From Department of Global Public Health
Karolinska Institutet, Stockholm, Sweden

SOCIAL INTEGRATION AND IMMIGRANT MENTAL HEALTH: THE ROLE OF SOCIAL CAPITAL AND NEIGHBOURHOOD ETHNIC COMPOSITION

Charisse Johnson-Singh

Karolinska Institutet

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Social integration and immigrant mental health: the role of social capital and neighbourhood ethnic composition

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By

Charisse Johnson-Singh

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Karolinska Institutet, Solna

Principal Supervisor:
Karin Engström
Karolinska Institutet
Department of Global Public Health

Co-supervisors:
Mikael Rostila
Stockholm University
Department of Public Health Sciences

Yvonne Forsell
Karolinska Institutet
Department of Global Public Health

Opponent:
Martin Lindström
Lund University
Department of Social Medicine & Health Policy

Examination Board:
Malin Eriksson
Umeå University
Department of Social Work

Johan Reutfors
Karolinska Institutet
Department of Medicine

Petter Tinghög
Red Cross University
Department of Health Sciences

To my parents, Celia & Loren Johnson

Regard ye not one another as strangers.

- *Bahá'u'lláh, 1817-1892*

POPULAR SCIENCE SUMMARY OF THE THESIS

As of 2020, there were 272 million international immigrants worldwide, accounting for 3.5% of the global population. Just under 20% of Sweden's population are immigrants and research has identified inequalities in mental health between certain groups and those with a Swedish-background. Current research shows that integration factors such as employment, language acquisition, and stable housing only account for some, but not all, of this inequality. Features of social networks, such as social capital, have been proposed as a possible explanation for the remaining differences in mental health between groups.

Social capital is defined as "features of social organization such as networks, norms, and social trust that facilitate coordination and cooperation for mutual benefit". For measurement purposes, it has been deconstructed into various dimensions or aspects that capture different features of social capital, such as social support as well as the degree of trust and participation with the wider community and societal institutions. Additionally, social capital is assessed by the strength and openness of social network ties; 'bonding' networks describe ties between individuals that share a common social identity (for example, ethnicity or 'co-ethnic' ties for the purposes of this thesis) or 'bridging' networks composed of individuals that don't share that identity (for example, 'interethnic' ties). It has been suggested that bonding ties are particularly important in the beginning of the integration process, as they provide a sense of stability and belonging, while bridging ties become more crucial the longer immigrants have lived in the host country, providing access to information, resources, and opportunities for social mobility.

Given that social networks operate within a community context, the neighbourhood is a prominent arena of social integration. In Europe, immigrants are often clustered together in economically and ethnically segregated neighbourhoods. Previous research has found that while living in an economically deprived neighbourhood can negatively impact mental health, living among co-ethnics can be positive. Thus, neighbourhood ethnic composition, measured both in terms of ethnic diversity and own-group ethnic density (ie. the proportion of individuals from the same ethnic background), have become areas of interest for researchers, but few studies in Sweden have explored these phenomena. This thesis attempts to contribute to exploring factors of integration related to the characteristics of social networks that may further explain differences in mental health, namely, the characteristics of social networks, measured by social capital, and of neighbourhoods, as an environment in which they operate.

The results of this thesis indicate that, among the 50,000 respondents from Stockholm County's general population, psychological distress varies for immigrants based on their reason for immigration and number of years living in Sweden. Immigrant men in general, regardless of their reason for immigration or years in Sweden, reported worse mental health than Swedish-born men. However, only refugee women living in Sweden 10 years or more had worse mental health than Swedish-born women. Social capital explained differences in psychological distress between immigrants and their Swedish-born counterparts, with social support having the strongest effect. Preliminary results from a cohort of 450 refugees from Syria shed light on the potential role of social network type in accessing social support for newly-arrived immigrants. Participating within bonding networks amplifies social support, resulting in a twofold decrease in depressive symptoms compared to those participating primarily within bridging networks.

Regarding neighbourhood ethnic composition, the association between ethnic diversity and psychological distress differed for individuals depending on whether they were immigrants, had foreign-background (ie. Swedish-born with two immigrant parents), or Swedish-background. There was no apparent association for respondents with foreign-background. However, for both immigrants and respondents with Swedish-background, the effect of ethnic diversity on psychological distress was

mainly explained by socioeconomic factors, with social capital having a small effect. In addition to ethnic diversity, the importance of neighbourhood own-group ethnic density for mental health was studied for eight of Sweden's largest immigrant groups. After accounting for demographic and socioeconomic factors, a detrimental effect of own-group ethnic density persisted for immigrants from former Yugoslavia. Given that many came as refugees during the Yugoslav wars, this could signal a continuation of ethnic tensions even after resettling in Sweden. Alternatively, previous research also suggests that a detrimental effect of own-group ethnic density on mental health could be due to a lack of accessible culturally-meaningful resources. Social capital did not appear to influence these relationships.

This thesis found that migration-related factors, such as reason for immigration and years in Sweden, influence immigrant mental health outcomes. Social capital does explain inequalities in mental health between immigrants and individuals with Swedish-background. While both bonding and bridging networks are beneficial to mental health, the findings of this thesis confirm that having access to co-ethnic networks in the early stages of resettlement provide a particularly important source of social support, which in turn benefits mental health. In general, neighbourhood ethnic composition was not associated with psychological distress beyond the effect of socioeconomic factors, with social capital having a minimal effect. While methodological limitations of this thesis restrict proving unequivocally the causal effect of social capital on mental health, the results indicate that facilitating social capital development among immigrants would likely significantly contribute to reducing mental health inequalities.

This popular science summary is available in Appendix A in each language used during data collection for this thesis: عربی, فارسی, Español, Suomi, Svenska, Türkçe.

ABSTRACT

Background: Nearly 20% of Sweden's population are immigrants and research has identified inequalities in mental health between certain immigrant groups and the native Swedish population. The role of social integration factors such as social capital, defined as: "features of social organization such as networks, norms, and social trust that facilitate coordination and cooperation for mutual benefit", has been minimally explored in understanding differences in immigrant health. The influence of neighourhood context, as a prominent arena for immigrant social integration, has been increasingly studied, given that European immigration is commonly characterized by neighbourhood economic and ethnic segregation. Previous research has established that living in an economically deprived neighbourhood can negatively impact mental health. However, other research indicates that living among coethnics or other immigrants in general may offer some protection even in deprived settings. Thus, neighbourhood ethnic composition, measured in terms of overall ethnic density, diversity, and own-group ethnic density, have become areas of interest for researchers. Few studies have researched this phenomenon in Sweden.

Aim: The aim of this thesis is to contribute to the overall body of knowledge on understanding the relative importance of various aspects of social capital and neighbourhood ethnic composition, as individual and contextual social integration factors, for the mental health of immigrants in Sweden.

Materials and methods: All studies were cross-sectional, deriving data from the Stockholm County Council's Stockholm Public Health Cohort (SPHC) sampled from Stockholm's general population (n ~ 50,000; Articles I, II, & III) and the Red Cross University's Resiliency, Mental Health, and Social Integration of Refugees (RMSR) cohort of refugees from Syria (n = 464; Article IV). The specific objectives and methods were to: 1) Use logistic regression to identify inequalities in psychological distress between Swedish-born individuals and various immigrant groups, defined based on their reason for immigration and duration of residence in Sweden. The Baron & Kenny method was also utilized to investigate if social capital explains these inequalities (Article I); 2) Use multi-level Poisson regression to investigate the association between neighborhood ethnic composition, defined as overall ethnic density and own-group ethnic density, on psychological distress and whether aspects of individual and contextual social capital explain this relationship (Articles II & III); 3) Conduct multi-group Structural Equation Modelling to investigate the association of social participation on depressive symptoms within a cohort of newly-arrived refugees resettled from Syria, and whether it is moderated by social network type or mediated by social support (Article IV).

Results: Article I found that psychological distress does vary for immigrants based on reason for immigration and duration of residence in Sweden. All immigrant men, regardless of reason for immigration or duration of residence, had greater psychological distress than their Swedish-born counterparts whereas only refugee women living in Sweden 10 years or more had greater psychological distress than Swedish-born women. Social capital did explain differences between migrants and their Swedish-born counterparts, with social support showing the strongest effect. Preliminary results from the cohort of refugees from Syria in Article IV shed light on the potential role of network type in accessing social support for newly-arrived migrants, finding that participating within bonding networks amplifies social support, resulting in a twofold decrease in depressive symptoms compared to those participating primarily within bridging networks.

