Does social capital protect mental health among migrants in Sweden?

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Summary

Poor mental health is common among migrants. This has been explained by migration-related and socio-economic factors. Weak social capital has also been related to poor mental health. Few studies have explored factors that protect mental health of migrants in the post-migration phase. Such knowledge could be useful for health promotion purposes. Therefore, this study aimed to analyse associations between financial difficulties, housing problems and experience of discrimination and poor mental health; and to detect possible effect modification by social capital, among recently settled Iraqi migrants in Sweden. A postal questionnaire in Arabic was sent to recently settled Iraqi citizens. The response rate was 51% (n = 617). Mental health was measured by the GHQ-12 instrument and social capital was defined as social participation and trust in others. Data were analysed by means of logistic regression. Poor mental health was associated with experience of discrimination (OR 2.88, 95% CI 1.73–4.79), housing problems (OR 2.79, 95% CI 1.84–4.22), and financial difficulties (OR 2.14, 95% CI 1.44–3.19), after adjustments. Trust in others seemed to have a protective effect for mental health when exposed to these factors. Social participation had a protective effect when exposed to experience of discrimination. Social determinants and social capital in the host country play important roles in the mental health of migrants. Social capital modifies the effect of risk factors and might be a fruitful way to promote resilience to factors harmful to mental health among migrants, but must be combined with policy efforts to reduce social inequities.

Key words: mental health, social capital, social determinants, protective health factors

BACKGROUND

It has been shown in previous studies, that mental health is poorer among foreign-born populations than among native-born populations in several European countries, including Sweden (Lindert et al., 2008, 2009; Gilliver et al., 2014). Especially refugee groups have been shown to suffer under higher burdens of mental ill health, e.g. higher prevalence of depression and anxiety disorders (Fazel et al., 2005; Gilliver et al., 2014). This has been explained by pre-migration factors, such as violent conflict, persecution and traumatic events (Mollica, 2001), but also by prolonged asylum time attached with uncertainty and
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... concerns for any family left behind (Laban et al., 2004). Socio-economic conditions, such as financial difficulties, have been researched in relation to mental health (Marmot and Wilkinson, 2006; Siegrist and Marmot, 2006), also in the migrant health literature (Porter and Haslam, 2005; Westman et al., 2006; Tinghog et al., 2007). Experience of discrimination has also been shown to be associated with poorer mental health, through mechanisms related to self-esteem and mastery (Williams et al., 2012). Such factors, affecting recently settled migrants’ mental health in the post-migration phase, are important from a public health perspective, as they indicate which issues should be prioritized in migrant mental health promotion.

In the migrant health literature, studies have revealed that weak social capital is a risk factor for poor mental health for instance among rural-to-urban migrants in China (Li et al., 2007; Chen et al., 2011) and Punjabi women in the UK (Dutt and Webber, 2010). Factors similar to social capital, such as acculturation difficulties, cultural access (Porter and Haslam, 2005; Carswell et al., 2011; Fassaert et al., 2011), social support (Carswell et al., 2011); social network and social integration (Teodorescu et al., 2012) have been shown to be associated with poorer mental health among migrants. Fewer studies on social capital have been conducted on recently settled migrants, who may have a high prevalence of poor mental health (Fazel et al., 2005; Lindert et al., 2008, 2009) and may be exposed to several known risk factors (Mollica, 2001; Laban et al., 2004; Tinghog et al., 2007).

