



The Impact of Education and Employment Quality on Self-rated Mental Health Among Syrian Refugees in Canada

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Abstract

Finding appropriate employment is a common challenge faced by refugees when resettling in a new country. For refugees with higher education, finding work commensurate with their skills and qualifications may be even more difficult. Refugees with higher education may experience more distress around employment because their expectations for employment are more discrepant from the realities of resettlement. As part of the SyRIA.lth project, the present study looked at employment rates and job quality of Syrian refugees resettling in Canada (N = 1805). Moderately and highly educated participants were more likely to be employed than those with less than high school education. Among those currently employed 2 to 3 years after arrival (n = 627), moderately and highly educated participants reported lower job satisfaction, quality, and appropriateness compared to those with lower education. As expected, employed former refugees with high education reported poorer mental health which was explained by the job quality measures.

Keywords Education · Employment · Relative deprivation · Refugees · Mental health

Introduction

Refugees who experience social and structural barriers during the resettlement process have been found to be at greater risk for poorer mental and physical health over time [1, 2]. A key aspect of this may be employment; unemployment and underemployment are major predictors of well-being and mental health [3–5]. Refugees who have a higher education and higher language fluency are typically expected to find and attain employment more quickly than those with less education [6]. However, studies have also found that refugees with higher education can experience more stress and poorer mental health outcomes than those with moderate levels of education [6–8]. One possible reason for this seeming discrepancy between material and psychological outcomes is that refugees with higher levels of education face elevated levels of *underemployment*, and thus greater

disappointment of their employment expectations, relative to those with lower levels of education [1].

Syrian Refugees in Canada

Until recently, Syria was an ethnically diverse middle-income country, with a high literacy rate of 84% and 56% of the population living in urban areas [9]. The onset of the conflict in Syria destroyed livelihoods and infrastructure [10], and has resulted in 6.6 million refugees originating from Syria in 8 years, more than from any other country [11]. As part of the global response to the Syrian conflict, Canada resettled 56,260 Syrian refugees nationwide between November 2015 and June 2018 [12]. The Canadian Syrian resettlement initiative actively prioritized the resettlement of vulnerable refugees [13], but Syrian refugee newcomers to Canada varied widely in their skills and backgrounds [12]. No knowledge of English or French on arrival was reported by 92% of government assisted refugees (GARs, who represented 55% of the initial wave of 40,000 Syrian refugees), and 50% of privately sponsored refugees or PSRs (those sponsored by private citizens, faith or community organizations). Only 3% of GARs had more than a secondary education, while 29% reported no formal education, whereas 33% of PSRs had more than a secondary education, and only

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15% reported no formal education.¹ Despite the widespread challenges of language fluency and lower levels of education among a large subset of the newcomers, a 2018 survey found approximately 57% of Syrian refugees who had been in Canada 2 to 3 years had found employment [12].

Refugees and Employment

Refugees experience numerous stressors and obstacles when resettling in a new country [1]. One of the most common obstacles faced by refugees during the resettlement period is employment; both in terms of acquiring employment and the appropriateness of that employment [7, 14, 15]. Refugees experience numerous social and structural barriers when it comes to continuing with their careers, or finding employment that aligns with their previous education [16, 17]. Over-qualification is commonly reported by migrant groups but this gap may be even greater for refugees [15]. Unlike economic immigrants entering Canada, who are selected based on their fit into the labour market and English or French language fluency, refugees are selected based on their need for protection [18]. Poorer language fluency and/or a greater lack of recognition of qualifications can make finding work commensurate with their skills and qualifications more difficult for highly educated refugees. Moreover, unlike immigrants, many refugees arrive without savings or other financial resources, and financial hardship may result in the need to accept immediately available employment rather than waiting for higher-quality employment [19].

