



## Research article

## Prevalence and predictors of low future expectations among Syrian refugees resettled in Sweden

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## ABSTRACT

**Background:** Future Expectation is important for motivation and wellbeing, however drastic life events such as in refugee situations may result in low expectations. This study aims to investigate the prevalence and determinants of low future expectations among Syrian refugees resettled in Sweden.

**Methods:** A random sample of 1215 Syrian refugees resettled in Sweden responded to questionnaire. Weighted analyses and adjusted relative risks were conducted to determine the prevalences and predictors of low future expectations. Synergy index was calculated for low social support and depression in relation to low expectations.

**Results:** The prevalences of low future expectations for labour market, social and economic intergration were 10.9%, 13.4% and 14.1% respectively. Longer stay in Sweden, being older, low social support and depression were associated with low future expectations. The simultaneous presence of depression and low social support had a synergistic effect on low social expectation.

**Discussions:** Understanding and addressing factors related to low future expectations among refugees may be useful for facilitating their labour market, social and economic integration.

## 1. Introduction

Expectations about the future are beliefs that specific events and outcomes may occur in the future [1]. Low expectations, sometimes manifesting as low motivation can be experienced by people going through drastic life situations, failures or setbacks [2] such as in refugee situations. For refugees, drastic events such as trauma, losses, violence, disaster and displacement [3], may result in feelings of uncertainty and low expectations about the future. Compared to other migrant groups, the unique experiences of refugees have direct implications for their future expectations which may differ from other migrant groups [4, 5]. Experiences such as broken social order, trauma [6], prolonged stay in refugee camps, prolonged uncertainty and difficult living conditions are some examples [5].

Although there are few studies examining the relationship between met expectations and postmigration adaptation [7], few have examined levels of expectation after resettlement. Results from studies on migrants show that expectations influence the formation of experiences [8] and behavioural adjustment [9]. Future expectation has been linked to increased engagement [10], good planning, goal setting, problem solving

skills and motivation to remain committed to a goal [2, 11]. The aforementioned are crucial factors necessary for refugees' integration following resettlement [7, 12]. As part of integration, refugees must regain important resources (e.g. social contacts, money and property etc.) which were lost during flight [13, 14, 15]. They must therefore participate in activities geared towards facilitating their integration, for example language instruction and acquisition of other skills necessary for labour market, economic and social integration [13, 15, 16]. Evidence from migrant studies suggests that future expectations are related to post resettlement integration [7, 12], however studies about expectations and their determinants in specifically refugee populations are scarce. In a Norwegian study by Iversen, Berg & Vaaler (2010), widespread low future expectations was found among refugees [17].

Factors such as age, gender, previous experiences, current life situation, social support etc. have been shown to influence future expectations in various contexts [18, 19, 20, 21, 22, 23]. Social support, described as the provision of psychological and material resources helpful for coping with stressful events in daily lives [24], is well documented in refugee studies. Often attained through social relationships [25], social support decreases loneliness and isolation and contributes to a sense of belonging

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[26]. Social support may thus play a role in informing refugees future expectations. Furthermore, Low future expectations may be characterised by a tendency to disengage, an attribute also seen in depression [27, 28]. In general, negative views and beliefs about the future have been suggested to be an important cognitive component of depression [29]. Thus, the heightened risk of mental health problems such as depression and anxiety observed among refugees [30, 31], calls for a closer look into future expectations among refugees.

More than 160000 refugees sought asylum within a year in Sweden in 2015 [32]. Socioeconomic integration of refugees constitutes a highly prioritized policy area in Sweden and across Europe [33]. Facilitators of social integration operate at both structural levels (e.g. regulations that remove barriers to key spheres of the society), and individual level (e.g. acquisition of host country specific competencies such as language skills) [34]. Regarding the later, future expectations as a contributing factor warrants closer examination. Furthermore, the potential role of mental health, specifically depression, and social support in forming the future expectations of refugees needs to be investigated as these factors may assert both direct and indirect influences on refugees' integration and wellbeing. Knowledge gained may inform appropriately designed interventions to improve the foregoing outcomes in this group.

Therefore the aim of this study is to investigate the prevalence and predictors of low economic, social and labour market expectations among Syrian refugees resettled in Sweden. The study also aims to investigate if the simultaneous presence of depression and low social support creates a synergy effect in predicting low expectations in this group.

## 2. Methods

The present study is part of a larger questionnaire-based cross-sectional study that was conducted in 2016 among Syrian refugees resettled in Sweden.

### 2.1. Participants and sampling method

A total of 4000 individuals aged between 18 and 64, who were granted permanent residency in Sweden on grounds of asylum between 2011 and 2013 were randomly sampled from the Total Population Register (TPR). The TPR contains information about the population including changes over time and is often used for research purposes. Register data was also obtained from the Longitudinal integration database for health insurance and labour market studies (LISA) [35]. Information regarding grounds on which residence was granted was obtained from the STATIV, a database containing migration related information for individuals who applied for residency in Sweden. STATIV is also maintained by Statistics Sweden and contains data from the Migration Agency.