Regarding neighbourhood ethnic composition, Article II found that the association between overall ethnic density and psychological distress differed for individuals depending upon ethnic background. There was no apparent association for respondents with foreign-background (ie. Swedish-born with two foreign-born parents). However, for both foreign-born and respondents with Swedish-background, the detrimental effect of overall ethnic density on psychological distress was mainly explained by socioeconomic factors, with social capital having a small effect. Preliminary results of Article III found

that among eight of Sweden's largest immigrant groups, neighbourhood own-group ethnic density was associated with psychological distress for only immigrants from former Yugoslavia after accounting for demographic and socioeconomic factors. This could indicate either a lack of accessible culturally-meaningful resources and/or the continuation of ethnic tensions after resettling in Sweden given that many came as refugees during the Yugoslav wars in the early 1990s. Social capital did not appear to affect the relationship between own-group density and psychological distress.

Conclusions: The findings of this thesis contribute to the scientific evidence that social capital and neighbourhood ethnic composition, as individual and contextual social integration factors, can influence immigrant mental health. Regarding social capital in particular, this thesis further confirms that while weaker, more diverse social ties can prevent mental ill-health, the strong social ties characterising social support and co-ethnic networks offer even more protection. Furthermore, the detrimental relationship between neighbourhood ethnic composition and mental health was explained by socioeconomic factors, indicating that economic hardship, both at the individual and contextual level, might overpower any influence of social ties. Taken together, these results indicate that policy initiatives should seek to minimize the economic and social exclusion of immigrants.

LIST OF SCIENTIFIC PAPERS

I. **Johnson, C. M.**, Rostila, M., Svensson, A. C., & Engström, K. (2017). The role of social capital in explaining mental health inequalities between immigrants and Swedish-born: a population-based cross-sectional study. *BMC Public Health, 17*(1), 117. https://doi.org/10.1186/s12889-016-3955-3

II. **Johnson-Singh, C. M.**, Rostila, M., Ponce De Leon, A., Forsell, Y., & Engström, K. (2018). Ethnic heterogeneity, social capital and psychological distress in Sweden. *Health & Place*, *52*, 70–84. https://doi.org/10.1016/j.healthplace.2018.03.006

III. **Johnson-Singh, C. M.**, Ponce De Leon, A., Galanti, R., Forsell, Y., & Engström, K. Neighbourhood ethnic homogeneity, social capital, and mental health of immigrants in Stockholm County. *Manuscript*

IV. **Johnson-Singh, C. M.**, Sengoelge, M., Engström, E., Saboonchi, F. Social participation and depression among resettled Syrian refugees: Examining a moderated mediation of social support and social capital. *Submitted*

SCIENTIFIC PAPERS NOT INCLUDED IN THE THESIS

Solberg, Ø., Sengoelge, M., **Johnson-Singh, C. M.**, Vaez, M., Eriksson, A. K., & Saboonchi, F. (2021). Health-related quality of life in refugee minors from Syria, Iraq and Afghanistan resettled in Sweden: a nation-wide, cross-sectional study. *Social Psychiatry and Psychiatric Epidemiology*. https://doi.org/10.1007/s00127-021-02050-8

Solberg, Ø., Vaez, M., **Johnson-Singh, C. M.**, & Saboonchi, F. (2020). Asylum-seekers' psychosocial situation: A diathesis for post-migratory stress and mental health disorders? *Journal of Psychosomatic Research*, *130*, 109914. https://doi.org/10.1016/J.JPSYCHORES.2019.109914

Sengoelge, M., **Johnson-Singh, C. M.**, Mittendorfer-Rutz, E., Vaez, M., & Saboonchi, F. (2019). Identifying subgroups of refugees from Syria resettled in Sweden based on multiple trauma exposures: A latent class analysis of trauma history and mental health outcomes. *Journal of Psychosomatic Research*, *125*, 109814. https://doi.org/10.1016/J.JPSYCHORES.2019.109814

Sidorchuk, A., Engström, K., **Johnson, C. M.**, Leeoza, N. K., & Möller, J. (2017). Employment status and psychological distress in a population-based cross-sectional study in Sweden: the impact of migration. *BMJ Open*, *7*, 14698. https://doi.org/10.1136/bmjopen-2016-014698

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LIST OF ABBREVIATIONS

CFI	Comparative Fit Index
CI	Confidence Intervals
DF	Degrees of Freedom
ESSI ENRICHD	Social Support Inventory
GHQ-12	General Health Questionnaire 12
HSCL	Hopkins Symptoms Checklist
LISA	Longitudinal Integration Database for Health Insurance and Labour Market Studies
NPR	National Patient Register
PIN	Personal Identity Number
PR	Prevalence Ratios
PTSD	Post-Traumatic Stress Disorder
RMSEA	Root Mean Square Error of Approximation
RMSR	Resiliency, Mental Health, and Social Integration among Refugees research group
SAMS	Small Area Marketing Statistics
SCB	Statistics Sweden
SD	Standard Deviation
SDH	Social determinants of health
SEM	Structural Equation Model
SPHC	Stockholm Public Health Cohort
STATIV	Longitudinal Database for Integration Studies
TPR	Total Population Register

1 INTRODUCTION

As of 2020, there were 272 million international immigrants worldwide, accounting for 3.5% of the global population. While the ethnic mix of many European countries is precipitated by their colonial histories dating back 100's of years, Sweden's is a reflection of immigration since just before WWII. As of today, just under 20% of Sweden's population are immigrants and research has identified that some groups suffer from inequalities in mental health compared to those with a Swedish-background. Government-sponsored programs facilitating language acquisition, housing stability, and employment has fostered progress with regards to integration and health. However, an inequality gap remains. Research has shown that the loss of social networks due to migration has a negative impact on wellbeing. Thus, understanding the features of social networks, such as social capital, and how they influence mental health, has become into focus. Along these lines, it's relevant to investigate how the ethnic composition of neighbourhoods, as prominent arenas of integration, might facilitate social network development, social capital, and in turn affect mental health.

2 BACKGROUND

2.1 IMMIGRATION IN SWEDEN

From 1800s to 1920s, Sweden was primarily a country of emigration, with roughly 1.3 million Swedes leaving for the United States (Andersson, 2007). In the 1930s, Sweden experienced a shift to being primarily a country with net immigration, beginning with the return of many Swedish-Americans, followed by developments accompanying the lead up to and aftermath of WWII. Hereafter, Swedish immigration occurred in three phases. After initially tightening restrictions against Jewish refugees attempting to escape Hitler's Germany, Sweden began accepting refugees once Norway and Denmark were pulled into the war in 1940. In total, Sweden received nearly 200,000 refugees, Jewish and otherwise, during WWII. At the War's end, many returned to their home countries, but some remained in Sweden long-term (Andersson et al., 2010b). The second phase of Swedish immigration was characterized primarily by labour immigration between 1946 and 1972. Given that, unlike most of Europe, Sweden's manufacturing capacity remained intact during the War, there was high demand for Swedish products and a labour shortage was precipitated by a low birth rate in the 1930s. As such, immigration from both Nordic and non-Nordic sources increased, facilitated respectively by a free movement space initiated within the Nordic region and a governmental special labour market commission tasked with recruiting workers from the Continent. In the mid-1960s government-sponsored guest worker programs brought labour immigrants from Yugoslavia and Turkey. From 1967, the Social Democratic government introduced regulations requiring immigrants to have arranged a job, housing, and work permit in advance of arrival to Sweden. Thus, labour immigration effectively ended in 1972.

The third phase of immigration between 1973 and 2008 was characterized mainly by refugee immigration and family reunification, including spontaneously arriving refugees and those facilitated via formal government channels. Sweden had accepted refugees prior to the 1970s, but they were primarily from Europe. Asylum and refugee immigration from 1970s onward consisted mostly of those from non-European origin.

Refugees from Syria

Since the start of the war in Syria in 2011, approximately one million refugees have sought refuge in Europe, with Sweden and Germany receiving most of those refugees (UNHCR, 2021). As of 2020, there are over 193,000 Syrian-born residents in Sweden, with 64% arriving the past decade. Syrians represent the majority of asylum-seekers to Sweden over the past 10 years and in 2019, they overtook Finns as the largest foreign-born group in the country (Tønnessen et al., 2021).