Accepting quick employment can impede future employment opportunities and career advancement and one's sense of control over one's life. Refugees with greater skills and education who had selected their current employment out of necessity (quick employment) report being the unhappiest with their employment and those who experience less improvement after settlement, particularly in attaining appropriate employment, express less perceived control during the resettlement process, more frustration and poorer mental health outcomes [20, 21]. Although this research was cross-sectional in nature, it suggests that refugees with higher levels of education may perceive more negative outcomes than those with lower levels of education, even when having better salaries or working conditions due to the gap

between their hopes and expectations and their current working conditions [2, 15, 22].

These findings are consistent with the theory of relative deprivation. People develop expectations for personal outcomes based on a number of factors, including their previous experiences, and outcomes of comparable others. But when those expectations are thwarted, people can experience relative deprivation, such as feeling a lack of control, anger, and injustice, even when outcomes appear to be objectively positive [16, 23–26]. Immigrants to Canada do report feelings of injustice with respect to their employment status, perceiving unfair treatment, achievement of lower status relative to Canadian-born workers and a lack of recognition and respect for foreign training and work experience [27]. Refugees may have lower expectations on arrival, since they were not selected for immigration based on their “employability”, but those with higher levels of education may still experience a greater gap between their outcomes and their expectations than those with lower levels of education. This research paper therefore explores the following questions:

- (1) Does education level among Syrian refugees predict the quality of current employment, 2 to 3 years after resettlement?
- (2) Is there a relationship between job quality and the psychological variables of stress and perceived control?
- (3) Do education level, employment quality, and psychological variables impact Syrian refugees' general mental health?

Method

Data were drawn from the first 2 years of the Syrian Refugee Integration and Long-Term Health in Canada (SyRIA.lth) study. SyRIA.lth is a 4-year, longitudinal study examining integration outcomes for Syrian refugees resettling in Canada between 2015 and 2017. All study activities were reviewed and approved by the Institutional Review Boards at York University, Centre for Addiction and Mental Health (CAMH), and St. Michael's Hospital in Toronto, Ontario; University of Windsor in Windsor, Ontario; and McGill University in Montreal, Quebec.

Participants

Research sites include six urban centres in three of the largest immigrant-receiving provinces in Canada. The aim was to enroll at least 10% of the anticipated 18,000 adult privately sponsored refugee (PSR) and government assistant refugee (GAR) arrivals between January 2015 and June 2017. Recruitment occurred between April and July 2017 through snowball sampling, word of mouth, flyers, and

¹ Refugee settlement category (GARs vs. PSRs) was collected as part of the overall study. The variable was not a focus of this paper, and is therefore not included here; however, we tested and confirmed that the addition of a GAR vs PSR variable did not contribute significantly or change any outcome in the hierarchical regression analyses (B-values ranged from – 1.05 to 1.00). In addition, adding the small number of Blended Visa Office Referred (BVOR, N=84) as a third category also did not change any outcome in the analysis (B-values ranged from – .44 to 1.02).

direct requests at settlement agencies, community agencies, community events, food banks, and in buildings and neighbourhoods with high concentrations of Syrian refugees. One to six participants were interviewed from each household. Inclusion criteria were: resettled Syrian refugee (Privately Sponsored, Government Assisted, or Blended Visa Office Referred); arrived in Canada between January 2015 and June 2017; and 18 years or older. A total of 1932 adult Syrian refugees representing 856 households participated in year 1. The attrition rate in year 2 was approximately 7%, with a total of 1805 participants completing the year 2 survey.

Measures

Survey questions assessed sociodemographic variables, migration and pre-migration characteristics, service use, and different aspects of integration, drawn from the Holistic Integration Model [2]. Where available, standardized scales that had validated Arabic versions were used. Professional English to Arabic translation was obtained for additional measures, followed by back translation by two bilingual Syrian Canadians. Each survey was piloted with 24 recent Syrian refugees. Only the measures being reported in this paper are described below.

Sociodemographic variables: In year 1, these measures included age, gender, months in Canada, and self-rated ability to speak and understand English/French on a 4-point scale (1 = poor; 4 = excellent). Education level was categorized as low education (having = <9 years of primary education), moderate education (at least some high school and/or college diploma and/or trade certificate), and high education (at least some university education and/or professional degree).