### 2.2. Questionnaire

A comprehensive questionnaire designed to capture mental ill health using scales and items of particular relevance for refugee populations was used. The questionnaire also contained factors hypothesized to be relevant for refugees' mental health and socioeconomic integration. Since many of the instruments and scales were only available in English language, the questionnaire was translated to Arabic. A standard double-blind translation and back-translation procedure was done. The translation and adaptation process of the questionnaire included discussions with relevant stakeholders such as community experts. Revisions and amendments were done where necessary.

Cognitive interviews were conducted to test the usability of the questionnaire using seven native speakers of Arabic at a rehabilitation center for war and torture trauma patients. They were instructed to read the questions out loud and to follow a Think-Aloud Protocol (TAP). TAP is a method designed to provide information about difficulties that may

arise due to problems with comprehension, memory retrieval, judgement and response formatting [36]. Any indication of such difficulties was followed up in two ways: firstly by a further scrutiny of the target item by the research group, language and community experts. Secondly, an examination of the psychometrics profile of the item from data compiled from a small pilot study was also conducted. Using both methods, modifications were made to the questionnaire where necessary. A response rate of 30.4% was obtained, giving rise to a total of 1215 participants.

### 2.3. Measures

#### 2.3.1. Sociodemographic factors

All sociodemographic data were retrieved from Statistics Sweden's nationwide databases TPR and LISA. Age (specifically age at data collection), was categorized into the following four age-groups: 18–34, 35–49, 50–64; educational level was categorized as: 0–9 years, >9 years without a university degree, > 12 years with a university degree; marital status was categorized as: married, unmarried and divorced/widow/widower; number of years since arrival in Sweden was categorized as less than 3 years; 3–4 years and 5 years or more since immigration. Similar information, with the exception of marital status, were also obtained for the non-respondents for the purpose of constructing non-response weights.

#### 2.3.2. Depression

Hopkins Symptom Checklist (HSCL-25), a scale for detecting common mental disorders (CMD) was used. It has been shown to possess sound psychometric properties among Arabic speakers [30]. HSCL-25 consists of 10 anxiety items and 15 depression items. Items refer to how specific symptoms have bothered or distressed the individual during the last week and have four response alternatives ranging from "not at all" to "very much". In the present study individual mean item scores have been calculated on the 15 symptoms of depression. Respondents with a mean item score above 1.80 were classified as having depression [37]. Cronbach alpha for the depression subscales of HSCL-25 was 0.93.

#### 2.3.3. Expectations

Expectations of social, economic and labour market integration were assessed by three items specifically developed for this study. The responses were given on a four-point ordinal scale, i.e. very unlikely, probably not, probably and most likely. Participants who responded "very unlikely" or "probably not" were classified as having low expectations. Expectations was operationalised as follows: **Economic expectations**: in a few years from now, I will have a stable and good financial situation; **Labour market expectations**: in a few years from now, I have a job or occupation that is in line with my competencies or education; **Social expectations**: a few years from now, I will have a rich social life with many friends and acquaintances.

Given that the targeted constructs of future expectations were assessed here by 3 single items [38] rather than by a multi-items composite scale, common tests of construct validity such as factor analysis [39], or estimation of reliability by measures of internal consistency [40] were not viable. The single items' usability was, however, examined by means of cognitive interviews and pilot testing (please see description of the questionnaire above). The foregoing is further addressed in detail among strengths and limitations.

#### 2.3.4. Social support

Individuals with low support were identified using the ENRICH Social Support Inventory, ESSI [41, 42]. ESSI contains seven questions which together measure three different types of social support; structural (partner), instrumental (tangible help), and emotional (caring). Example of questions included are: "is there someone to give you good advice/guidance when you have problems" and "do you have as much contact as you desire with someone close to you, someone you can rely on and have confidence in". The response options were based on a 5-point scale from

never to always, with the exception of a question on cohabiting which had a yes/no option. An algorithm used for the purpose of identifying individuals with low support was applied in this study [43].

#### 2.4. Ethics approval and consent to participate

The research project on which the study is based was reviewed by the regional ethical review board regionala etikprövningsnämnden (EPN) in Stockholm, Sweden (Reference number: 2015/14631431 and 2016/549-32). Informed consent was obtained from all participants.

#### 2.5. Statistical analysis

As the sample was not entirely sociodemographically representative, analyses were performed on a weighted dataset. The weights used for this purpose were constructed through logistic regression analysis in which the variables gender, age-groups, educational level and year of immigration and the interaction between gender and age-groups were entered as independent variables to predict study participation. All analyses were based on the weighted dataset if not otherwise specified. Standard errors obtained through bootstrapping with 1000 re-samplings were used to calculate all statistical tests and 95% confidence intervals (95% CI) that are presented in this study.