The concept of social capital has been subject to much discussion in recent years. Political scientist Robert Putnam defined social capital as a trait of communities characterized by active citizens, sharing the same set of values and trusting each other and the institutions of the community (Putnam, 2000). Putnam suggested that such communities had lower rates of criminality, better school achievements, more economic wealth and better health (ibid). In the past years, social capital has been researched in many different disciplines, including public health. Research has shown that social capital is an important asset on both the collective and the individual level. Lack of social capital has been associated with various adverse health outcomes (Kawachi et al., 2008), including poor mental health (Berkman and Kawachi, 2000; Almedom, 2005; De Silva et al., 2005). Many different instruments to measure social capital have been applied, but in the literature building on Putnam’s school of thought, measures typically include social participation and trust in others (Berkman and Kawachi, 2000), for example in the social capital community benchmark study in the USA (Subramanian et al., 2002; Kim and Kawachi, 2006). Social participation may influence health and health behaviours, in both positive and negative directions, through social engagement, person-to-person contact and social influence, which all contribute to a sense of belonging, meaningfulness and coherence (Berkman and Kawachi, 2001). Social participation builds the foundation for reciprocal norms and reduces the social and economic costs for transactions in everyday life, and leads to trust in others (Putnam, 2000). Putnam’s position has been criticized. Another school of thought, originating from the late French sociologist Pierre Bourdieu (Bourdieu, 1986), has been utilized in social capital research. In his school of thought, social capital is seen more as an individual resource which can be used, like other forms of capital, to receive advantages. Bourdieu had a strong class perspective, and scholars after him, like the sociologist Alejandro Portes (Portes and Landolt, 2000), have warned scholars against lack of insight in this regard when applying the social capital concept. According to Bourdieu and Portes, already privileged people often have more social capital than others, less advantaged people. Moreover, Portes has highlighted that social capital can have negative effects, in that it could limit individual freedom and choice (Portes, 1998).

Another criticism against the concept of social capital in public health research is that longitudinal studies are scarce. Therefore, it is difficult to determine whether poor social capital is a cause or effect of poor health. This critique is important, especially when it comes to studies of mental health.

Despite the critique, Putnam’s definition of social capital is an important concept, not least when researching the conditions of less privileged groups. All individuals belong to a social context, regardless of their socio-economic background. The social context affects and shapes the individual in different ways. Both tangible and less tangible collective resources, if mobilized, can be made accessible to individuals in need. This access to collective good may act as a buffering factor against poor health. Thus, placing Putnam’s ‘social capital’ into a context, where social position and migration status represent the ‘missing’ dimensions of the concept, could be a way to develop the usefulness of the original model suggested by Putnam.

Social capital can be divided into two sub-concepts: horizontal social capital and vertical social capital. Horizontal social capital, in turn, consists of bonding social capital and bridging social capital. Bonding social capital refers to relationships between people in a certain group or community, while bridging social capital refers to relationships between people in different groups or communities. Vertical or linking social capital focuses on relationships between people and institutions of power (Baum and Ziersch, 2003; Szreter and Woolcock, 2004). In this paper, we focus on horizontal-level social
capital, due to insufficient data regarding vertical trust. In the absence of a uniform measure of social capital (Almedom, 2005), we have defined access to social capital as individual-level social participation and generalized trust in other people. In accordance with Putnam, Szreter and Woolcock (Putnam, 2001; Szreter and Woolcock, 2004), it is assumed that regular social participation in groups and activities form social relationships, which lay the foundations for mutual reciprocity norms and ultimately to trust between people. By doing this, we explore whether or not higher levels of social participation and trust in others early in the integration process can play an important role in creating resilience against factors, that may be harmful for mental health among recently settled migrants.

OBJECTIVES

The first objective of this study was to analyse the associations between financial difficulties, housing problems, and experience of discrimination on one side and poor mental health on the other during early resettlement among Iraqi migrants in Sweden. The second objective was to detect possible effect modification on these associations by social participation and trust in others, representing social capital.

METHODS

The study was carried out on survey data from a postal questionnaire in Arabic that was distributed in May and June 2008. The respondents were recently resettled persons born in Iraq, who had been registered in municipalities in the counties of Stockholm, Uppsala, Södermanland, Östergötland, Kronoberg, Västra Götaland, Skåne and Örebro, during the period 1 December 2007–28 February 2008, thus having had residence permit for only between 2 and 5 months. Out of the 1213 individuals who received the postal questionnaire, 617 (51%) responded. For the purposes of this study, the age group 18–64 (n = 587) was extracted. To improve quality, the questionnaire was translated from Swedish to Arabic using the forward and back translation strategy (Maneesriwongul and Dixon, 2004), and tested for cultural appropriateness in focus groups among recently settled native Arabic speakers divided by sex and educational level.

Variable definitions

The dependent variable in this study was mental health, a dichotomous variable created from the 12-item version of the General Health Questionnaire, GHQ-12; which has been shown to have a good cross-cultural validity and stable factor structure in many different settings (Goldberg et al., 1997). We dichotomized the 12 variables, assigning the value 1 for the response alternatives ‘more than usual’ and ‘much more than usual’, and the value 0 for ‘less than usual’ and ‘not at all’ for the different symptoms of poor mental health. The dichotomized variables were then added to each other into a scale ranging from 0 to 12 points. The validity and reliability has been shown to be good in the Arabic version, as well as in international studies, using a cut-off point between 2 and 3 on the scale (Goldberg et al., 1998; Daradkeh et al., 2001). The mean score within our sample also motivated this dichotomization.