Employment (year 2): These included wage (“What is your average hourly wage”), quality of current employment (“The wages of my job are enough to meet my needs” and “I am satisfied with my job”) and appropriateness of current employment (“My job is related to and appropriate to my field of profession/ education/ training”). These were measured on 5-point scales (1 = strongly disagree; 5 = strongly agree).

Psychological measures (year 2): Stress was measured using the 10 item Perceived Stress Scale (PSS-10) [28, 29]. PSS-10 scores are averaged across items rated from 0 to 4 (0 = never; 4 = very often) with higher scores indicating higher levels of perceived stress. PCS-7 items are the average of items rated from 1 to 5 (1 = strongly disagree; 5 = strongly agree) with higher scores indicating higher levels of perceived control [30]. Factor analysis and Cronbach’s

alpha confirmed the intended factor structure and reliability of all the above scales ($\alpha \geq 0.85$), except the PCS-7.²

Mental health measures (year 1 and 2): General mental health was measured using the 14-item subscale from the RAND 36 Health Survey [31, 32]. RAND 36 scores are converted into t-scores standardized against the general USA population, with a mean of $M = 50$ ($SD \pm = 10$) and with higher scores indicating better perceived general mental health.

Procedures

Participants provided informed consent prior to the interview and were given a \$40CDN honorarium for participation. Surveys were collected through face-to-face interviews in Arabic and entered into Quicktapsurvey on iPads. Surveys took approximately 1 to 1.5 h each in year 1, and 45 min to 1 h in year 2, and were done primarily in participants’ homes.

Data Analyses

Participants were grouped based on their current level of education and analyses were conducted using SPSS version 24 software.

Section #1: Comparing Employment Characteristics and Mental Health Outcomes by Education Category

For research questions 1 and 2, education categories were compared using analysis of variance (ANOVA) and chi-square tests to examine differences in employment rates, sociodemographic variables, employment questions, and mental health measures. This allowed us to determine whether education levels predicted differences in material outcomes, namely, employment rates and income, as well as providing a description of the characteristics of the different education groups.

Section #2: Exploring Predictors of Mental Health Among Employed Participants

For research question 3, a three-step hierarchical linear regression was used only with those participants employed in year 2 to investigate how education level, perceived

² Not surprisingly, it was discovered that PCS-7 item #6 (“In the past 10 years my life has been full of changes without my knowing what will happen next”) demonstrated poor factor loading and reduced the overall reliability of the scale ($\alpha = 0.55$). As a result, item #6 was removed from further analysis, improving the overall factor structure and providing a reliability similar to what Bobak and colleagues reported ($\alpha = .65$).

Table 1 Frequency rate of employment by education level in year 2

	Low edu	Mod edu	High edu
Total participants (N = 1805)	830 (45.98%)	653 (36.18%)	322 (17.84%)
Currently employed (n = 627)	232 ^{ab} (27.95%)	267 ^a (40.88%)	128 ^b (39.75%)

Frequencies with the same superscripts differ by $p < .05$ post-hoc. Percentages reported for currently employed are based on the number of participants working within each education category. Standardized residuals were calculated for the chi-square test superscripts to determine significant differences between the three levels of education

employment quality/appropriateness, and psychological variables impact general mental health over time, as measured with the RAND-36.

Results

Comparing Employment Characteristics and Mental Health Outcomes by Education Category

Out of the 1805 participants interviewed in year 2, 17.8% reported a high level of education (see Table 1). Only 627 (34.73%) reported working in year 2, with about 40% of the moderate and highly educated participants reporting employment, which was significantly higher than among those in the low education category, $X^2(2, N = 1805) = 50.02, p < 0.001, V = 0.039$ (see Table 1).