The following were done: firstly the sociodemographic distribution of the unweighted and the weighted dataset were calculated and contrasted in relation to the sociodemographic profile of the sample frame, then the prevalence rates of depression and low social support were estimated in both the weighted and unweighted datasets. Secondly, statistical analysis were conducted to determine the prevalence of low labour market, economic and social expectations in the target population. This was repeated for the total population and stratified by socio-demographic factors, social support and depression.

Thirdly, mutually adjusted multivariable analyses were conducted to assess the independent associations between sociodemographic factors, social support, depression and low future expectations. The associations are presented as Risk ratios (RR) with 95% CI. The RRs were estimated within a generalized linear model (GLM) framework using a poisson distribution with a log-link. Fourthly, synergy index (S), excess risk due to interactions (RERI) and attributable proportion due to interaction, AP [44] were calculated to assess if the simultaneous presence of low social support and depression had a synergistic effect on low expectations. The 95% CIs for these estimates were calculated following Andersson et al's recommendations [45]. Synergy effect is present when the combined effect of any two or more independent variables departs from what is expected if the independent variable's predictive effects are added up. Synergy effects are therefore often referred to as additive interactions. A score above 1 as well as AP or RERI scores above 0 suggest that a synergy effect is present. Synergy effects were calculated using excel spreadsheets provided by Andersson et al., 2005. All other analyses were conducted using SPSS version 24.0.

### 3. Results

Table 1 shows the sociodemographic distribution of all eligible survey participants (sample frame) and of the sample when weighted for non-response. The bivariate associations between sociodemographic characteristics and non-response are also displayed in Table 1. Non-response analysis revealed that individuals that were younger, not married and had a lower educational level or been living in Sweden for five years or more were less likely to participate in the study. Respondents were however representative with regards to gender. When the non-response weights is applied to the sample, the sociodemographic distribution corresponds closely to the distribution observed in the sample frame, unmarried individuals were however still slightly underrepresented. The prevalence of depression and low social support in the weighted sample is 40.2% and 58.4% respectively, non-response weights influence on

**Table 1**

Sociodemographic characteristics among refugees from Syria resettled in Sweden, shown as percentage for respondents, sample frame, weighted sample and supplemented with non-response analysis.

	Respondents (n = 1215)	Sample frame (n = 4 000)	Weighted data set	Respondents versus non- respondents $\chi^2$ (P values)
<b>Gender</b>				0.4 (0.52)
Men	62.8	63.5	63.5	
Women	37.2	36.5	36.5	
<b>Age-groups</b>				68.7 (<0.01)
18-29	23.3	30.8	30.7	
30-39	32.9	33.7	33.5	
40-49	24.3	21.0	21.0	
50-64	19.5	14.6	14.8	
<b>Marital status</b>				78.9 (<0.01)
Married	63.5	52.9	57.5	
Unmarried	31.8	40.8	38.0	
Divorced/ widow/ widower	4.8	6.4	4.6	
<b>Educational level</b>				47.2 (<0.01)
0-9 years	40.2	46.4	47.0	
>9 years	21.0	22.3	22.0	
without a university degree				
>12 years with a university degree	38.7	31.5	31.0	
<b>Number of years in Sweden*</b>				34.0 (<0.01)
≤3 years	6.5	10.1	10.3	
3-4 years	27.5	29.5	29.3	
≥5 years	66.0	60.4	60.4	
<b>Low Social support</b>	59.0	NA	58.4	NA
<b>Depression</b>	40.6	NA	40.2	NA

NA: Not applicable.

\* This variable indicates the number of years since the individual arrived Sweden and should not be confused with year for being granted residency used as inclusion criteria.

these two estimates were thus marginal.

Table 2 shows the prevalence of low expectations i.e. labour market 10.9% (9.1–12.6), social 13.4% (11.3–15.4) and economic expectations at 14.1% (12.0–16.1). Low future expectations were more common among refugees who were older or divorced/widow(er). No significant differences for gender and educational levels were observed. As expected, the prevalence of low future expectations was higher among respondents with depression and low social support. Low expectations in the social domain were more common among individuals that have been in Sweden for five years or more.

The adjusted analyses presented in Table 3 show that having been in Sweden 5 years or more was associated with low social expectations and that older age was a strong predictor of low expectations for labour-market and economic domains. Furthermore, low social support and depression remained substantial risk factors for low expectations regardless of domain. In Table 4, it is shown that the joint effect of depression and low social support is a much stronger predictor of low social expectation than when the two variables are added up, i.e., AP 50% (24–76); RERI 2,38 (0.86–3.90); S 2.72 (1.03–7.22). A similar trend is observed for low economic and labour market expectations but with a slightly weaker synergy and a non-statistically significant synergy index estimate ( $p < 0.05$ ). It was also observed that among refugees meeting the criteria for depression, those with low social support appear to have slightly more severe symptom levels of depression.

**Table 2**  
Prevalence of low labour market, economic and social integration expectations in total and among subpopulations of Syrians refugees resettled in Sweden, with 95 % Confidence Interval (CI).