The independent variables included financial difficulties, housing problems, experience of discrimination, social participation, trust in others, sex, age, educational level and time in Sweden before residence permit.

Financial difficulties were defined as having had difficulties keeping up with the living expenses such as food, rent, or bills several times during the last 12 months, which would indicate a prolonged time with sustained financial difficulties.

Housing problems were defined as being a sublettee, camp tenant, lodger with friends, relatives or compatriots, or other (except for first-hand apartment tenant or owning your own apartment or house).

Experience of discrimination was measured by the question: ‘Have you, during the last 12 months, been treated offensively with reference to your ethnicity or skin colour?’ Those who responded ‘Yes, by someone saying or screaming something to you’, ‘Yes, by someone attacking you in person or destroying or vandalizing something that belonged to you’ and/or ‘Yes, in another way’ were defined as having experience of discrimination.

Social participation was measured by asking the question ‘How often do you go to a meeting or any other activity in an organization or group (for example sports association, non-governmental organization, mosque or church, women’s or men’s group)?’ The response alternatives ‘several times a week’, ‘weekly’ and ‘monthly’ were defined as high social participation, as they would indicate a regular activity. ‘Quarterly’, ‘Sometimes’ and ‘More seldom or never’ defined low social participation, indicating infrequent activity.

The variable trust in others was created by combining four variables: ‘Take a standpoint on the following statements: (i) most people would use you if they got the chance, (ii) most people essentially try to be fair, (iii) you can trust most people, and (iv) you can never be careful enough when dealing with other people’. The combined responses constituted an index generating 0–12 points, where a lower number of points indicated high trust in others. The highest quartile of the distribution (7/8 points)
was defined as low trust in others. The origins of this variable can be traced back to the Rosenberg Generalized Trust scale, which has been shown to have a fairly good validity in several studies, reviewed by Sturgis and Smith (Sturgis and Smith, 2010). However, here we apply a developed version of the instrument, which takes both the negative and positive ends of the trust continuum into account.

The variables age and sex were derived from the population register. Age was used as a continuous variable in our analyses.

Educational level was measured by the question ‘What educational training do you have?’ Those who responded ‘10–12 years’, ‘academic education (university or college)’, or ‘other’ (a mixed category, where the majority reported vocational or university level training) were defined as having high education. Low education was defined as ‘7–9 years’ or anything less than that, indicating elementary and intermediate level schooling only, according to the Iraqi educational system, or less (Wikipedia, 2013).

Time in Sweden before residence permit was calculated from the time between reported time of arrival in Sweden and the reported time of residence permit, which in most cases in our sample would indicate asylum time. All individuals in the sample had received their residence permits 2–5 months prior to data collection. The mean time in Sweden before residence permit was 3.8 months. Since we did not find a good reason for assuming a distinct threshold effect of this variable, it was dichotomized between the third and fourth quartile of the distribution, so that a time period of 7 months or longer was defined as long time in Sweden before residence permit and <7 months as short time in Sweden before residence permit.

Statistical analyses

Data analyses were carried out in the IBM SPSS Statistics® version 20.0. Frequencies were calculated and differences between the sexes were assessed by Chi-square tests. Bivariate and multivariate logistic regression analyses were performed, and odds ratios (OR) and 95% confidence intervals (CI) were calculated in order to assess risk of poor mental health when exposed to financial difficulties and housing problems. Multiple logistic regression analyses were performed, whereby potential confounders were introduced in the crude model. The final regression model contained all potential confounders. In order to assess possible effect modification, we created six dummy variables, combining financial difficulties, housing problems and experience of discrimination on the one hand with social participation and trust in others on the other. Each dummy variable generated four different variable categories:

(1) ab = unexposed to both factors a and b
(2) aB = unexposed to factor a but exposed to factor B
(3) Ab = exposed to factor A but not factor b
(4) AB = exposed to both factors A and B