Sociodemographic Differences by Education Level

Of participants employed in year 2, those with moderate and high education had a higher proportion of women working, $X^2(2, N = 627) = 65.92, p < 0.001, V = 0.075$, and had better English/French language fluency, $F(2) = 56.77, p < 0.001, n^2 = 0.15$ (see Table 2). Employed participants were in their mid-30s, on average, but moderately educated participants were slightly younger than the other groups, $F(2) = 5.31, p = 0.005, n^2 = 0.017$. Number of months in Canada did not differ between groups; average length of time in Canada was just over 2 years for all three groups, $F(2) = 2.40, p = 0.091, n^2 = 0.008$ (see Table 2).

Research Question 1: Does Education Level Among Syrian Refugees Predict the Quality of Current Employment, 2 to 3 Years After Resettlement?

Approximately half of employed participants earned more than minimum wage, but the proportion was somewhat higher among both those with lowest and highest education levels;

Table 2 Frequencies and means of sociodemographic characteristics by education level among employed participants (n = 627)

	Low education (n = 232)	Moderate education (n = 267)	High education (n = 128)
Gender (% male)	204 ^{ab} (87.9%)	163 ^a (61%)	69 ^b (53.9%)
Age (years)	37.98 ^a (12.18)	34.87 ^{ab} (11.69)	37.89 ^b (11.08)
Months in Canada	25.62 (5.09)	26.70 (5.48)	25.90 (5.29)
Language fluency (5 = excellent)	3.49 ^a (1.16)	4.30 ^a (1.15)	4.73 ^a (1.14)

Frequencies and means with the same superscripts differ by $p < .05$ post-hoc. Standardized residuals were calculated for the chi-square test superscripts to determine significant differences between the three levels of education

Numbers in italics represent the Standard Deviation (SD)

the proportions did not differ between these two groups, $X^2(2, N = 310) = 20.56, p < 0.001, V = 0.033$ (see Table 3). As predicted in our research question, those with moderate and high education levels were less likely to feel their current employment was appropriate to their skills and qualifications, $F(2, 604) = 15.70, p < 0.001, n^2 = 0.049$, and reported lower job satisfaction for their current employment, $F(2, 604) = 3.77, p = 0.004, n^2 = 0.018$. All three groups were somewhat dissatisfied with their current wage, as the average score was below the midpoint of the scale, $M = 2.91 (\pm 1.19), F < 1$ (see Table 3).

Research Question 2: Is There a Relationship Between Job Quality and the Psychological Variables of Stress and Perceived Control?

As we predicted, employed participants with moderate and high education levels reported higher levels of stress on the PSS-10 than those with low education levels, $F(2, 593) = 13.12, p < 0.001, n^2 = 0.042$ (see Table 3). Those with high education levels also reported lower perceived control on the PCS-6, $F(2, 593) = 4.58, p = 0.011, n^2 = 0.015$, and lower general mental health on the year 2 RAND 36 mental health subscale, compared to those with low education levels, $F(2, 593) = 5.98, p = 0.003, n^2 = 0.02$, although all RAND scores were above the standardized mean of 50 for the general US population (see Table 3).

Table 3 Frequencies and means of employment characteristics, psychological variables and general mental health by education level (n = 627)

	Low education (n = 232)	Moderate education (n = 267)	High education (n = 128)
Employment variables			
Hourly wage (% > minimum wage)	130 ^a (56.03%)	113 ^{ab} (42.32%)	67 ^b (52.34%)
Wage enough (5 = strongly agree)	2.92 (1.24)	2.95 (1.17)	2.77 (1.11)
Job appropriateness (5 = strongly agree)	3.00 ^{ab} (1.31)	2.47 ^a (1.21)	2.31 ^b (1.38)
Overall job satisfaction (5 = strongly agree)	3.77 ^{ab} (1.06)	3.46 ^a (1.08)	3.45 ^b (1.14)
Psychological and mental health variables			
Stress (PSS-10) (4 = very often stressed)	1.19 ^{ab} (.76)	1.42 ^a (.69)	1.57 ^b (.63)
Perceived control (PCS-7) (5 = high control)	3.98 ^a (.66)	3.87 (.65)	3.78 ^a (.59)
General MH (RAND-36)	58.56 ^a (12.02)	57.00 (10.94)	54.74 ^a (10.35)