	Low labour market expectations % (95% CI)	Low social expectations % (95% CI)	Low economic expectations % (95% CI)
<b>Total</b>	10.9 (9.1–12.6)	13.4 (11.3–15.4)	14.1 (12.0–16.1)
<b>Gender</b>			
Men	10.5 (8.3–12.7)	13.9 (11.3–16.5)	15.0 (12.3–15.6)
Women	11.5 (8.7–14.4)	12.5 (9.3–15.8)	12.5 (9.4–12.6)
<b>Age-groups</b>			
18-34	6.3 (4.0–8.5)	13.7 (10.5–17.0)	11.0 (8.0–14.1)
35-49	10.5 (7.8–13.4)	11.2 (8.3–14.1)	12.9 (9.9–15.8)
50-64	26.3 (20.4–32.1)	18.0 (12.8–23.2)	26.7 (20.9–32.6)
<b>Educational level</b>			
0-9 years	9.6 (7.0–12.2)	13.3 (10.2–16.5)	14.0 (10.9–17.2)
>9 years without a university degree	9.5 (5.8–13.2)	14.4 (9.7–19.1)	13.5 (9.1–17.9)
>12 years with a university degree	13.8 (10.6–17.0)	12.7 (9.7–15.8)	14.5 (11.3–17.7)
<b>Marital status</b>			
Married	11.9 (9.7–14.2)	10.6 (8.4–12.8)	13.7 (11.3–16.2)
Unmarried	8.1 (5.3–10.9)	16.5 (12.6–20.4)	14.1 (10.4–17.8)
Divorced/widow/widower	20.9 (10.1–31.7)	22.4 (10.9–33.8)	17.5 (7.5–27.5)
<b>Number of years in Sweden</b>			
≤3 years	10.4 (8.3–12.5)	12.1 (9.8–14.4)	13.5 (11.1–15.9)
3-4 years	10.8 (7.6–14.1)	12.0 (15.3–34.8)	13.8 (10.1–17.6)
≥5 years	13.8 (6.0–21.5)	25.1 (15.3–34.8)	18.0 (8.9–27.2)
<b>Social support</b>			
High	6.3 (4.2–8.4)	6.8 (4.5–9.1)	8.6 (6.0–11.2)
Low	14.2 (11.6–16.8)	18.1 (15.1–21.1)	18.0 (15.1–21.0)
<b>Depression</b>			
No	6.1 (4.2–7.9)	7.0 (4.9–9.1)	6.9 (5.0–9.0)
Yes	18.1 (14.7–21.7)	23.2 (19.2–27.5)	24.7 (20.7–29.2)

**4. Discussion**

This study investigated the prevalence and determinants of low future labour market, social and economic expectations among Syrian refugees resettled in Sweden. The role of the simultaneous presence of social support and depression in predicting low expectations was also examined. Results show two distinct categories of respondents i.e. a minority (about 12%), with low future expectations and majority with moderate to high levels of future expectations. Due to previous trauma, personal losses and post-resettlement difficulties in this refugee population [3, 13, 14, 15, 46], the finding from this study was contrary to expected results. The finding is also in contrast to a Norwegian study which found widespread low future expectations among refugees [17]. A plausible explanation may be that resettlement in Sweden is viewed as a positive and hopeful event due to safety from war and oppression, in contrast to pre-migration trauma and adversities. Similarly, the finding may be an indication of resilience that may be characteristic of Syrian refugee populations. For example, a study on mental health risk assessment of Syrian refugees preparing for resettlement in the UK found that although all participants reported high levels of psychosocial stressors, only a minority (9%) had mental health issues that impacted their daily functioning [47]. Given this likely resilience, a strategic health promotion approach (e.g. screening) is necessary in order to identify and provide interventions for the minority needing it.

The risk of low expectations increased with increasing age in all three

**Table 3**  
Associations between potential risk factors and low expectations in three domains, presented as relative risks (RR) with 95% CI.

	Low labour market expectations RR (95% CI)	Low social expectations RR (95% CI)	Low economic expectations RR (95% CI)
<b>Gender</b>			
Men	1.04 (0.74–1.48)	1.04 (0.76–1.47)	1.22 (0.91–1.69)
Women	1	1	1
<b>Age-groups</b>			
18-34	1	1	1
35-49	1.64 (1.00–2.68)	0.97 (0.68–1.44)	1.26 (0.85–1.89)
50-64	3.72 (2.26–6.12)	1.41 (0.90–2.10)	2.45 (1.62–3.80)
<b>Educational level</b>			
0-9 years	1	1	1
>9 years without a university degree	0.95 (0.56–1.45)	0.99 (0.65–1.42)	0.92 (0.62–1.31)
>12 years with a university degree	1.43 (0.98–2.00)	1.03 (0.74–1.41)	1.05 (0.78–1.48)
<b>Marital status</b>			
Married	1	1	1
Unmarried	1.10 (0.66–1.70)	1.49 (0.98–2.16)	1.26 (0.86–1.74)
Divorced/widow/widower	1.36 (0.66–2.23)	1.41 (0.78–2.21)	0.86 (0.39–1.41)
<b>Number of years in Sweden</b>			
≤3 years	0.75 (0.46–1.49)	0.54 (0.37–0.87)	0.78 (0.49–1.40)
3-4 years	0.72 (0.42–1.56)	0.51 (0.32–0.85)	0.74 (0.44–1.38)
≥5 years	1	1	1
<b>Social support</b>			
High	1	1	1
Low	1.65 (1.22–2.46)	2.01 (1.40–3.10)	1.50 (1.06–2.17)
<b>Depression</b>			
No	1	1	1
Yes	2.40 (1.71–3.45)	2.71 (1.96–3.90)	3.11 (2.33–4.48)
Total number of cases	1192	1192	1192