Following Rothman (Rothman, 2002), possible synergy effect was calculated by using the equation:

\[ SI = \frac{OR_{AB} - 1}{OR_{A} - 1} + \frac{OR_{aB} - 1}{OR_{b} - 1} \]

RESULTS

In the sample 53% were women, and 47% were men. The mean age was 35 years and the median age was 34 years. Thirty-five per cent had 9 years of education or less, 24% had 10–12 years of education, and 41% had studied more than 12 years. The majority, 86%, reported resettlement reimbursement or social benefits as their main source of income, indicating that they had come as refugees, and the main reported activity was studies in Swedish for foreigners. 81% had, according to the survey, a total household income of SEK 10 000 (1150 Euro) per month or less. Seventy-five per cent were married and 63% had children.

Thirty-six per cent of the sample reported poor mental health, 45% financial difficulties and 45% housing problems. Seventeen per cent had experienced discrimination. Seventy-six per cent reported low social participation and 25% low level of trust in others (Table 1). In the bivariate analyses (Table 2), age increased the risk of poor mental health significantly at OR 1.05 (95% CI 1.03–1.07) for each year. Having been exposed to financial difficulties (OR 2.35, 95% CI 1.64–3.38), housing problems (OR 1.89, 95% CI 1.33–2.70), and experience of discrimination (2.92, 95% CI 1.86–4.59), all increased the risk of poor mental health. Low social participation also increased the risk (OR 1.64, 95% CI 1.06–2.53), but this increase was statistically significant only among men (OR 2.11, 95% CI 1.17–3.83). Low trust in others increased the risk of poor mental health (OR 1.71, 95% CI 1.15–2.54), but the observation was statistically significant only among women (OR 1.85, 95% CI 1.07–3.18).

We carried out multivariate regression analyses (Table 3a–c) to estimate the associations between poor mental health and the three main exposures; financial difficulties, housing problems, and experience of discrimination. The factor time in Sweden before residence permit was not included in the final multivariate models, because analyses showed that it was not an important determinant for mental health in our sample. The odds ratio for poor mental health remained stable when the financial difficulties variable was adjusted for age, sex, educational level,
social participation and trust in others (OR 2.14, 95% CI 1.44–3.19). Among the covariates, only age and trust in others were statistically significant (Table 3a).

The odds ratio for poor mental health when exposed to housing problems was 2.79 (95% CI 1.84–4.22) when adjustments were made for age, sex, educational level, social participation and trust in others. The covariates age, low social participation and low trust in others remained statistically significant in the full model (Table 3b).

After adjustments for age, sex, educational level, social participation and trust in others, the odds ratio for poor mental health when exposed to experience of discrimination was 2.88 (95% CI 1.73–4.79). Age and social participation were statistically significant covariates (Table 3c).

In the analyses of effect modification (Table 4a–c) by social participation on the association between financial difficulties and poor mental health, we found that the odds ratio for poor mental health was greatest in the group that reported experience of financial difficulties in combination with having a low social participation. However, no synergy effect could be detected (Table 4a). Simultaneous exposure to financial difficulties and low level of trust in others also gave a higher risk of poor mental health (Table 4a), and a synergy effect of 1.92.

The combination of housing problems and low social participation rendered the highest risk for poor mental health, but no synergy effects could be detected (Table 4b). The synergy effect between housing problems and low trust in others was 2.19.

Analyses of effect modification by experience of discrimination and social participation on poor mental health gave a synergy index of 2.13. The synergistic effect between experience of discrimination and low trust in others was 1.84 (Table 4c).