Frequencies and means with the same superscripts differ by $p < .05$ post-hoc

Standardized residuals were calculated for the chi-square test superscripts to determine significant differences between the three levels of education

Numbers in italics represent the Standard Deviation (SD)

Table 4 Correlations comparing employment questions and mental health measures among employed former Syrian refugees (n = 577)

	1	2	3	4	5
1. Wage enough	–				
2. Job appropriateness	.20***	–			
3. Job satisfaction	.45***	.37***	–		
4. Perceived control (PCS-7)	.14***	.13***	.25***	–	
5. Stress (PSS-10)	–.20***	–.15***	–.29***	–.60***	–
6. General mental health (RAND-36)	.28***	.15***	.32***	.51***	–.70***

* $p < .05$; ** $p < .01$; *** $p < .001$

Exploring Predictors of Mental Health Among Employed Former Refugees

Research Question 3: Do Education Level, Employment Quality, and Psychological Variables Impact Syrian Refugees' General Mental Health?

An examination of the correlations among employed participants revealed all employment questions were significantly correlated with all mental health and psychological measures (see Table 4). Year 2 general mental health on the RAND-36 was positively correlated with satisfaction with current wage, $r(575) = 0.28$, $p < 0.001$, job appropriateness, $r(575) = 0.15$, $p < 0.001$, job satisfaction, $r(575) = 0.32$, $p < 0.001$, and perceived control, $r(575) = 0.51$, $p < 0.001$, and negatively correlated with stress, $r(575) = -0.70$, $p < 0.001$. No predictors in Table 4 were highly correlated ($r > 0.8$), and collinearity statistics

were within acceptable limits ($VIF < = 2.5$) for conducting a regression.

Education was dummy coded into two vectors: High Education (High education coded 1, others coded 0) and Moderate Education (Moderate education coded 1, the others coded 0). Hourly wage was coded into one vector of 1 (over minimum wage) and 0 (at or below minimum wage). Results from the three-step hierarchical multiple regression partially supported our research question predictions. At step one, while accounting for year 1 general mental health, participants with higher education levels differed in terms of reported general mental health in year 2, $F(3,567) = 88.52$, $p < 0.001$, accounting for 31% of the variation (see Table 5). As observed in the ANOVAs (see Table 3), those with lower education reported more positive mental health scores. At step two, introducing employment quality/appropriateness significantly improved the prediction of mental health in year 2, explaining an additional 8% of the variation in general

Table 5 Hierarchical regression analysis of variables predicting year 2 RAND-36 general mental health among employed former Syrian refugees (n = 571)

Variables	B	T	P	R	R ²	ΔR ²
Step 1				.55	.31	.31
General mental health (year 1 RAND-36)	.51	15.73	< .001			
High education vs others	– 2.28	– 2.12	.03			
Mod education vs others	– 1.21	– 1.39	.16			
Step 2				.60	.37	.08
General mental health (year 1 RAND-36)	.46	14.23	< .001			
High education vs others	– 1.9	– 1.83	.06			
Mod education vs others	– .59	– .69	.48			
Hourly wage	1.85	2.41	.01			
Wage enough	.84	2.35	.01			
Job appropriateness	.12	.40	.68			
Job satisfaction	1.66	4.10	< .001			
Step 3				.76	.58	.21
General mental health (year 1 RAND-36)	.25	8.49	< .001			
High education vs others	.16	.18	.85			
Mod education vs others	.65	.93	.35			
Hourly wage	.49	.78	.43			
Wage enough	.74	2.54	.01			
Job appropriateness	.07	.28	.77			
Job satisfaction	.64	1.90	.05			
Perceived control (PCS-7)	1.56	2.66	.007			
Stress (PSS-10)	– 7.42	– 13.08	< .001			

mental health, $F(4,563) = 13.52$, $p < 0.001$. Participants with higher education only marginally differed ($p = 0.06$) from those with lower education. At step three, introducing psychological measures at year 2 significantly improved the equation, explaining an additional 21% of variation in general mental health at year 2, $F(2,561) = 142.31$, $p < 0.001$. Together all nine independent variables accounted for 58% in the variance of general mental health, $F(9,561) = 88.89$, $p < 0.001$. In the final equation, general mental health was higher among those making enough money and who were satisfied with their work, and those who reported more perceived control and less stress and, as expected, education level no longer had an effect once the other variables were taken into account. However, contrary to our predictions, job appropriateness did not predict psychological well-being.