domains but particularly for labour market expectations. Trends in the general population show that job opportunities reduces with increasing age [48], the situation may however be worse for older refugees. Reports show that refugees from low and middle income countries often lack employment within their first few years in Sweden, chances of employment rapidly decreases with increasing age upon arrival [49]. In a country that has witnessed increased arrivals of older and middle aged people in recent years [49], the observed low expectations among older refugees in this study may be related to the trends which the refugees have been told of or have themselves observed. In addition, reports from Nordic countries show poor economic prognosis and higher dependence on social assistant among refugees [50, 51]. As personal economy is often determined by previous education, employment and number of years in active employment etc, expectations of the future in this regard may be lower among older refugees due to loss of such resources and other investments made in home country.

Refugees who had spent five years or more since arriving Sweden had lower social expectations than those that arrived more recently. Previous findings show that after the initial excitement of being in safety, refugees' are often exposed to post migration difficulties such as unemployment, language difficulties [15, 52, 53] and social exclusion [16]. Given the role of the aforementioned factors for social interactions, it is possible that continued exposure to such barriers over time may result in lower social expectations among refugees. Some studies seem to suggest an association between difficulties faced in the labour market and low social expectations. According to Phillimore & Goodson (2006), employment is vital for social integration as it gives newcomers a sense of belonging and the opportunity to interact with natives. However, negative encounters at work may undermine refugees' confidence thus resulting in low social

**Table 4**

Depression and low social support's synergistic effect on low future expectations presented as relative risks (RRs), excess risk due to interactions (RERI), attributable proportion due to interaction (AP), and synergy index (S) with 95% CI\*.

		n	Mean depression score (SD)	RR (95% CI)	RERI (95% CI)	AP (95% CI)	Synergy Index (95% CI)
<b>Low labour market expectations</b>							
No depression	High social support	356	1.35 (0.25)	1	1.53 (0.29–2.67)	0.43 (0.12–0.75)	2.53 (0.76–8.49)
	Low social support	352	1.39 (0.26)	1.28 (0.72–2.42)			
Depression	High social support	139	2.24 (0.39)	1.71 (0.83–3.32)			
	Low social support	345	2.48 (0.49)	3.53 (2.20–6.14)			
<b>Low social expectations</b>							
No depression	High social support	351	1.35 (0.25)	1	2.38 (0.86–3.90)	0.50 (0.24–0.76)	2.72 (1.03–7.22)
	Low social support	358	1.39 (0.26)	1.53 (0.85–2.91)			
Depression	High social support	139	2.24 (0.39)	1.85 (0.82–3.75)			
	Low social support	344	2.48 (0.49)	4.76 (3.09–8.94)			
<b>Low economic expectations</b>							
No depression	High social support	352	1.35 (0.25)	1	1.90 (0.64–3.16)	0.48 (0.20–0.76)	2.76 (0.89–8.52)
	Low social support	357	1.39 (0.26)	1.04 (0.60–1.88)			
Depression	High social support	139	2.24 (0.39)	2.05 (1.08–3.87)			
	Low social support	343	2.48 (0.50)	3.99 (2.62–6.78)			

\* All models are adjusted for gender, age, level of education, marital status and number of years in Sweden.

expectations and difficulty forming intergroup relationships [54, 55]. The potential effect of time lived in a country and therefore the temporal links between social determinants of health and mental health of refugees as seen in the present study and a previous one from the United Kingdom [56], may be worth investigating further.

Findings from the current study further adds to the body of evidence regarding the role of negative views and beliefs about the future as important cognitive components of depression [28, 29]. Furthermore, the synergy effects of the simultaneous presence of depression and low social support (i.e. stronger predictor than when the two risk factors are simply added together), seem to lend support to assertions regarding the role of low social support and depression among refugees [57]. Social support from family and immediate community is an important component [58], that may be missing in post migration for many refugees. Social support acts to provide psychological and material resources helpful for coping [24], consequently, a simultaneous presence of depression and lack of social support may constitute a particularly deterring influence on the future outlook of the resettled refugees. Using reliable tools, findings from such assessments may provide useful information for stakeholders involved in the resettlement process, such as clinicians and local authorities [47].