2.2 IMMIGRANT MENTAL HEALTH

Depression, anxiety, and their comorbidities are associated with a lower quality of life and are undertreated in Sweden (Johansson et al., 2013). As the number of immigrants to Sweden has increased over the past several decades, research has shown that many groups are susceptible to mental ill-health (Gilliver et al. 2014). A systematic review by Gilliver et al., in 2014 concluded that refugees and non-western immigrants in particular have a higher prevalence of mental ill-health than Swedes, from depression to major psychological disorders and suicide (Gilliver et al. 2014). A large influx of immigrants have arrived since then. Studying the quality of life and mental health of refugees and asylum-seekers living in refugee housing facilities, found that 56-58.4 % of the respondents reported clinically significant levels of mental ill-health e.g., symptoms of anxiety and depression along with risk of having Post-Traumatic Stress Disorder (PTSD) (Leiler et al., 2019a). Refugees that showed moderate to severe levels of distress were more likely to experience suicidal ideation in

comparison to refugees who did not (Leiler et al., 2019b). A small study of undocumented migrants in Sweden showed a similar situation, with 71% experiencing moderate or severe anxiety, 68% moderate or severe depression, 58% PTSD (Andersson et al., 2018).

There are several types of potential traumatic events (PTEs) refugees can be exposed to, ranging from personally experiencing or witnessing violence or torture, sexual assault, being forcibly separated from family, and loss or disappearance of loved ones (Sigvardsdotter et al., 2016). A systematic review and meta-analysis by Steele et al., (2009) found a cumulative effect of potentially traumatic events on mental health, which aligns with previous research showing a dose-response effect between trauma and PTSD (Jaranson et al., 2004; Mollica et al., 1998). Furthermore, Sengoelge et al., (2020) found that experiencing one type of violent trauma was a marker for being exposed to other types of violent and nonviolent trauma (Sengoelge et al., 2020). Research has shown that being exposed to trauma facilitates the onset of comorbid mental health disorders (Steele et al., 2009). Thus, despite the growing focus on resettlement conditions and mental health, pre-migration trauma remains a key predictor of refugee mental ill-health (Steele et al., 2009).

Refugees' pre- and peri-migration circumstances make them particularly vulnerable to mental ill-health compared to other immigrant groups, as an individual's stimulus for migrating carries different mental burdens. While asylum-seekers are forced to find refuge from war or persecution, labour immigrants and students are motivated by economic and educational opportunities. How these groups generally compare to the host populations of their adopted countries is vastly different. Many research accounts have demonstrated a "healthy immigrant effect" for labour immigrants, demonstrating better mental health than the host country population (Domnich et al., 2012; Helgesson et al., 2019; Ritsner and Ponizovsky, 1999). Refugees, on the other hand, may be about 10 times more likely to have PTSD compared to host country individuals of the same age and have a greater risk of comorbid mental illnesses (Fazel et al., 2005). When compared to each other, a meta-analysis found that refugees had twice the prevalence of depression and anxiety than labour immigrants (Lindert et al., 2009). However, as the number of years in the host country increases, the mental health of both labour immigrants and refugees tend to converge with that of the host population (Domnich et al., 2012; Pernice and Brook, 1996). Likewise, some studies indicate that refugee mental health improves over time (Fazel et al., 2005; Lamkaddem et al., 2014) while others show that mental health conditions persist, particularly in those that have experienced severe or repeated trauma (Steel et al. 2002; Helgesson, 2019). Findings of meta-analysis by Porter & Haslam (2005) suggest that the difference between groups may be perpetuated by differences in post-migration circumstances and that secure post-migration conditions, such as stable private housing and the right to work, ameliorate residual effects of pre-migration trauma on health.

2.3 MENTAL HEALTH AND SOCIAL INTEGRATION

The World Health Organisation defines mental health as *"a state in which the individual: realizes his or her own potential, can cope with the normal stresses of life, can work productively and fruitfully, and is able to make a contribution to her or his community."*

Attaining post-migration circumstances that promote the elements of mental health delineated here is influenced by the process and degree of integration. Integration can be seen both from the perspective of the individual immigrant and that of policy in the host society. For the individual immigrant, acculturation is the process by which they adapt to a new society through the interplay of two issues— the extent to which an individual strives for *cultural maintenance* of their native identity and the degree to which they pursue *contact and participation* in the host country (Berry, 1997). The relative importance an individual places on these two issues, in conjunction with the host government's policies regarding acculturation, results in one of four possible acculturation strategies— assimilation,

integration, segregation/separation, and marginalization. Among these strategies, integration—maintaining both a native-cultural identity and participating in the host society— is suggested to be the most advantageous toward mental health (Berry, 1997).

From a policy standpoint, integration is the process by which immigrants are enabled to participate in the cultural, economic, social and political spheres of the host society (Hamberger, 2009; Penninx, 2005), and is a goal of the Swedish Migration and Asylum Policy (Ministry of Justice, 2011). There are both individual and contextual factors that influence an individual's entrance into these spheres of society. Empirically, the relationship between integration and mental health outcomes can be studied in a number of ways. Employment status is often looked at as a crucial element contributing to integration on the individual level, as is neighbourhood economic deprivation on the contextual level.

In general, employment status and mental health status have been shown to be positively correlated with one another (McKee-Ryan and Harvey, 2011; Paul and Moser, 2009). Those immigrating for non-labour reasons are particularly vulnerable to mental ill-health (Aycan and Berry, 1996; Lindert et al., 2009), as the longer the period of unemployment the greater the risk mental ill-health (Kennedy and Mcdonald, 2006). Furthermore, immigrants are more likely to have jobs that are incongruent with their level of education (underemployment) and underemployed individuals have reported experiencing worse psychological health than those who are unemployed (Feldman, 2006). Additionally, the effect of employment status on mental health may vary based on gender. A cohort study of recently-arrived immigrants in New Zealand reported that men were affected by their spouse's labour force status whereas women were not (Kennedy and Mcdonald, 2006). Finally, studies have shown that socioeconomic factors such as employment account for only some mental health inequalities between foreign-born and the host population (Tegegne and Glanville, 2019; Tinghög et al., 2017). A study of foreign-born workers in Sweden showed heighted likelihood of poor self-related health and mental distress (Dunlavy and Rostila, 2013). Accounting for immigrant's social network ties, or lack there of, to accompany the focus on socioeconomic factors, might shed more light on addressing the inequalities in immigrant mental health.

2.4 SOCIAL DETERMINANTS OF HEALTH

The discourse around the social determinants of health (SDH) posits that health inequities tend to run along a gradient of social position (Marmot, 2005). Those at the top of the status ladder have the best health, getting progressively worse as one moves down in status. This phenomenon is characterized by the clustering of individual determinants around the individual's social position, which describes an individual's 'place' or status within society (Diderichsen et al., 2001).

Diderichsen et al. (2001) point out that the classification of social position will vary based on the social factors that influence health within each context. Socioeconomic indicators such as educational attainment, occupational status, or income level are likely relevant almost anywhere. Their ordinal character allows for easy application of the social gradient concept, which has potentially led to a fixation with socioeconomic indicators in SDH research (Ingleby, 2012). Conversely, other social position indicators, such as ethnicity or migration status are categorical in nature, not allowing for conceptualisation and investigation in reference to a gradient (Ingleby, 2012).

David Ingleby, in his article entitled, *Ethnicity, Migration and the 'Social Determinants of Health' Agenda*, gives compelling evidence that even with the rise of the SDH discourse and empirical research in Europe in the past decade, the focus is on socioeconomic determinants while other important determinants, namely, migration status and ethnicity, are largely neglected (2012). Ingleby sees this oversight as a manifestation of an underlying conception among researchers that European welfare states have created a 'level playing field' and therefore health inequities are not a result of factors relating to ethnicity or migration. He contrasts this with the fact that race and ethnicity are

commonly investigated alongside socioeconomic factors in the US, as researchers recognize that the historical roots of stratification make it impossible to ignore. Ingleby makes the point that Europe is not above such considerations, as "*colonial relations have been revived and reconstructed in modern Europe through social stratification according to ethnicity and migrant status*" (2012).

2.4.1 The psychosocial pathway and social capital

Four mechanisms have been proposed to operate along the pathway from social position to health outcomes – material circumstances, psychosocial mechanisms, health behavior, and access to healthcare (Marmot, 2005). As mental ill-health is associated with social adversity (Phelan et al., 2010), the psychosocial pathway is the most relevant to explore for this project. The relationship between social capital and mental ill-health is one psychosocial mechanism that has been increasingly explored in recent decades (Poortinga, 2006). Social capital is defined as "*features of social organization such as networks, norms, and social trust that facilitate coordination and cooperation for mutual benefit*" (Putnam et al., 1993,pg.167). It has been suggested that social capital explains health inequalities between social groups (Marmot, 2004). So far however, empirical data is lacking in support of this (Dahl and Malmberg-Heimonen, 2010; Rostila, 2008). Despite this, some evidence suggests that social capital may have an impact on health for immigrants (Dahl and Malmberg-Heimonen, 2010). A study by Dahl and Malmberg-Himonen demonstrated that while social capital negligibly mediated the effect of socioeconomic position on self-rated health for their overall study population, it was important for immigrants (2010).