Discussion

In this sample of recently arrived Syrian refugee newcomers, our findings suggest a disparity between educational background and the quality of current employment. Although more highly educated participants were more likely to be employed, only half of those with a university education were earning more than minimum wage, the same proportion as those with the 9 years of education or less. Not surprisingly, moderately and highly educated participants were

less likely to feel their current employment was appropriate to their skills and qualifications and reported less satisfaction with their current employment. Moreover, those with the highest levels of education also reported more stress, lower perceived control and poorer general mental health compared to those with the lowest levels. In the final regression equation, job satisfaction, stress and perceived control predicted of mental health, and eliminated the impact of education level on mental health. This is consistent with a relative deprivation explanation of educational differences in well-being among resettled refugees; the disparity between current employment conditions and expectations may have been greater for more highly educated refugee newcomers, resulting in lower feelings of control, greater stress and ultimately poorer mental health [16, 20, 23]. Adequacy of income, however, was a significant predictor of general mental health, reinforcing the findings of other studies that poverty may be the most important driver of distress for resettled refugees [2, 19, 33]. Given the importance of poverty as a social determinant of health, this finding highlights the need to ensure adequate financial support for the long-term well-being of this population [4].

Contrary to our predictions, job appropriateness was not a significant predictor of general mental health. This is surprising, given the frustrations that have been reported around underemployment for other migrants in Canada [15, 26, 27]. Rates of employment were very low among participants;

however, it is possible that their awareness that many others are unemployed may have reduced the impact of underemployment, a finding consistent with the relatively high rates of satisfaction with current employment despite the low wages and lack of job appropriateness, and with Campion's argument that refugees feel the need to find employment quickly [19]. While refugee newcomers may expect a period of transition and thus be initially satisfied with merely finding employment, the finding that employment appropriateness does not increase enough over time may lead to greater dissatisfaction and more distress [20].

Limitations and Future Research

With only a third of the sample currently working, the employed subsample may not be representative of the larger sample in terms of skills, expectations or social networks; it will be important to revisit these questions after more of the sample is working. It is also possible that our measure of job appropriateness was too coarse. We did not collect information about what type of work participants were actually doing in Year 2. Having the opportunity to compare participants' previous employment in Syria with their current employment in Canada could provide more nuanced information about the appropriateness of available employment. It was also unclear whether individuals had full-time, part-time, or casual work, and how many hours they were working each week. These data are currently being collected and we look forward to a deeper analysis of employment in the future. Knowing more about whether they were comparing their outcomes to their peers, to their pre-migration expectations, or to other Canadian residents would also help shed light on their interpretation of their situation.³

Conclusion

Findings from the present study are consistent with predictions of relative deprivation; although more highly educated participants were more likely to be employed, and reported generally positive mental health, they nonetheless reported less job satisfaction, poorer mental health, more stress, and less perceived control than those with lower education [16, 22, 23]. However, it was the adequacy of income rather than appropriateness of employment that was the main predictor of distress, reflecting the low incomes and financial difficulties faced by this group. The results of this study emphasize

that the common reliance on employment status alone, rather than employment conditions, quality or appropriateness, may miss important determinants of health and well-being for refugee newcomers in the settlement process [1, 15].

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Compliance with Ethical Standards

Conflict of interest The authors declare that they have no conflict of interest to report.

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³ Participants were asked how soon after arrival they expected to "have a good job" but the question confounded employment with quality of employment. Moreover, almost all male participants responded "within 6 months", and thus answers to this variable were not included in the analysis.

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