Table 1: Prevalences of variables

<table>
<thead>
<tr>
<th>Variable</th>
<th>All, % (N)</th>
<th>Women, % (N)</th>
<th>Men, % (N)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Poor mental health</td>
<td>36.3% (203/559)</td>
<td>35.1% (105/299)</td>
<td>37.7% (98/260)</td>
</tr>
<tr>
<td>Financial difficulties</td>
<td>45% (248/551)</td>
<td>41.7% (123/295)</td>
<td>48.8% (125/256)</td>
</tr>
<tr>
<td>Housing difficulties</td>
<td>45.1% (256/567)</td>
<td>34.8% (104/299)</td>
<td>56.7% (152/268)</td>
</tr>
<tr>
<td>Experience of discrimination</td>
<td>17.3% (99/572)</td>
<td>13.6% (41/301)</td>
<td>21.4% (58/271)</td>
</tr>
<tr>
<td>Low social participation</td>
<td>75.9% (428/564)</td>
<td>81.6% (248/304)</td>
<td>69.2% (180/260)</td>
</tr>
<tr>
<td>Low trust in others</td>
<td>24.9% (137/551)</td>
<td>25.4% (75/295)</td>
<td>24.2% (62/256)</td>
</tr>
<tr>
<td>Age 18–24 years</td>
<td>16% (94)</td>
<td>19% (59)</td>
<td>12.7% (35)</td>
</tr>
<tr>
<td>Age 25–34 years</td>
<td>34.8% (204)</td>
<td>35.4% (110)</td>
<td>34.1% (94)</td>
</tr>
<tr>
<td>Age 35–44 years</td>
<td>30.3% (178)</td>
<td>27.7% (86)</td>
<td>33.3% (92)</td>
</tr>
<tr>
<td>Age 45–64 years</td>
<td>18.9% (111)</td>
<td>18% (56)</td>
<td>19.9% (55)</td>
</tr>
<tr>
<td>Low educational level</td>
<td>34.7% (197/569)</td>
<td>35.6% (108/299)</td>
<td>33.6% (89/256)</td>
</tr>
<tr>
<td>Long time in Sweden before residence permit</td>
<td>25.4% (131/516)</td>
<td>12.2% (33/271)</td>
<td>35.5% (98/245)</td>
</tr>
</tbody>
</table>

Percentages and frequencies.

Table 2: Risk of poor mental health when exposed to different variables

<table>
<thead>
<tr>
<th>Variable</th>
<th>All (N = 587) OR (95% CI)</th>
<th>Women (N = 311) OR (95% CI)</th>
<th>Men (N = 276) OR (95% CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Financial difficulties</td>
<td>2.35 (1.64–3.38)</td>
<td>2.41 (1.46–3.96)</td>
<td>2.27 (1.34–3.86)</td>
</tr>
<tr>
<td>Housing problems</td>
<td>1.89 (1.33–2.70)</td>
<td>1.79 (1.08–2.95)</td>
<td>2.14 (1.26–3.66)</td>
</tr>
<tr>
<td>Experience of discrimination</td>
<td>2.92 (1.86–4.59)</td>
<td>2.88 (1.46–5.68)</td>
<td>2.95 (1.60–5.44)</td>
</tr>
<tr>
<td>Low social participation</td>
<td>1.64 (1.06–2.53)</td>
<td>1.27 (0.67–2.43)</td>
<td>2.11 (1.17–3.83)</td>
</tr>
<tr>
<td>Low trust in others</td>
<td>1.71 (1.15–2.54)</td>
<td>1.85 (1.07–3.18)</td>
<td>1.57 (0.88–2.81)</td>
</tr>
<tr>
<td>Age</td>
<td>1.05 (1.03–1.07)</td>
<td>1.06 (1.04–1.09)</td>
<td>1.03 (1.01–1.06)</td>
</tr>
<tr>
<td>Male</td>
<td>–</td>
<td>1 (reference)</td>
<td>1.12 (0.79–1.58)</td>
</tr>
<tr>
<td>Low educational level</td>
<td>1.04 (0.72–1.51)</td>
<td>0.95 (0.57–1.58)</td>
<td>1.15 (0.67–2.0)</td>
</tr>
<tr>
<td>Long time in Sweden before residence permit</td>
<td>1.14 (0.75–1.72)</td>
<td>1.37 (0.65–2.88)</td>
<td>1.02 (0.60–1.76)</td>
</tr>
</tbody>
</table>

Crude odds ratios (OR) and 95% confidence intervals (95% CI).
Does social capital protect mental health?