This is one of the few studies on expectations among resettled refugees. One of the strengths of the study lies in the fact that the study population is a random sample drawn from a known sample frame including all eligible participants. The availability of information for all eligible study participants made it possible to evaluate the representativeness of the study sample. It also provided the opportunity to construct non-response weights for obtaining more reliable estimates despite the substantial non-response rate, which is one of the limitations of this study.

Another limitation worth discussing is the use of three single items to measure expectations. As already mentioned in the methods section, the entire questionnaire was pilot-tested to assess its usability among potential participants. The use of single items to assess concepts directly comprehensible and judged relevant by survey participants, i.e. having face validity [59], is common in a number of different fields such as stress studies [60]. Given the subjective nature of the target construct in this study, it could be argued that the single items here display such face validity. However, a fine grained and broadband assessment of a construct such as future expectations may also benefit from multi-item, multi-dimensional measurement scales with further evidence of construct validity. Future studies in this field may consider such assessment strategies.

The cross-sectional design of the study also means no causality can be

assumed. Finally, interpretation of findings is limited to the study population as they may not be applicable to other Syrian refugee populations.

## 5. Conclusions

Majority of the refugees that participated in the study have high labour market, social and economic expectations of the future. However among those reporting low expectations, social expectations decreases with increasing number of years in Sweden. Older refugees seem to have low expectations in all three areas. The simultaneous presence of depression and low social support appear to create a synergy effect in predicting low expectations than when the two factors are simply added together. There is thus a need to address low expectations in these vulnerable groups considering the known negative impact of low expectations on individuals' motivation and wellbeing [2, 11]. Finally, the potential success of measures aimed at facilitating labour market, social and economic integration of refugees do not only depend on their design and implementation, but also on uptake and completion of such activities by refugees. Such measures may therefore need to address factors related to low future expectations in order to boost motivation which in turn improves and sustains refugees' participation.

## Declarations

### Author contribution statement

L. Okenwa-Emegwa: Conceived and designed the experiments; Contributed reagents, materials, analysis tools or data; Wrote the paper.

F. Saboonch: Conceived and designed the experiments; Performed the experiments; Contributed reagents, materials, analysis tools or data.

P. Tinghög: Conceived and designed the experiments; Performed the experiments; Contributed reagents, materials, analysis tools or data; Analyzed and interpreted the data.

M. Helgesson, E. Mittendorfer-Rutz: Wrote the paper; Critically revised paper.

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## Competing interest statement

The authors declare no conflict of interest.

## Additional information

No additional information is available for this paper.

