findings show that the probabilities of participating in the labour force and finding a job are higher for humanitarian migrants who possess a higher level of general English proficiency and in particular a higher level of spoken English ability. Our instrumental variable estimates reaffirm the causal impact of higher English ability on participating in the labour force and securing a job. We also find that attending an English training program is associated with improved English proficiencies in general and specific domains of proficiency such as listening, speaking, reading and writing. We also find that the effect of English proficiency on participating in the labour force are mediated by self-esteem, self-efficacy and general health and that the effect on getting a job is mediated by general health, post-traumatic stress disorder and indicative mental illness.

Our findings on the role of English proficiency in shaping labour market outcomes have extended the existing theories and empirical findings. Language skills are a critical manifestation of a migrant's capacity to adapt to and integrate into the host culture and society

(Rockstuhl et al., 2011). Migrants, including refugees, with stronger local language skills tend to be more culturally resilient and be equipped with higher levels of psychological resources (Smith et al., 2019). For instance, language capability can increase an individual's self-efficacy (Magnet de Saissy, 2009) and self-esteem (Buchanan et al., 2018; Li et al., 2019) in the new cultural environment because they enhance opportunities for positive self-evaluation. Other examples also show that refugees' self-esteem and job search self-efficacy increases as language skills improve (Pajic et al., 2018). Additionally, research reports that psychological resources, including self-efficacy and self-esteem, can promote individuals' engagement in career and employment activities (e.g., searching for jobs or filling employment gaps; Chen & Lim, 2012; Dust et al., 2018), leading to career success over time (Cenciotti et al., 2017). Our findings are also consistent with other studies, which emphasise that building self-efficacy can benefit refugees' employment search abilities (Eggenhofer-Rehart et al., 2018). Extending on this body of scholarship, our findings have empirically discovered the processes through which a high level of English proficiency facilitate humanitarian migrants' early labour market integration (e.g., via the mediation of psychological resources such as self-efficacy and self-esteem).

Our findings in Australia regarding the relationship between language skills, experienced discrimination and labour market outcomes differ from some existing findings. Perceived discrimination is a type of refugees' social experiences reported widely in the literature (Ellis et al., 2008). Discrimination prevents refugees from adapting to the host society (Buchanan et al., 2018), heightening the barriers to quality and satisfying careers and employment (Casimiro et al., 2007). Language difficulty has been identified as a source of discrimination for refugees during recruitment processes (Zschirnt & Ruedin, 2016). One reason is that employers or recruiters in the host country may perceive language deficiency as a sign of poor education or low social status (Hadley & Patil, 2009). Research also highlights that the influence of language proficiency on employment outcomes of refugees can potentially reduce the perception and/or actuality of discrimination (Auer, 2018). This line of scholarship signals a great likelihood that language proficiency lowers the risk of refugees being discriminated. However, we do not find that refugees in Australia who are more fluent in English tend to perceive less discrimination and consequently achieve better employment outcomes through the mediating role of perceived discrimination. Our results suggest that poor English language skill may not necessarily be a source of discrimination against humanitarian migrants in Australia. In this way we have supplemented the existing findings that language skills reduce negative social experiences among humanitarian migrant in the host society (e.g., Colic-Peisker & Tilbury, 2007).

We also suggest that language skills can not only be a prerequisite for effective engagement in employment and career activities (Emilsson & Mozetič, 2019), but may also influence refugees' health and wellbeing. In support of the relationship between language skills and health, previous research has suggested that poor English skills are a common source of depression, stress, and anxiety for migrants living in Australia (Maneze et al., 2014) and that lack of functional local language skills usually hinders refugees from effectively obtaining social and health support (Salami et al., 2019) and identifying feasible ways to integrate socially in host countries. The resulting social isolation, coupled with the stress of resettlement, may lead them to develop chronic physical and mental health problems (Correa-Velez et al., 2015). For instance, one study showed that language barriers contribute to mental health issues (Green, 2017) and another to refugee suicide (Hagaman et al., 2016). Other scholars have suggested that problematic health conditions tend to either psychologically demotivate people to pursue career opportunities actively or lead them to refrain from seeking employment or performing

job tasks effectively (Mitra & Jones, 2017; Montano et al., 2017). Specifically, in this paper, we find that general health and a possible serious mental illness serve as mediators between English skills and labour market outcomes among humanitarian migrants.