2.5 SOCIAL CAPITAL

Though social capital has gained popularity in recent decades both in policy and research, it is not a new concept. Analyses of democracy and associational life included concepts synonymous with social capital have been present in sociology and political science since the 19th century. Contemporary uses of the concept, particularly in the field of public health, mainly rely on the theoretical works of sociologists Pierre Bourdieu and James Coleman as well as the political scientist Robert Putnam as a foundation. Some of its appeal in the field comes from a shift in emphasis from the impact of an individual's own behaviour on health to the influence of relationships between individuals, social units, and institutions (Baron and Markman, 2000). Its formulation as 'capital' has also garnered interest from policy-makers and international NGOs, as like other forms of capital, social capital generates returns such as social resources embedded in social networks (Lin, 2000).

Social capital is an umbrella concept to describe the potential resources one might access within various social structures as well as the norms, attitudes, and behaviours that characterize them. It is generated within networks characterised by mutual trust (Putnam, 1995), facilitating access to individual and collective returns that emerge from social structures at various levels of society, ranging from family ties to personal social and neighbourhood networks to the political, social, and economic policies at the national level (Almedom, 2005; Lochner et al., 1999; Macinko and Starfield, 2001). The former two social structures are the focus of this thesis.

2.5.1 Defining social capital

While various theoretical explorations have yielded different definitions of social capital, they generally fall into two schools of thought – those that approach social capital primarily as a contextual construct, i.e., property of the social structure (or the 'collective'), and those that see it as property of the individuals within that structure. Given that social capital is a function of social ties, collectivist approaches have characterized social capital as: a means to facilitate cooperation for the attainment of collective goals (Putnam, 1995; Putnam et al., 1993; Woolcock, 2001); a feature of collective inputs that amounts to a surplus above and beyond the sum of individual contributions (Lochner et al., 1999);

and non-exclusive in consumption, meaning that the trust and resources present within social networks are equally accessible to all constituents (Kawachi and Berkman, 2000) and thereby do not facilitate the opportunity for advancing personal over collective advantage.

The individualist approach to social capital is primarily at odds with the latter characterisation, as it emphasizes the potential of social ties or group membership to facilitate individual goals (Portes, 1998). In this regard, 'ordinary' resources or other forms of capital, such as economic assets, information, and cultural resources, transform into social capital when transmitted through social ties (Bourdieu, 2018; Coleman, 1988; Rostila, 2008). Furthermore, one's location or position in the social network relative to the available resources, as well as the quantity and quality of those resources influences access to social capital (Lin, 2000).

2.5.2 Critiques of social capital

Apart from the debate regarding whether social capital is primarily possessed by individuals or the collective, there are other criticisms of the concept. Social capital is largely conceived in an positive light, neglecting the potential 'dark sides' of social capital in which social networks may reify norms, attitudes, and behaviours detrimental to well-being (Portes, 2000). Social capital's underlying constructs are related to many other existing concepts, such as solidarity, social cohesion, trust, reciprocity, and civic engagement. Portes (2000) identified that if by virtue of social capital's multi-component nature it encompasses so many other phenomena, it may lose distinct meaning, measuring everything and nothing at the same time. On a related note, Lynch et al. (2000) stipulates that given the presence of so many other related concepts, does naming a new one by way of semantics really contribute to furthering our understanding of health? Furthermore, the broad reach of social capital's definition makes it difficult to differentiate the concept as a benefit in itself (e.g. the social resources acquired via social ties) or as the behaviours and attitudes of the individuals and networks from which it is derived (Portes, 1998; Woolcock, 1998). Several underlying constructs of social capital have been classified in an effort to meet these critiques.

2.5.3 Classifications and constructs of social capital

The concept is conceived as having two components— structural and cognitive— and two dimensions— horizontal and vertical. Structural social capital refers to behaviour and is derived from participation in social networks, associations, and other forms of civic engagement whereas cognitive social capital refers to the level of trust and reciprocity in a given social structure generated through norms, values and attitudes (Harpham et al., 2002; Krishna and Shrader, 1999). These can be measured within the horizontal and vertical dimensions, which respectively distinguishes between social capital amongst individuals within the same social hierarchy or between those with differing degrees of power and authority (the latter is sometimes referred to as 'political' or 'institutional' social capital (Putnam, 2000; Putnam et al., 1993).

Types of social capital can also be differentiated into bonding, bridging, or linking social capital. This is a similar classification to the above, in that each also has structural and cognitive components and operates either at the horizontal or vertical level. The distinction lies in differentiating social capital between individuals or groups based on whether they do or don't share specific characteristics. 'Bonding' social capital describes strong social ties within a relatively closed network of individuals that share a common identity, interest, or relationship (e.g., family-ties). 'Bridging' social capital consists of weaker social ties between individuals or groups don't a particular characteristic (Putnam, 2000; Woolcock and Narayan, 2000). Bonding and bridging social capital describe so called 'horizontal relations', social capital between individuals at the same level of social hierarchy. Linking social capital, a subtype of bridging social capital, pertains to 'vertical relations' that operate across

authority gradients (Kaplan and Lynch, 1997; Szreter, 1999; Woolcock, 1998). For the purposes of this thesis, bonding and bridging is looked at in terms of co-ethnic and interethnic ties, respectively.

Apart from the attitudes and behaviours that characterize social capital, another feature of social networks are the resources embedded within them. Social support is one such resource (Rostila, 2008; Smyth et al., 2015) and is included in thesis alongside other components of social capital. While the definition of social support lacks consensus (Williams et al., 2004), Cohen, Gottlieb, and Underwood (2000) provide one coherent with the model of social support as a resource embedded in social networks. They define social support as: "*the social resources that persons perceive to be available or that are actually provided to them by non-professionals in the context of both formal support groups and informal helping relationships*" (Cohen, Gottlieb, and Underwood, 2000, p. 4). In practice, social support is commonly measured by perceived or received forms of instrumental, emotional, and informational support (Barrera, 1986). Like cognitive social capital, perceived social support is based on trust, with the belief that support is available within one's network. Similarly, there are parallels between structural social capital and received social support in that they describe actions.

2.6 SOCIAL CAPITAL AND MENTAL HEALTH

Each component of social capital has particular mechanisms linking it with mental health, both at the individual and contextual level. A 2015 systematic review on social capital and mental health found individual-level cognitive social capital was protective against common mental disorders, but no such effect was found for structural social capital (Ehsan and De Silva, 2015). Similarly, perceived social support has been more linked to influencing mental health outcomes than received social support (Gottlieb and Bergen, 2010). The sense of trust in or support from others seems to promote confidence, coping, and thereby self-reliance (Gottlieb and Bergen, 2010). The strong, closed ties that characterise bonding social capital can nurture feelings of stability, predictability, belonging and security, resulting in positive effects on mental health (De Silva et al., 2005; Kawachi and Berkman, 2000). At the same time, bonding social capital can cultivate social pressures and dynamics that create hostile environments and reduce buffers against mental-ill health (De Silva et al., 2007). This can be exacerbated by having access to bonding but no bridging ties (Stafford et al., 2008). Bridging and linking social capital foster mental health by enabling information exchange between social groups and access to external assets, widening the circle of trust and creating opportunities for social mobility (Rostila, 2007). Previous studies have generally found an inverse relationship between the cognitive aspect of bridging social capital and psychological distress, with less consistency regarding the structural aspect (Ahnquist et al., 2012; Giordano and Lindstrom, 2010; Nieminen et al., 2010). Low linking structural social capital predicted psychosis in a Swedish cohort study (Lofors and Sundquist, 2007). Another found a significantly increased risk of psychological distress for individuals with low cognitive linking social capital (Ahnquist et al., 2012). Detrimental effects of contextual social capital on mental health can arise from government performance and political marginalization (McKenzie and Harpham, 2006) and protective effects from an increase in social efficacy and community productivity (De Silva et al., 2007; McKenzie and Harpham, 2006).

Cohen and Wills (1985) propose a model for explaining the underlying interaction between social stimuli and behavioural and physiological response that influence health. They hypothesise two underlying mechanisms that explain the protective effect of social ties on mental health— the 'main effect' hypothesis and 'stress-buffering' hypothesis. The main effect encompasses the direct influence of social ties in promoting healthy behaviour as well as engendering positive psychological states and the resulting neuroendocrine response. The stress-buffering hypothesis posits that social ties attenuate the negative emotional responses to stressful events thereby cushioning the impact.