Table 3: Risk of poor mental health when exposed to financial difficulties, housing problems and experience of discrimination

<table>
<thead>
<tr>
<th>Variable</th>
<th>Model 1 OR (95% CI)</th>
<th>Model 2 OR (95% CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Financial difficulties</td>
<td>2.24 (1.53–3.27)</td>
<td>2.14 (1.44–3.19)</td>
</tr>
<tr>
<td>Age</td>
<td>1.05 (1.03–1.07)</td>
<td>1.05 (1.03–1.07)</td>
</tr>
<tr>
<td>Male</td>
<td>0.75 (0.51–1.11)</td>
<td>0.98 (0.65–1.46)</td>
</tr>
<tr>
<td>Low educational level</td>
<td>1.42 (0.96–2.212)</td>
<td>1.42 (0.93–2.15)</td>
</tr>
<tr>
<td>Low social participation</td>
<td>1.49 (0.90–2.46)</td>
<td></td>
</tr>
<tr>
<td>Low trust in others</td>
<td>1.61 (1.04–2.50)</td>
<td></td>
</tr>
<tr>
<td>(b)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Housing problems</td>
<td>2.28 (1.54–3.36)</td>
<td>2.79 (1.84–4.22)</td>
</tr>
<tr>
<td>Age</td>
<td>1.05 (1.03–1.07)</td>
<td>1.05 (1.03–1.07)</td>
</tr>
<tr>
<td>Male</td>
<td>0.75 (0.51–1.11)</td>
<td>0.80 (0.53–1.21)</td>
</tr>
<tr>
<td>Low educational level</td>
<td>1.42 (0.96–2.12)</td>
<td>1.42 (0.94–2.15)</td>
</tr>
<tr>
<td>Low social participation</td>
<td>2.0 (1.22–3.27)</td>
<td></td>
</tr>
<tr>
<td>Low trust in others</td>
<td>1.80 (1.16–2.80)</td>
<td></td>
</tr>
<tr>
<td>(c)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Experience of discrimination</td>
<td>3.33 (2.05–5.40)</td>
<td>2.88 (1.73–4.79)</td>
</tr>
<tr>
<td>Age</td>
<td>1.06 (1.04–1.08)</td>
<td>1.05 (1.03–1.07)</td>
</tr>
<tr>
<td>Male</td>
<td>0.86 (0.59–1.26)</td>
<td>0.96 (0.64–1.42)</td>
</tr>
<tr>
<td>Low educational level</td>
<td>1.28 (0.86–1.91)</td>
<td>1.29 (0.85–1.94)</td>
</tr>
<tr>
<td>Low social participation</td>
<td>1.71 (1.05–2.79)</td>
<td></td>
</tr>
<tr>
<td>Low trust in others</td>
<td>1.51 (0.98–2.34)</td>
<td></td>
</tr>
</tbody>
</table>

Odds ratios and 95% confidence intervals.  
Model 1 adjusted for age, sex and educational level.  
Model 2 adjusted for age, sex, educational level, social participation and trust in others.

DISCUSSION

This study showed that poor mental health is a common health problem among recently settled Iraqi migrants in Sweden. Apart from pre-migration factors, the study identified risk factors for poor mental health during resettlement; i.e. financial difficulties, housing problems and experience of discrimination. The proportion of individuals reporting high social participation was small, but analyses of effect modifications showed that social participation seemed to have a protective effect against poor mental health when exposed to experience of discrimination. Trust in others seemed to have a protective effect when exposed to housing problems, and there was a tendency to protective effect against poor mental health by trust in others when exposed to financial difficulties and experience of discrimination.

Earlier research has found pre-migration and post-migration factors which explain poor mental health of
recently settled migrants (Porter and Haslam, 2005). Socio-economic factors and discrimination are well known risk factors of poor mental health, but more importantly, they are factors that can be prevented and moderated in the host country. In our study, we have focused on how access to horizontal social capital early in the integration process moderates the association between these risk factors and poor mental health. In the following sections, we will discuss the possibility that social participation and trust in others could protect individuals against poor mental health caused by social and economic factors.

In Sweden, and elsewhere in Europe, interventions have often targeted changing individual-level behaviours and resources in order to increase trust and social integration among recently settled migrants (Portugal et al., 2007; Sundell Lecerof and Stafström, 2011; Baker and Allebeck, 2012). Such interventions, failing to address structural causes of poor health, can be criticized for victim-blaming. Our study shows that social participation in the community is very low among recently settled Iraqi migrants. Lindström (Lindström, 2005) also reported low degree of social participation among migrants from Arabic-speaking countries. Creating trust requires a lengthy process. According to Putnam (Putnam, 2000), trust in others is a result of high participation in activities, where common values are shared. Apparent opportunities for such participation are participation in the labour force, educational activities and in the voluntary sector. In other words, interventions should be seen in a broader context; both in terms of activities targeting recently settled migrants specifically, and by means of general inclusive welfare policies (Stigendal and Östergren, 2013). The latter include community mobilization, and, in order to be beneficial to health, community development. Sweden has a long tradition of local civil organizations or NGOs, parallel to strong local democracy and municipal self-governance. These create good opportunities for participant-centred development of social capital. On the other hand, many recently settled migrants may have less or negative experiences of local democracy and NGOs. They may come from countries where governments are corrupt and extended family is perceived as the only reliable network. Such migrants may maintain their social contacts with kin through for example internet communication and engage less in the local community. This poses a challenge in social capital research and calls for attention in health promotion practice.