Consistent with studies in other countries, our findings suggest that efforts and resources to improve English proficiency provides an effective way to foster labour force participation and employment prospects for humanitarian migrants. In this regard, we can learn from a reform that expanded and improved early language classes for refugees in Denmark, which resulted in four percentage points permanently higher employment and almost USD 2,510 in extra yearly earnings over eighteen years (Arendt et al., 2020). Accordingly, we, recommend that the Australian government continue to invest in the provision of English and employment skills training programs for humanitarian migrants. In addition, give our findings that spoken English tends to be the most effective predictor of humanitarian migrants' employment outcomes yet the one area which attracts relatively less attention in existing training programs, we strongly recommend increased attention to and resources for training in spoken English. Finally, we propose that the government invests further in areas that can help channel the positive effects of English proficiency for improved labour market outcomes by improving public and social policies and services that can increase the self-esteem, self-efficacy and mental and physical health of humanitarian migrants and enhance their integration into the Australian labour market.

Due to data limitation, we only examined the early labour market outcomes among humanitarian migrants within approximately the first three years of their settlement. In Australia, the employment rate of refugees increases rapidly after the first few years of settlement; but the refugees' employment gaps relative to other immigrants and natives remain large (Brell et al., 2020). In Norway and Finland, refugees are not able to close the employment gaps after a decade (Brell et al., 2020). In Germany, it takes fourteen years for refugees as compared to other immigrants for who it takes six years to reach the employment rate of 70 per cent (Brücker et al., 2019). Therefore, the long-term effects of English proficiency and other factors, including those that are not significant predictors of labour market outcomes in the present study, are yet to be fully understood.

Similarly, the effect of English proficiency on wages, which is statistically insignificant in the present study, may take time to emerge as humanitarian migrants become more socially and economically integrated into Australia. In this study, we did not examine underemployment and job quality due to the relatively low employment rate among the cohort of humanitarian migrants in the BNLA data. For instance, only about half the refugees in Germany's labour force work in skilled jobs, although over 80 per cent of them were skilled workers in their home countries (The Economist, 2020). Future collection and public release of BNLA data will aid further research into these areas.

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Table 1. Summary Statistics, Waves 1-4 of Building a New Life in Australia: The Longitudinal Study of Humanitarian Migrants

	Mean/ percentage	Standard deviation
Outcome variables		
Labour force participation (0=no; 1=yes)	33.47%	
Employment status (0=no; 1=yes)	17.54%	
Weekly wage (in natural logarithm)	2.88	0.71
Key independent variables		
Proficiency in English (scale: 1=not at all; 2=not well; 3=well; 4=very well)		
General proficiency (principal component score of the four measures below)	-2.99e-10	1.89
Understanding spoken English	2.30	0.79
Speaking	2.19	0.80
Reading	2.26	0.85
Writing	2.20	0.84
Control variables		
General health in the past 4 weeks (1=very poor; 6=excellent)	3.89	1.36
Age (years)	36.83	12.08
Male (reference: female)	60.47%	
Married (0=no; 1=yes)	61.49%	
Household financial hardship (0=no; 1=yes)	30.58%	
Stayed in Australia for more than a year (0=no; 1=yes)	67.29%	
Education		
Never attended school (reference)	16.17%	
Primary education	21.32%	
Secondary education	46.06%	
Tertiary education	16.45%	
Employed before immigration (0=no; 1=yes)	59.70%	
Completed study/job training in Australia (0=no; 1=yes)	5.67%	
Know how to find a job in Australia (0=no; 1=yes)	33.41%	
Index of relative socio-economic disadvantage (IRSD)*	2.59	2.19

Notes: * For the list of variables used to calculate the IRSD, see the Australian Bureau of Statistics Catalogue No. 2033.0.55.001 on https://www.abs.gov.au/ausstats/abs@.nsf/mf/2033.0.55.001.