2.6.1 Social capital and immigrant mental health

Most studies in the field of migrant health focus on bonding social capital and few include bridging (De Silva et al., 2005; Tegegne, 2016). Bonding social capital may be particularly important for refugees in the initial resettlement phase as they rely on each other for support and information and has significantly predicted mental health outcomes (Birman and Tran, 2008; Schweitzer et al., 2006; Teodorescu et al., 2012). Similarly, a population-based Canadian study found that the effect of low social support on mental disorders was strongest amongst newly-arrived migrants (Puyat, 2013). There is evidence that low social capital during the initially phases of resettlement can have implications for future health outcomes (Tegegne, 2016). Newly-arrived Iraqi refugees in the USA that reported low interpersonal support were found to experience depressive symptoms 12 months later (LeMaster et al., 2018). Perceived social support was found to buffer the effect of post-migration living difficulties on depressive symptoms amongst Eritrean refugees in Ethiopia (Getnet et al., 2019).

Bridging social capital becomes more important over time, facilitating social mobility (Zetter et al., 2006), protecting against discrimination (Lecerof et al., 2015), and nurturing a sense of belonging in the host society (Hombrados-Mendieta et al., 2019; Rostila, 2007; Zetter et al., 2006). A Norwegian study measuring social integration via language acquisition, reading a Norwegian newspaper, as well as receiving visits and support from Norwegians found that immigrants who were socially integrated reported less psychological distress than those who weren't (Dalgard and Thapa, 2007). Using the same measures, another Norwegian study found similar results amongst refugees, showing greater psychiatric morbidity and symptomology amongst those with weaker social integration into the host society (Teodorescu et al., 2012). Yet other studies have not found a link between engagement in the broader community and mental health outcomes (Birman and Tran, 2008; Schweitzer et al., 2006). Overall, the empirical evidence is mixed with regards to the impact of interethnic ties on mental health, but in general, it has a positive or neutral influence.

2.7 NEIGHBOURHOOD ETHNIC COMPOSITION

Ethnic composition itself is not believed to influence mental well-being. Rather, it is social structures embedded within environments characterized by ethnic heterogeneity that can be either protective or detrimental toward mental health outcomes. Neighbourhood ethnic composition has generally been measured with regards to mental health in two ways – ethnic heterogeneity, measured by 'overall ethnic density' (the proportion of immigrants or ethnic minorities) and 'own-group ethnic density', measured by the proportion of individuals from the same country or region of origin (Shaw et al., 2012). These are acknowledged to be rather rudimentary proxies for assessing the impact ethnic composition on mental health, given that what they really capture is the supply of interethnic and co-ethnic ties, but not the individual's utilization of them. As such, the fragmentation index, which can measure the probability of selecting two individuals of different ethnicities in the same area (Erdem et al., 2017), has been used as an alternative measure of ethnic heterogeneity and is considered a more refined indicator of ethnic diversity (Budescu and Budescu, 2012; Kawachi and Berkman, 2009). Even so, overall ethnic density is more commonly used with regards to mental health research. All three measures of ethnic composition – ethnic diversity, overall ethnic density, and own-group ethnic density have been studied in relation to mental health. It's important to note that "ethnic composition" is not the same as "ethnic segregation", in that the former is an absolute measure whereas the latter is necessarily relational. Furthermore, segregation is value-laden whereas composition is neutral. Therefore, throughout this thesis I will use "ethnic composition" to denote the clustering of ethnic minorities at the neighbourhood level.

2.7.1 Summary of historical and contemporary drivers

Both the economic and ethnic segregation of immigrants in Sweden's larger cities centers around the Million Homes Programme, a Social Democratic government initiative to address the lack of housing supply and affordability as well as raise standards of living (Hall and Vidén, 2005). Over one million homes were built within the span of a decade, mostly in high rise apartment buildings on the outskirts of Stockholm, Gothenberg, and Malmö. While it achieved the intended outcomes, it facilitated unintended ones, by fueling the clustering of the working-class, economic segregation, impacted educational outcomes, social participation and neighbourhood commitment (Andersson, 2007a). As Swedes eventually moved up the socioeconomic ladder, they moved out of these neighbourhoods, leaving vacancies for incoming refugees and thereby facilitating ethnic segregation. According to Andersson (2007), researchers had identified the shortcomings of the well-meaning Programme, but it was only when segregation became 'coloured' in the late 1980s that policy-makers began to acknowledge its unintended consequences (Andersson, 2007a). Several policies have sought to address the effects of economic segregation in these neighbourhoods (Andersson et al., 2010a) with some success initially in advances in unemployment, education, and reduced welfare dependency. However, subsequent analyses showed that these developments were likely due to improved macroeconomic conditions. Thus, despite these policies, neighbourhood economic and ethnic segregation has not been reduced and is in some respects, increasing (Andersson, 2007a; Malmberg and Clark, 2020).

Drawing on American studies investigating 'white flight' and 'white avoidance' to understand the drivers of segregation, Andersson (2013) studied 'residential sorting', investigating whether native Swedes or ethnic minorities were more likely to stay, move in, or move out of ethnically dense neighbourhoods. Compared to ethnic minorities, native Swedes were more inclined to avoid moving into these areas whereas the two groups appeared just as likely to move out. This results in a trend in which ethnic segregation is "repeatedly reproduced and reshaped", deepening segregation within neighbourhoods, while at the same time decreasing between neighbourhood segregation (Malmberg et al., 2018). Accompanying and thereby driving this trend is increasing income sorting, in that neighbourhood preferences are hampered economically for ethnic minorities in ways that it is not for Swedes (Malmberg and Clark, 2020). European studies have found that while the clustering of socioeconomic disadvantage is detrimental to mental health, ethnic minority density has been found to be protective (Becares et al., 2018; Pickett and Wilkinson, 2008). To date, this has not been studied extensively in Sweden. Thus, one of the aims of this thesis is to investigate the associations between neighbourhood ethnic composition and mental health and the mechanisms linking the two, while accounting for neighbourhood economic deprivation.

2.7.2 Ethnic heterogeneity

A systematic review of 11 studies by Shaw and Pickett (2011) found that overall ethnic density was largely protective against psychological distress, depression, anxiety, psychoses, and self-harm/suicide across various studies. While most of these studies were based in the US, European studies echo similar trends (Becares and Nazroo, 2013; Finnvold and Ugreninov, 2018; Schofield et al., 2018; Termorshuizen et al., 2014). However, a Dutch study found that living in neighbourhoods with high ethnic density (measured via the concentration index) was associated with higher psychological distress for three ethnic minority groups even after adjustment for individual and neighbourhood-level socioeconomic factors (Erdem et al., 2017). However, further analysis showed that this association was modified by ethnicity, demonstrating that Turkish residents living in neighbourhoods with high diversity had lower psychological distress than their counterparts living in less diverse neighbourhoods. This aligns with the findings of other European studies showing that the effect of ethnic overall ethnic density on mental health varies between ethnic groups (Becares and Nazroo,

2013; Schofield et al., 2017; Termorshuizen et al., 2014). These analyses looked at ethnic minorities in general, irrespective of whether they were born in the host country or not. Ethnic heterogeneity may be differentially important for immigrants versus the children of immigrants, given that the process of integrating in a new society is different across generations. At the time of writing Article II, there was no research exploring the potential moderating effect of immigrant generation on mental health and thus, it was included in our analysis. Since then, three other studies have explored the effect of immigrant generation, all finding significant effects of overall ethnic density for the children of immigrants, more so (Yan et al., 2019) or not at all for immigrants themselves, with regards to mood and/or anxiety disorders (Emerson et al., 2018) and psychosis (Schofield et al., 2018).