## References

- [1] G. Oettingen, D. Mayer, The motivating function of thinking about the future: expectations versus fantasies, *J. Personal. Soc. Psychol.* 83 (5) (2002) 1198.
- [2] A. Bandura, S. Wessels, *Self-Efficacy*, 1994.
- [3] E. Sigvardsson, M. Vaez, A.-M. Rydholm Hedman, F. Saboonchi, Prevalence of torture and other war-related traumatic events in forced migrants: a systematic review, *J. Rehabil. Torture Victims Prev. Torture* 26 (2) (2016) 41–73.
- [4] N. Williams, Establishing the boundaries and building bridges: a literature review on ecological theory: implications for research into the refugee parenting experience, *J. Child Health Care* 14 (1) (2010) 35–51.
- [5] E. Heger Boyle, A. Ali, Culture, structure, and the refugee experience in Somali immigrant family transformation, *Int. Migr.* 48 (1) (2010) 47–79.
- [6] J. Boyden, Children Affected by Armed Conflict in South Asia: A Review of Trends and Issues Identified Through Secondary Research, *Afghan Digital Libraries*, 2002.
- [7] C. Ward, S. Bochner, A. Furnham, *The Psychology of Culture Shock*, Routledge, 2005.
- [8] S. Bochner, A. Furnham, C. Ward, *The Psychology of Culture Shock*, Routledge, East Sussex, 2001.
- [9] P.T. Bürgelt, M. Morgan, R. Pernice, Staying or returning: pre-migration influences on the migration process of German migrants to New Zealand, *J. Community Appl. Soc. Psychol.* 18 (4) (2008) 282–298.
- [10] L. Horstmanshof, C. Zimitat, Future time orientation predicts academic engagement among first-year university students, *Br. J. Educ. Psychol.* 77 (3) (2007) 703–718.
- [11] Y. Sulimani-Aidan, Do they get what they expect?: the connection between young adults' future expectations before leaving care and outcomes after leaving care, *Child. Youth Serv. Rev.* 55 (2015) 193–200.
- [12] T.A. Mähönen, E. Leinonen, I. Jasinskaja-Lahti, Met expectations and the wellbeing of diaspora immigrants: a longitudinal study, *Int. J. Psychol.* 48 (3) (2013) 324–333.
- [13] L. Bakker, J. Dagevos, G. Engbersen, The importance of resources and security in the socio-economic integration of refugees. A study on the impact of length of stay in asylum accommodation and residence status on socio-economic integration for the four largest refugee groups in The Netherlands, *J. Int. Migr. Integr.* 15 (3) (2014) 431–448.
- [14] S.E. Hobfoll, The influence of culture, community, and the nested-self in the stress process: advancing conservation of resources theory, *Appl. Psychol.* 50 (3) (2001) 337–421.
- [15] M. Schick, A. Zumwald, B. Knöpfli, A. Nickerson, R.A. Bryant, U. Schnyder, et al., Challenging future, challenging past: the relationship of social integration and psychological impairment in traumatized refugees, *Eur. J. Psychotraumatol.* 7 (1) (2016) 28057.
- [16] S. Castles, M. Korac, E. Vasta, S. Vertovec, *Integration: Mapping The Field*, Report of A Project Carried Out by The University of Oxford Centre for Migration and Policy Research and The Refugee Studies Centre Contracted by The Home Office Immigration Research and Statistics Service (IRSS), Home Office Online Report 29/03, 2002.
- [17] V.C. Iversen, J.E. Berg, A.E. Vaaler, Expectations of the future: immigrant, asylum seeker, or refugee—does it matter? *J. Psychiatr. Intensive Care* 6 (1) (2010) 23–30.
- [18] H. Brody, Ritual, Medicine, and The Placebo Response. *The Problem of Ritual Efficacy*, 2010, p. 153.
- [19] L.C. Guthrie, S.C. Butler, M.M. Ward, Time perspective and socioeconomic status: a link to socioeconomic disparities in health? *Soc. Sci. Med.* 68 (12) (2009) 2145–2151.
- [20] J.J. Thompson, C. Ritenbaugh, M. Nichter, Reconsidering the placebo response from a broad anthropological perspective, *Cult. Med. Psychiatr.* 33 (1) (2009) 112–152.
- [21] L. Verdugo, T. Freire, Y. Sánchez-Sandoval, Understanding the connections between self-perceptions and future expectations: a study with Spanish and Portuguese early adolescents, *Rev. Psicodidáctica* 23 (1) (2018) 39–47.
- [22] P.G. Zimbardo, J.N. Boyd, *Putting Time In Perspective: A Valid, Reliable Individual-Differences Metric*. Time Perspective Theory; Review, Research and Application, Springer, 2015, pp. 17–55.
- [23] S.A. Stoddard, J. Pierce, Promoting positive future expectations during adolescence: the role of assets, *Am. J. Community Psychol.* 56 (3-4) (2015) 332–341.
- [24] S. Cohen, Social relationships and health, *Am. Psychol.* 59 (8) (2004) 676.
- [25] S. Cohen, B.H. Gottlieb, L.G. Underwood, Social relationships and health: challenges for measurement and intervention, *Adv. Mind Body Med.* 172 (2) (2001) 129–141.
- [26] M.J. Stewart, *Social Support in Refugee Resettlement. Refuge and Resilience*, Springer, 2014, pp. 91–107.
- [27] C. Carver, M.F. Scheier, S.C. Segerstrom, Optimism, *Clin. Psychol. Rev.* 30 (2010) 879.
- [28] C.S. Carver, M.F. Scheier, *On the Self-Regulation of Behavior*, Cambridge University Press, 2001.
- [29] A.T. Beck, *Cognitive Therapy of Depression*, Guilford press, 1979.
- [30] P. Tinghög, J. Carstensen, Cross-cultural equivalence of HSCL-25 and WHO (ten) Wellbeing index: findings from a population-based survey of immigrants and non-immigrants in Sweden, *Community Ment. Health J.* 46 (1) (2010) 65–76.