Table 2. Proficiency in English and Labour Market Outcomes

	Labour force participation				Employment status				Weekly wage			
	(1)		(2)		(3)		(4)		(5)		(6)	
General English proficiency	0.23***	[6.68]			0.17***	[3.65]			0.20	[0.70]		
Understanding spoken English			0.11	[0.85]			0.20	[1.11]			1.25	[0.97]
Speaking			0.45***	[3.39]			0.41**	[2.30]			0.03	[0.03]
Reading			-0.14	[-1.01]			-0.22	[-1.18]			-1.00	[-0.48]
Writing			0.13	[1.00]			0.06	[0.36]			0.38	[0.18]
General health	0.19***	[4.67]	0.18***	[4.55]	0.34***	[6.30]	0.33***	[6.15]	-0.40	[-0.79]	-0.43	[-0.84]
Age	0.19***	[6.58]	0.19***	[6.56]	0.29***	[5.68]	0.29***	[5.64]	0.92***	[2.69]	0.93***	[2.69]
Age-square	-0.30***	[-8.43]	-0.30***	[-8.40]	-0.45***	[-6.66]	-0.45***	[-6.61]	-1.27***	[-2.91]	-1.28***	[-2.89]
Male	1.93***	[14.19]	1.90***	[14.00]	2.09***	[10.05]	2.05***	[9.80]	3.39**	[2.34]	3.27**	[2.38]
Married	-0.17	[-1.41]	-0.16	[-1.36]	-0.13	[-0.80]	-0.12	[-0.73]	-0.71	[-0.51]	-0.74	[-0.53]
Household financial hardship	0.11	[1.01]	0.10	[0.98]	-0.60***	[-4.08]	-0.61***	[-4.12]	-2.22*	[-1.85]	-2.28*	[-1.92]
Stayed in Australia > 1 year (ref: no)	1.44***	[7.72]	1.42***	[7.61]	2.07***	[7.54]	2.07***	[7.53]	-7.42*	[-1.86]	-7.43*	[-1.86]
Primary education	-0.22	[-1.13]	-0.21	[-1.08]	-0.15	[-0.61]	-0.14	[-0.57]	0.22	[0.13]	0.14	[0.08]
Secondary education	-0.38**	[-2.14]	-0.35*	[-1.95]	-0.60**	[-2.56]	-0.57**	[-2.41]	-1.26	[-0.88]	-1.30	[-0.91]
Tertiary education	-0.32	[-1.55]	-0.29	[-1.39]	-0.73***	[-2.63]	-0.70**	[-2.52]	-2.75	[-1.46]	-2.82	[-1.48]
Employed before immigration	0.82***	[6.37]	0.82***	[6.38]	0.63***	[3.63]	0.63***	[3.59]	0.29	[0.22]	0.23	[0.18]
Study/job training in Australia	0.76***	[3.87]	0.76***	[3.86]	0.30	[1.41]	0.30	[1.40]	-0.32	[-0.28]	-0.33	[-0.29]
Know how to find a job	1.02***	[10.03]	1.01***	[9.96]	1.13***	[8.88]	1.12***	[8.76]	1.54	[1.47]	1.47	[1.37]
IRSD	0.09***	[3.97]	0.09***	[3.99]	0.07**	[2.33]	0.07**	[2.39]	-0.07	[-0.34]	-0.05	[-0.26]
Wave 2	-0.47***	[-2.62]	-0.46***	[-2.58]	0.33	[1.51]	0.33	[1.50]	-1.44	[-0.95]	-1.40	[-0.94]
Wave 3	-0.11	[-0.60]	-0.12	[-0.64]	0.87***	[3.90]	0.84***	[3.78]	2.10	[1.51]	2.03	[1.44]
Wave 4	0.37*	[1.93]	0.34*	[1.78]	1.46***	[5.98]	1.40***	[5.76]	2.60**	[2.21]	2.46**	[2.13]
Constant	-7.40***	[-12.18]	-8.59***	[-13.33]	-12.20***	[-11.81]	-13.18***	[-11.98]	11.13	[1.47]	9.62	[1.16]
N	5825		5825		5805		5805		801		801	