One of the mechanisms proposed to connect ethnic heterogeneity to mental health is that the former facilitates the development of social capital. 'Contact theory' posits that diversity diminishes the in-group/out-group distinction, fostering the development of bridging ties, solidarity, tolerance, and trust (Putnam, 2007; Semenas, 2014). Thus, living among other ethnic minorities may decrease the frequency of discrimination (Das-Munshi et al., 2010; Smaje, 1995) through the influence of social norms that breed low tolerance for discrimination (Sampson et al., 1997). And if discrimination does occur, ethnic density may affect the appraisal of its severity, providing a buffer against detrimental psychological effects (Becares, 2009). Conversely, 'conflict theory' suggests that diversity creates competition for various resources and thereby fosters out-group distrust and in-group bonding. The findings of Putnam's study of ethnic diversity and social capital among black, Hispanic and non-Hispanic white Americans offer a third option. He found that individuals living in diverse areas tended to "hunker down", withdrawing more from social life in general and thereby actually eroding social capital. While several other studies have confirmed Putnam's findings (Semenas, 2014) a few caveats to the conclusion that ethnic diversity erodes social capital have also emerged. First, that accounting for the multi-dimensional and multi-component nature of social capital adds greater nuance and prevents sweeping generalizations that diversity erodes all forms of social capital (Sturgis et al., 2013). Second, most research indicating a negative relationship between diversity and social capital are based in North America and thus, conclusions may not be applicable elsewhere (Sturgis et al., 2013). Indeed, the results of several European studies suggest that it is other factors, such as neighbourhood socioeconomic deprivation, rather than ethnic diversity, that erode social capital (Becares et al., 2011; Letki, 2008; Semenas, 2014; Sturgis et al., 2013). Empirical studies have shown that social capital is associated with both ethnic heterogeneity (whether positively or negatively) (Meer and Tolsma, 2014; Sturgis et al., 2013; Vermeulen et al., 2011) and mental health (Ehsan and De Silva, 2015), no studies have confirmed that social capital has an explanatory role in the relationship.

2.7.3 Own-group ethnic density

The literature investigating the relationship between own-group ethnic density and mental health has found strong indications of a protective effect for severe mental disorders, whereas the evidence for more mild mental ill-health is less conclusive. A literature review and meta-analysis by Becares et al., (2018) found that overall, own-group ethnic density is significantly protective against psychotic experiences and suicidal ideation. Furthermore, it indicated a protective effect, though insignificant, against common mental disorders, depression, and anxiety. While individual studies have found differences between ethnic groups (Das-Munshi et al., 2012; Feng et al., 2013; Halpern and Nazroo, 2000) the results of the meta-analysis did not reveal any moderating effect. This suggests that the detrimental association that several studies have identified of own-group density on mental health (is not specific to certain ethnic groups, but is rather a consequence of context-specific marginalization (Becares et al., 2018). Two studies have explored the association between own-group ethnic density and mental health in Sweden. Mezuk et al., (2015) investigated the risk of psychotic and affective disorders associated with living in Iraqi enclaves, finding no significant association for individuals

with Iraqi background. Looking at broader own-group categories defined by regions rather than individual countries, Dykxhoorn et al., (2020) found that lower own-region density was associated with an increased risk of non-affective psychosis, particularly for probable visible minorities.

The possible mechanisms underlying the detrimental and protective associations between own-group ethnic density and mental health have been explored theoretically and empirically. Theoretically, detrimental pathways suggest that a high degree of own-group density may indicate relatively closed social networks, which could strengthen in-group dynamics that reify norms and behaviours that contribute to unhealthy habits, educational underachievement, and crime (Aldridge et al., 2002; Portes, 2000). Furthermore, closed networks may limit opportunity for interaction with those outside of one's group, limiting information, social mobility, and exacerbating the effects of economic disadvantage (Rostila, 2011). Conversely, protective pathways suggest that the presence of one's 'own-group' may change how individuals self-evaluate (Halpern, 1993; Shaw and Pickett, 2011) confirming personal identities (Halpern, 1993) and nurturing sense of coherence (Ying et al., 1997). From a practical standpoint, co-ethnic networks can provide access to essential information and opportunities conducive to mental wellbeing and integrating into a new society, such as job acquisition, language courses, etc. (Lin, 2000).

Many of the above mechanisms are commensurate with components of social capital and the resources derived from it. Several studies have investigated such pathways empirically. Becares & Nazroo (2013) utilized a measure of social capital that assesses neighbourhood capacity to exercise informal social control and thereby regulate individual actions according to collective desires. They found that it did not mediate the association between own-group ethnic density and mental health (Becares and Nazroo, 2013). Likewise, an Australian study found that social interactions did not mediate the association between own-group density and psychological distress in minorities, even though it was independently associated with both factors (Feng et al., 2013). Similarly, UK-based studies found that neither social support or civic and political engagement explained the protective effects of ethnic density on common mental disorders (Das-Munshi et al., 2010; Becares, 2009). Thus, previous studies have not found evidence that social capital acts in the causal path between ethnic density and mental health. However, Das-Munshi et al., (2012) reported that practical and emotional support enhanced the protective effect of ethnic density on psychosis (Das-Munshi et al., 2012), suggesting that social capital may play a modifying role.

2.7.4 Interplay between neighbourhood deprivation and ethnic density

Studies that find detrimental effects of ethnic density on mental health necessarily call into question the potential contribution of neighbourhood-level socioeconomic factors, given that ethnic density and economic deprivation frequently overlap and their respective relationships with mental health often operate in opposite directions (Becares et al., 2018; Pickett and Pearl, 2001). This paradox can be explored via the two theories of social causation versus social selection (Halpern, 1993). In this case, social causation would dictate that living in an area that is ethnically heterogeneous affects mental health whereas social selection posits the reverse– that poor mental health causes individuals to 'drift' into neighbourhoods characterized by greater socioeconomic deprivation, which are concurrently more ethnically heterogeneous (Halpern and Nazroo, 2000). Becares', in her 2018 systematic review and meta-analysis, stipulates that, *"If the drift hypothesis was true, one would anticipate that racial/ethnic minority people living in areas of high deprivation, and high ethnic density, would have higher rates of mental disorders, but in fact the opposite is true"* (Becares, 2018, p. 8). Indeed, research broadly suggests that, after adjusting for neighbourhood economic deprivation, high ethnic density is protective against poor mental health (Becares, 2018). However, several studies have found that social selection is reflected in individuals from the majority-population (Halpern and Nazroo, 2000; Mezuk et al., 2015; Termorshuizen et al., 2014). In these instances, individuals

from the majority-population experience chronic mental health issues and may subsequently become unemployed, move down the social ladder and thereby drift into neighbourhoods that are both more economically deprived and ethnically dense.

3 RESEARCH AIMS

In light of the mental health inequalities between certain immigrant groups and native Swedes, the aim of this thesis is to contribute to the overall body of knowledge on social integration factors that might explain and thereby lessen this gap. The relative importance of various aspects of social capital, as a measure of trust and participation in Swedish society, as well as the ethnic composition of neighbourhoods, a prominent arena of integration, on immigrant mental health will be studied.

3.1 RESEARCH QUESTIONS

I. Are there differences in psychological distress between Swedish-born individuals and immigrant groups, defined based on their reason for immigration and duration of residence in Sweden? Does social capital explain these differences? (Article I)

II. Is there an association between social participation and depressive symptoms and does it vary by frequency and type of activity? Is this association moderated by social network type and/or mediated by social support? (Article IV).

III. Is there an association between neighborhood ethnic composition, measured via overall ethnic density, ethnic diversity, and own-group ethnic density, and psychological distress? Are these relationships modified by ethnicity or immigrant generation? Do individual and contextual-level social capital explain these associations? (Articles II & III)

4 MATERIALS AND METHODS

4.1 DATA SOURCES

Data for this thesis is derived from two questionnaire-based cohort studies that allow for examining the relationship between various aspects of social capital and mental health. The *Stockholm Public Health Cohort (SPHC)* (Articles I, II, and III) collected information from Stockholm's general population, allowing comparisons of this relationship between ethnic and immigrant groups with a broad range of migration-related characteristics, such as country of birth, duration of residence in Sweden, and reason for immigration. A cohort of newly-arrived refugees from Syria was obtained from the Red Cross University's *Resiliency, Mental Health and Social Participation among Refugees (RMSR)* research group (Article IV) which allowed for a deeper investigation into the mechanisms of how various aspects of social capital influence mental health. Questionnaire data from both studies was linked to regional and national registries administered by Statistics Sweden. Register data provided additional demographic, socioeconomic, and migration-related information at the individual-level and made it possible to investigate neighbourhood-level contextual exposures hypothesized to influence social environment**.**

4.1.1 Stockholm Public Health Cohort (SPHC)

The SPHC consists of respondents to a baseline questionnaire sent to a random sample, stratified for sex and sub-region, of roughly 50,000-57,000 residents in Stockholm County aged 18-84 (population in 2006: 1.9 million, 19% immigrants, www.scb.se). Starting in 2002 and ending in 2014, baseline questionnaires were sent to a new cohort every four years as well as follow-up questionnaires to respondents of previous ones. Questionnaires included 100 questions on social circumstances, life-style parameters as well as measures of physical and mental health status. The study population for this project will pool the baseline data of participants, aged 18-64, from the first three of the four cohorts initiated in 2002, 2006, and 2010.