- [31] World Health Organisation, *Migrant Populations, Including Children, at Higher Risk of Mental Health Disorders* Geneva, World Health Organisation, 2017 [cited 2018 15 April 2018]. Available from: <http://www.euro.who.int/en/health-topics/noncommunicable-diseases/mental-health/news/news/2017/04/migrant-populations,-including-children,-at-higher-risk-of-mental-health-disorders>.
- [32] The Swedish Migration Agency, *The Swedish Migration Agency Yearly Report 2015, 2016* [cited 2018 15 April]. Available from: <https://www.migrationsverket.se/download/18.2d998ffc151ac3871593f89/1485556210405/%C3%85rsredo%202015.pdf>.
- [33] European Commission Migration, Home Affairs, Integration, 2018 [cited 2018 15 April]. Available from: [https://ec.europa.eu/home-affairs/what-we-do/policies/legal-migration/integration\\_en](https://ec.europa.eu/home-affairs/what-we-do/policies/legal-migration/integration_en).
- [34] A. Ager, A. Strang, Understanding integration: a conceptual framework, *J. Refug. Stud.* 21 (2) (2008) 166–191.
- [35] J.F. Ludvigsson, C. Almqvist, A.-K.E. Bonamy, R. Ljung, K. Michaëlsson, M. Neovius, et al., Registers of the Swedish total population and their use in medical research 31 (2) (2016) 125–136.
- [36] J. Drennan, Cognitive interviewing: verbal data in the design and pretesting of questionnaires, *J. Adv. Nurs.* 42 (1) (2003) 57–63.
- [37] L. Oruc, A. Kapetanovic, N. Pojskic, K. Miley, S. Forstbauer, R.F. Mollica, et al., Screening for PTSD and depression in Bosnia and Herzegovina: validating the harvard trauma questionnaire and the hopkins symptom checklist, *Int. J. Cult. Mental Health* 1 (2) (2008) 105–116.
- [38] H. Schmidt, The single-item questionnaire, *Health Prof. Educ.* 4 (1) (2018) 1–2.
- [39] L.D. Goodwin, The role of factor analysis in the estimation of construct validity, *Meas. Phys. Educ. Exerc. Sci.* 3 (2) (1999) 85–100.
- [40] R.K. Henson, Understanding internal consistency reliability estimates: a conceptual primer on coefficient alpha.(Methods Plainly Speaking), *J. Meas. Eval. Couns. Dev.* 34 (3) (2001) 177–190.
- [41] B.H. Gottlieb, A.E. Bergen, Social support concepts and measures, *J. Psychosom. Res.* 69 (5) (2010) 511–520.
- [42] P.H. Mitchell, L. Powell, J. Blumenthal, J. Norten, G. Ironson, C.R. Pitula, et al., A short social support measure for patients recovering from myocardial infarction: the ENRICHD Social Support Inventory, *J. Cardpulm. Rehabil. Prev.* 23 (6) (2003) 398–403.
- [43] Collaborative Studies Coordinating Center ENRICHD, *CSCC ENRICHD Manual of Operations*, 1998 [cited 2018 15 April]. Available from: <http://www.csc.unc.edu/enrichd/procman/Vol1ManualofProceduresChap9DataManagement072103.pdf>.
- [44] K.J. Rothman, S. Greenland, T.L. Lash, *Modern Epidemiology*, 2008.
- [45] T. Andersson, L. Alfredsson, H. Källberg, S. Zdravkovic, A. Ahlbom, Calculating measures of biological interaction, *Eur. J. Epidemiol.* 20 (7) (2005) 575–579.
- [46] P. Tinghög, A. Malm, C. Arwidson, E. Sigvardsson, A. Lundin, F. Saboonchi, Prevalence of mental ill health, traumas and postmigration stress among refugees from Syria resettled in Sweden after 2011: a population-based survey, *BMJ open* 7 (12) (2017), e018899.
- [47] C. Hough, E. O'Neill, F. Dyer, K. Beaney, A. Crawshaw, *The Global Mental Health Assessment Tool (GMHAT) Pilot Evaluation: Final Report*, Public Health England, London, 2019.
- [48] J.-O. Hairault, F. Langot, *Labour Market and Retirement Interactions: A New Perspective on Employment for Older Workers*, Oxford University Press, 2016.
- [49] B.A. Gustafsson, H. Mac Innes, T. Österberg, Age at immigration matters for labor market integration—the Swedish example, *IZA J. Develop. Migration* 7 (1) (2017) 1.
- [50] B. Bratsberg, O. Raaum, K. Roed, *Immigrant Labor Market Integration across Admission Classes*, 2017.
- [51] M. Sarvimäki, *Labour Market Integration of Refugees in Finland*, 2017.
- [52] B.E. Baran, S. Valcea, T.H. Porter, V.C. Gallagher, Survival, expectations, and employment: an inquiry of refugees and immigrants to the United States, *J. Vocat. Behav.* 105 (2018) 102–115.
- [53] M. Helgesson, P. Tinghög, T. Niederkrotenthaler, F. Saboonchi, E. Mittendorfer-Rutz, Labour-market marginalisation after mental disorders among young natives and immigrants living in Sweden, *BMC Public Health* 17 (1) (2017) 593.
- [54] R.J. Crisp, R.N. Turner, Can imagined interactions produce positive perceptions?: reducing prejudice through simulated social contact, *Am. Psychol.* 64 (4) (2009) 231.
- [55] J. Phillimore, L. Goodson, Problem or opportunity? Asylum seekers, refugees, employment and social exclusion in deprived urban areas, *Urban Stud.* 43 (10) (2006) 1715–1736.
- [56] M.J.T.L. Campbell, Social determinants of mental health in new refugees in the UK: cross-sectional and longitudinal analyses 380 (2012) S27.
- [57] C. Gorst-Allsworth, E. Goldenberg, Psychological sequelae of torture and organised violence suffered by refugees from Iraq. Trauma-related factors compared with social factors in exile, *Br. J. Psychiatry* 172 (1) (1998) 90–94.
- [58] R. Schweitzer, F. Melville, Z. Steel, P. Lacherez, Trauma, post-migration living difficulties, and social support as predictors of psychological adjustment in resettled Sudanese refugees, *Aust. N. Z. J. Psychiatr.* 40 (2) (2006) 179–188.
- [59] R.R. Holden, Face validity, Corsini Encycl. Psychol. 4 (2010).
- [60] A.-L. Elo, A. Leppänen, A. Jahkola, health, Validity of a single-item measure of stress symptoms, *Scandinavian J. Work Environ.* (2003).