Notes: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. *t* statistics based on robust standard errors in brackets. Results are obtained from random effects logit regressions.

Table 3. Proficiency in English and Labour Market Outcomes

	(1) Labour force participation	(2) Employment status
General English proficiency	0.23***	0.23***
	[3.84]	[3.36]
First-stage results		
max(0, AAS-11)×non-English speaking country of birth	-0.03***	-0.03***
	[-7.30]	[-7.32]
First-stage *F* statistics	57.745	53.309
N	5,766	5,746

Notes: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. *z* statistics based on robust standard errors in brackets. All specifications control for variables as in Table 1. Results are obtained from G2SLS random-effects instrumental variable regressions. Full results are available from the authors.

Table 4. English Language Training and Proficiency in English

		(1) General English proficiency		(2) Understanding spoken English		(3) Speaking		(4) Reading		(5) Writing	
English training	(Unstandardised coef.)	0.27***	[6.59]	0.10***	[5.21]	0.08***	[4.42]	0.15***	[7.47]	0.13***	[6.68]
	(Standardised coef.)	0.14***	[6.59]	0.12***	[5.21]	0.10***	[4.42]	0.17***	[7.47]	0.16***	[6.68]
N		8057		8091		8081		8095		8091	

Notes: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. *z* statistics based on robust standard errors in brackets. All specifications control for variables as in Table 1. Results are obtained from G2SLS random-effects IV regressions. Full results are available from the authors.

Table 5. Mechanisms between Proficiency in English and Labour Market Outcomes

Panel A: Self-esteem	(A1) Self-esteem		(A2) Labour force participation		(A3) Employment status	
General English proficiency	0.03***	[5.86]	0.02***	[6.21]	0.01*	[2.02]
Self-esteem			0.02***	[2.12]	0.01	[0.87]
Indirect effect of general English proficiency			0.0007**	[2.03]	0.0002	[0.85]
Proportion of total effect that is mediated			0.03		--	
N	5,261		5,261		5,242	

Panel B: Self-efficacy	(B1) Self-efficacy		(B2) Labour force participation		(B3) Employment status	
General English proficiency	0.06***	[7.32]	0.02***	[4.17]	0.004	[1.17]
Self-efficacy			0.02***	[2.31]	0.03***	[3.75]
Indirect effect of general English proficiency			0.0013**	[2.39]	0.0016***	[3.77]
Proportion of total effect that is mediated			0.07		0.29	
N	3,374		3,374		3,361	

Panel C: Perceived discrimination	(C1) Perceived discrimination		(C2) Labour force participation		(C3) Employment status	
General English proficiency	0.003	[1.43]	0.02***	[6.56]	0.01**	[2.45]
Perceived discrimination			0.09***	[4.38]	0.04**	[2.35]
Indirect effect of general English proficiency			0.0003	[1.26]	0.018	[1.01]
Proportion of total effect that is mediated			--		--	
N	5,751		5,771		5,751	

Panel D: General health	(D1) General health		(D2) Labour force participation		(D3) Employment status	
General English proficiency	0.10***	[9.18]	0.02***	[5.93]	0.01*	[1.70]
General health			0.03***	[5.93]	0.03***	[7.28]
Indirect effect of general English proficiency			0.0026***	[4.82]	0.0027***	[5.53]
Proportion of total effect that is mediated			0.11		0.34	
N	5,825		5,825		5,805	