4.1.2 Resilience, Mental Health and Social Participation among Refugees (RMSR)

The RMSR data used for this project consists of pooled data from two cohorts of Syrian refugees granted residency in Sweden on the grounds of asylum. In collaboration with Statistics Sweden, the first cohort was selected in 2016. Drawing from a random sample of 4,000 individuals granted permanent residency between 2011 and 2013, 1,215 (30.4%) responded to a baseline questionnaire assessing pre- and post-migration attitudes, experiences, and mental health. Additional details of the sampling method and baseline characteristics of this cohort can be found in Tinghög et al. (2017). Similar questionnaires were completed by a second cohort of 129 Syrians seeking asylum between March 2015 and May 2018. This data, described by Solberg et al., (2020) was collected within three asylum-centers in Sweden. Respondents from Syria that were later granted residency were eligible to participate in this study. In total, 1344 respondents from the two cohorts were invited to participate in a follow-up questionnaire similar to the one used at baseline, but that included additional questions on social participation and co-ethnic/interethnic social ties.

4.1.3 Registers

Swedish registers are large databases of information specific to the Swedish population collected by public authorities. Many of these are managed by Statistics Sweden (SCB), which may use the data for internal use, such as compiling official population statistics, or for external purposes, such as administering its important role in epidemiological research. Upon formal ethical approval, ensuring

that data security and anonymity can be maintained, legislation allows Swedish registers to be linked to research studies or to other registers using the Swedish personal identity number (PIN).

The PIN is a unique identifier assigned by the Swedish Tax Agency to everyone who is "folkbokförd" or "registered" as being resident in Sweden on an intermediate or permanent basis. This includes every child born in Sweden, some children born outside Sweden (for example, children born abroad whose parents work for the State, such as Swedish diplomats), and to immigrants who plan on staying in Sweden for ≥1 year who are employed, studying, or can provide evidence that they can support themselves. This number is permanently attached to the individual and is used ubiquitously, from accessing medical services, to filing taxes, to subscribing to everyday memberships. In this regard, it's relevant to note that not all immigrants have easy access to some of the resources attached to PIN, nor would they be included in register-based research.

4.1.3.1 Total Population Register (TPR)

The Total Population Register (TPR) maintained by Statistics Sweden (Registret över totalbefolkningen), is one of two population registers in the country responsible for tracking Swedish residents (Ludvigsson et al., 2016). Started in 1968, TPR variables obtained for this registry include birth, deaths, country of birth, in addition to changes in a person's life such as marriage, divorce, place of residence, migration, name changes, family relationships and change of sex. Other registers relevant to migrant health research, such as the Multi-Generation Register and STATIV register (Longitudinal Database for Integration Studies), utilize the TPR for information on immigration year, country of birth and citizenship, and year of acquiring Swedish citizenship with regards to both the index person and their parents (STATIV, 2017). These variables have remained relatively constant over the more than 50 years of record keeping. Data for the TPR is transmitted on a daily basis by the Swedish Tax Agency.

4.1.3.2 National Patient Register (NPR)

The National Patient Register (NPR) has collected data on in-patient care for over 100 years (The National Patient Register - Socialstyrelsen, 2019). Starting with public hospitals within 6 of 26 county councils in the 1960s, all county councils since 1987 report statistics on inpatient care and since 2001, public and private surgical and psychiatric outpatient care has also been collected. Information is updated on a monthly basis from county councils and private caregivers, and while underreporting of inpatient data is considered low, it is higher with regards to outpatient care. Included variables come from four separate categories, including patient data (i.e., PIN, gender, age, place of residence), geographic data (e.g., hospital, department), administrative data (e.g., date of admission, length of stay), and medical data (e.g., main medical diagnosis, and procedures). Ongoing quality control of submitted data is conducted, with new data requested from caregivers if erroneous or invalid information is suspected.

4.1.3.3 Longitudinal Integration Database for Health Insurance and Labour Market Studies (LISA)

Since 1990 all registered individuals in Sweden aged 16 or older, and since 2010, all individuals aged 15 years or older have had data collected for the Longitudinal Integration Database for Health Insurance and Labour Market Studies (LISA) (Statistics Sweden, 2008). This data is intended to explore Swedish resident's relationship to working life and provide a more in-depth understanding of the labour market. Data for LISA include individual demographics, education and training, employment and unemployment, income and insurance, family variables, and local unit. The database is updated annually.

4.2 MEASURES, ARTICLES I-III

4.2.1 Exposures

Many of the exposures in this thesis formulated using SPHC data are based on country of birth information. Given that some immigrant groups have low representation in the Cohort, SCB classified individual countries into aggregated regional groups where there was a possibility that small sample sizes could compromise anonymity. As such, the country of birth variable "native country" is comprised of 27 countries and regional groups. An additional variable, "native origin", was made to reflect the diaspora of each country/regional group which included both immigrants and the children of immigrants. There were some differences in the country of birth classification between index persons and their parents, so native origin is comprised of 22 countries and regional groups. The specific classifications for both variables can be referred to in Appendix B.

The "neighbourhood" is the area-level unit of analysis for contextual social integration factors used in this thesis. Three measures of neighbourhood ethnic composition, five indicators of contextual social capital serve, respectively, as a proxy for the supply of neighbourhood social networks and the characteristics of those networks. Small Area Marketing Statistics (SAMS) area units are a geographical division constructed by SCB in collaboration with local authorities and are often used as a proxy for neighbourhoods. They were designed to be relatively homogeneous with regards to housing type, year of construction, and tenure form. There are roughly 9,200 in Sweden and 900 in Stockholm County, with an average population size of 1000 and 2000, respectively (Andersson, 2007a).

Immigrant status

The reference group for Article I are individuals born in Sweden (labelled "Swedish-born") and the exposure group collectively referred to as "immigrants", which included all foreign-born individuals. Immigrants were categorized based on their reason for immigration— "refugees" for those whose native country and year of immigration matches that of asylum-seekers to Sweden and "non-refugees" for all others. This rather rudimentary classification was used due to the fact that register data before 1998 was unreliable. Refugee and non-refugee groups were further stratified by duration of residence (3-9 years; 10-19 years; 20+ years), starting from the day of the respondent's residence permit approval, not their date of entry into the country. For this reason, some immigrants, refugees in particular, are likely to have resided in Sweden longer than the period reflected in the data. Data for these two categorisations are formulated based on the TPR.

Ethnic background

Ethnic background was used to describe immigrant generation and was formulated as a trichotomous variable in Article II. Swedish-born respondents with one or two Swedish-born parents were designated as having "Swedish-background". This was also the case for Swedish-born index persons with one Swedish-born parent and missing information for the other parent. Respondents with a "foreign-background" was designated as such if they had two foreign-born parents, and "foreign-born" if they were not born in Sweden. Index persons were excluded from the study sample in two instances— if there was missing information for both parents' country of birth or if respondents had one foreign-born parent and missing information for the other parent.

Neighbourhood ethnic composition

Article II uses to measures of neighbourhood ethnic heterogeneity— "overall ethnic density" and "ethnic diversity", both aggregated at the SAMS level. Overall ethnic density is defined as the proportion of foreign-born individuals or those born in Sweden with two foreign-born parents. It is

most commonly used in studies estimating the relationship between ethnic heterogeneity and mental health (Shaw and Pickett, 2011). However, ethnic diversity uses the fragmentation, or concentration, index, measuring the probability of randomly selecting two individuals from different native origins in a SAMS area (Budescu and Budescu, 2012; Hirschman, 1964). The proportion of each native origin group within each SAMS was squared, summed, and subtracted from 1. A score of 0 designates complete ethnic homogeneity while a score of 1 represents complete heterogeneity. The main index score was 0.513 with a standard deviation of 0.170 and a range of 0.157-0.997. Overall ethnic density and ethnic diversity had a Pearson correlation coefficient of 0.96. Although this is very high, it is possible that ethnic diversity may capture the mediation of social capital variables better than ethnic density, given that the latter is considered a more refined measure of ethnic heterogeneity than the former (Kawachi and Berkman, 2009). The term 'ethnic heterogeneity' is used to refer to both measures throughout the remainder of the thesis. Article III uses "own group ethnic density", measured as the proportion of individuals from the same native country residing in a SAMS area.

4.2.2 Mediator/Explanatory variables

Social capital

Social capital as measured by the SPHC questionnaire contains five indicators. Social support is measured by one indicator, and four indicators that intersect the horizontal and vertical components of bridging social capital with its cognitive and structural aspects. Each indicator that had four possible responses were dichotomized according to affirmative or dissenting opinion. Table 1 details measure and item responses.