In this article, we focused on horizontal social capital, i.e. participation in activities in the community and generalized trust in others without making a distinction between bonding and bridging social capital. It has been argued (Uslaner and Conley, 2003; Rostila, 2010), that bonding social capital could have a negative effect on health, because the living conditions of underprivileged groups could be cemented when relationships are limited to one’s own group, such as relatives, thereby limiting one’s opportunities in society. This argument is very relevant, especially when it comes to our study population, even if it was beyond the scope of our study to separate between these two forms of social capital. However, it could be argued that strengthening of horizontal—bonding as well as bridging—social capital is a reasonable way to initiate a process aiming at protection of mental health of recently settled migrants in an early stage after settling in the new country, facing several unfamiliar as well as threatening issues. By making horizontal social capital, especially bridging social capital, a vital part of refugee resettlement through, for instance, participation in civil organizations, important paths into the host society could be created (Putnam, 2000). Such a process could, in the long run, also lead to increased opportunities to influence institutions and authorities, i.e. strengthening linking social capital, increasing power over health determinants.

Few scientific studies have explored the potential of social capital as a protective factor through effect modification analyses. The findings of this study suggest that social and economic determinants in the post-migration phase are important causes of poor mental health among recently settled refugees. The results also indicate that interventions that would target increasing participation, thereby providing opportunities for building trust between recently settled migrants and the host community, could be a fruitful way of promoting resilience against factors causing poor mental health.

On the policy level, it is obvious that preventing economic and social disadvantage and marginalization would promote mental health in a sustainable way. Our findings also imply a critique of micro-level interventions, which do not necessarily render better social and economic conditions for recently settled migrants. They also contribute to the development of the migrant health literature towards an increasing emphasis on a social determinants-based understanding of health disparities, and more consideration of the importance of policy level factors in the social context. To reach their full potential, interventions should therefore be combined with efforts on a policy level to even out socio-economic inequities.

Limitations
The cross-sectional design of the study makes it difficult to determine the direction of causality for some of the main variables in our study. Poor mental health can be seen both as an outcome of, and as a determinant for, poor
social capital. Therefore, this association needs to be further studied. However, the interpretation that housing problems, financial difficulties and experience of discrimination cause poor mental health is supported by previous studies, which show that these health determinants are more often causes of poor health, than vice versa (Marmot and Wilkinson, 2006; Siegrist and Marmot, 2006). Lack of access to secure housing, lack of financial resources and experience of discrimination could lead to low social participation and reduced trust. However, in our study, these variables were not significantly related to each other, except for experience of discrimination with low trust. Nevertheless, the correlation coefficient was 0.14, suggesting that the correlation was weak.

The participation rate in the survey was 51%, comparable with other larger public health surveys, but introducing a risk for selection bias. However, we compared dropout rates between the sexes and between different age groups, which did not reveal any important differences. Previous studies have suggested that a high dropout rate does not necessarily imply differences in health status. However, the risk cannot entirely be ruled out. For example, previous studies have shown that persons with low educational level and more strained living conditions can be less inclined to participate in postal questionnaire studies. Therefore, the associations could have been underestimated, rather than the opposite.

Confounding is another possible source of bias. We adjusted our models for the most common socio-demographic and -economic possible confounders but did not find any significant changes of the odds ratios of our main exposures. Adjusting our models for all three main exposures also did not alter the results to any significant degree.

CONCLUSIONS

This study concludes that socio-economic determinants in the host country strongly affect the mental health of recently settled migrants. It also suggests that enabling horizontal capital may, to some extent, be a route to strengthen resilience against poor mental health caused by social and economic marginalization among recently settled migrants.

More research is needed on how successful interventions for promoting migrant mental health can be developed by strengthening social capital.

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