Panel E: Post-traumatic stress disorder	(E1)		(E2)		(E3)	
	Post-traumatic stress disorder		Labour force participation		Employment status	
General English proficiency	-0.02***	[-4.66]	0.02***	[6.62]	0.01**	[2.58]
Post-traumatic stress disorder			-0.02*	[-1.88]	-0.02*	[-1.66]
Indirect effect of general English proficiency			0.0003	[1.50]	0.0002	[1.44]
Proportion of total effect that is mediated			--		--	
N	5,663		5,663		5,644	

Panel F: Mental illness	(F1)		(F2)		(F3)	
	Mental illness		Labour force participation		Employment status	
General English proficiency	-0.02***	[-4.70]	0.02***	[6.56]	0.01**	[2.29]
Mental illness			-0.005	[-0.35]	-0.03**	[-2.43]
Indirect effect of general English proficiency			0.0001	[0.35]	0.0005**	[2.42]
Proportion of total effect that is mediated			--		0.06	
N	5,728		5,728		5,710	

Notes: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. *t* statistics in brackets for regression coefficients; *z* statistics in brackets for the bootstrapped (1,000 times) coefficients on the indirect effect of general English proficiency. All specifications control for variables as in Table 1. To conserve space, for the first model of each panel, we present the results from the same sample of the second model in each panel. Results for the first model in each panel based on the sample of the third model; results are qualitatively similar if we use the same sample as the second model. Full results are available from the authors.

Self-efficacy mean score is derived by taking an average of responses (1=not at all true; 2; hardly ever true; 3=sometimes true; 4=very true) to the three items on the waves 1 and 3 questionnaires: Thinking about how you handle your life and things that come up, how true is it that: (1) I am certain I can accomplish my goals; (2) If I am in trouble, I can think of a good solution; and (3) I can handle whatever comes my way? Higher values of the self-efficacy score refer to greater self-efficacy.

Self-esteem mean score is derived by taking an average of responses (1= strongly disagree; 2; disagree; 3= agree; 4= strongly agree) to the three items on the wave 1 questionnaire: The next statements are about your general feelings about yourself: (1) I feel that I have a number of good qualities; (2) I am able to do things as well as most people; and (3) I take a positive attitude toward myself. Higher values of the self-esteem score refer to greater self-esteem.

Perceived discrimination is measured by the response (no=0; yes=1) to the following question: Since arriving in Australia, do you think you have been discriminated against, stopped from doing something, or been hassled or made to feel inferior, because of your ethnicity, religion or skin colour?

Health status is measured by the response (1=very poor; 2=poor; 3=fair; 4=good; 5=very good; 6=excellent) to the question: Overall, how would you rate your health during the past 4 weeks?

Post-traumatic stress disorder (PTSD) is measured by the PTSD-8 scale. The criteria for indicating the presence of post-traumatic stress disorder (PTSD) are met if at least one symptom from each of the three PTSD-8 subscales has an item score of 3 or 4 (i.e. respondents answered either 3 “sometimes” or 4 “most of the time” for at least one item in each subscale of Intrusion (four items), Avoidance (two items) and Hypervigilance (two items)).

Psychological distress is measured by Kessler 6 (K6): In the past four weeks how often did you feel: (1) nervous; (2) hopeless; (3) restless or fidgety; (4) that everything was an effort; (5) so sad that nothing could cheer you up; and (6) worthless? Values for the K6 total score are calculated by summing individual scores across all items in variables in accordance with the standard scoring method (1 = none of the time; 2 = a little of the time; 3 = some of the time; 4 = most of the time; 5 = all of the time). Values

for the K6 Score Group are then derived from the K6 score values, in accordance with the standard K6 Score Group method: 0 = Total score 6–18 (no probable serious mental illness); 1 = Total score 19–30 (probable serious mental illness). The K6 score values should not be simply interpreted as a diagnosis of (or lack of) a mental illness. K6 score groups provide an indication of whether a severe mental illness is likely to be present.

Figure 1. Age at Immigration and General English Proficiency