Table 1: Measures and formulations of social capital indicators used for Articles I-III

Indicator	**Question**	**Answer options and coding**
Social support	Do you know any people who can provide you with personal support for personal problems or crises in your life?	Yes, always = 1 Yes, for the most part = 1 No, usually not = 0 No, never = 0
Horizontal trust	You can trust most people living in this neighbourhood?	Very accurate = 1 Fairly accurate = 1 Not very accurate = 0 Not at all = 0
Horizontal participation	In the past 12 months, have you more or less regularly participated in activities together with several other people? (for example sport, music/theatre, courses, religious gatherings, choir, sewing groups, political associations or other society)	Yes = 1 No = 0
Vertical trust	How much confidence do you have in the following public institutions? For the executive branch: medical services; the police For the legislative branch: the parliament; politicians in your municipality	Considerable = 4 Fairly considerable = 3 Little = 2 None whatsoever = 1 No opinion = missing The scores of each item were added together and divided by the number of items answered.* Scores that fell at or above a cut-off of 2.5 were coded as 1 and those below coded as 0.
Vertical participation	Did you vote in any of the political elections in 2002/2006/2010?	Yes = 1 No = 0

Contextual social capital

The contextual social capital variables were formulated by aggregating the individual-level responses within the SAMS-area units. A mean score for each area was derived by aggregating responses to horizontal and vertical trust and responses to horizontal and vertical participation were aggregated to calculate the proportion of respondents that answered affirmatively. Aggregation was followed by a few corrections. To account for strata having different selection probabilities due to the SPHC stratified sampling procedure, the variable mean or proportion was first calculated for each strata, then multiplied by the stratum weight. A SAMS unit can contain more than one sampling strata, so the social capital values from each strata within a SAMS are weighted together to get the final SAMS estimate for each variable. Finally, Bayesian smoothing techniques were used to account for unstable area-level variances and outliers, as the true value of SAMS-level social capital may be obscured for areas that are under or overrepresented in the data (Marshall, 1991). The estimate for each area is averaged with a global estimate for all of Stockholm County, increasing the weight of social capital for areas with lower sample sizes.

4.2.3 Confounders

Several individual-level demographic and socioeconomic factors were included in Articles I-III as confounders. Neighbourhood economic deprivation was also included as a contextual-level confounder for Articles II-III.

Table 2: Individual and contextual demographic and socioeconomic confounders

Variable	**Classification**
Demographic	
Age	Continuous (TPR)
Gender	Two categories: man/ woman (TPR)
Years in Sweden	Three categories: 3-9 years/ 10-19 years/ 20+ years (TPR)
Socioeconomic	
Family constellation	Four categories: living alone with children/ living alone without children/ living with other adult and children/ living with other adult without children (SPHC)
Occupational status	Six categories: high level salaried employee/ intermediate level salaried employee/ low level salaried employee/ skilled worker/ unskilled worker/ self-employed (LISA)
Education	Three categories: 0-9 years/ 9-12 years/ >12 years (TPR)
Disposable income	Five categories: quintiles of annual disposable income of a household after accounting for expenses reltaed to taxes, family size, and constellation (TPR)
Type of employment	Seven categories: permanent employment/ temporary employment/ own business or business partner/ on sick leave or disability/ on leave of absence or student or trainee/ unemployed/ and other (includes managing the household)
Neighbourhood deprivation	Continuous (SCB)

4.2.4 Outcome

Psychological Distress

The General Health Questionnaire-12 (GHQ-12; Goldberg and Williams, 1988) is a 12-point inventory commonly used to assess psychological distress. Included in the SPHC and used for Articles I-III, it was developed to capture psychological distress experienced over the past few weeks using items related to sleep, the ability to concentrate and make decisions, and feelings of strain and worthlessness. It has demonstrated cross-cultural validity and reliability (Furukawa and Goldberg, 1999). The possible response options of 'not at all', 'same as usual', 'more than usual', and 'much more than usual' were dichotomized. A 2/3 cut-off was used as the threshold for psychological distress (Goldberg and Williams, 1988). Respondents that answered at least 9 or the 12 questions were included, as there was little difference with regards to psychological distress between those who answered this subset and those who answered all 12.

4.3 MEASURES, ARTICLE IV

4.3.1 Exposure

Social participation

Social participation was measured based on five items that assessed over the past six months how often a participant: i) attended a cultural activity or artistic event; ii) sports or other game practice; iii) attended a party, leisure or entertainment activity; iv) engaged in humanitarian or volunteer work at home in Sweden or abroad; and/or v) attended gatherings to discuss or share social or political opinions. Frequency of participation was dichotomized to either "once a month or more" or "rarely or never," based on a five response Likert scale: once a week or more, approximately twice a month, once a month, less than once a month, and never.

Based on scoring, a cluster analysis grouped participants into one of three social participation categories. These included a "*frequent participation in a broad range of activities*" group, who participated in all five types of activities at least one a month or more, a "*frequent participation in a limited range of activities"* group who participated in leisure, party or sports/games or entertainment at least once a month or more, and finally a "*rare/no participation*" group who rarely or never participated in any of the five activities.

A silhouette score is typically considered to be "good" when the cut-off is above 0.5. In this study a three-cluster solution indicated a score of 0.4, which is considered "fair". Social participation three-cluster solution scores were found to be significantly associated with the component questions using a chi-square test and the size of clusters were within 15% of each other, indicating they were sufficiently similar.

4.3.2 Mediator

Social support

Social support was measured based on seven items of the ENRICHD Social Support Inventory (ESSI). These items include measures of emotional, structural, and instrumental support (Gottlieb and Bergen, 2010) that were previously validated in a population of Syrian refugees (Gottvall et al., 2019a). One of the seven items is a dichotomous question indicating cohabitation with a partner. The other six items use a 5-point Likert scale (from 'none of the time' to 'all of the time') and enquire whether the respondent has someone that: shows love and affection; listens when you need to talk; helps with daily chores; gives good advice about a problem; provides emotional support (talking over

problems or helping make a difficult decision); and provides as much contact as you would like with someone you feel close to, someone in whom you can trust and confide in? ESSI is used as a latent variable in the main analysis and cohabitation is used as formative indicator regressed on the other six (Coltman et al., 2008).

4.3.3 Moderator

Network type

Type of social networks was measured by bonding and bridging social capital using the above five social participation items to determine composition of the respondent's social network. The following question was the prompt: "How often did you do any of the above activities with people from Sweden?" Responses were dichotomized into a "once a month or more" (bridging social capital group), and a "less than once a month or never" (bonding social capital group). Over 170,000 Syrian refugees have resettled in Sweden since 2010 (Statistics Sweden, 2020) and preferences and structural constraints indicates they often end up in the same neighbourhoods (Malmberg and Clark, 2020). While it is not known if bonding networks consist of primarily co-ethnic ties with other Syrians or is simply composed of ties with other immigrants, knowledge of the Swedish context suggests the former.

4.3.4 Confounders

Potential confounders included five sociodemographic characteristics (all categorical). These included age (20-29 years old, reference; 30-39; 40-49; 50-59; 60-67); gender (man; woman, reference); education (less than 9 years, reference; 9-12 years; 12+ years); years of residence in Sweden (0-5; 6-9); and cohabitation (living with or without partner). All variables were formulated based on sociodemographic variables retrieved from TPR, except for cohabitation which came from the RMSR questionnaire.

4.3.5 Outcome

Depressive Symptoms

Depressive symptoms were measured based on the Hopkins Symptoms Checklist-15 (HSCL-15) and consisted of 15 questions assessing to what degree specific symptoms caused distress during the last week. The scale has been validated for use cross-culturally (Mollica et al., 1987; Wind et al., 2017). An index variable was created using four response alternatives, 'not at all' to 'very much' and scored 1 to 4, respectively. A mean score was calculated for descriptive purposes and respondents above a threshold of 1.80 were considered to meet the clinical cut-off for depression (Oruc et al., 2008). To be included in the analysis, respondents had to answer at least 13 of 15 questions.

4.4 SUMMARY OF STUDY POPULATION, VARIABLES, AND ANALYSES

For Articles I-III, all respondents that met the following criteria were eligible included in the analysis: were between the ages of 18-64; not adopted; no missing or incomplete migration-related data relevant to the study; living in Sweden for at least 3 years and 90% of the time since first immigration date or since birth for Swedish-born; and not having a migration-related mental health diagnosis within the first two years of arrival. Additionally, respondents were excluded from the analysis if they had missing information with regards to the exposures, confounders, mediators, or outcome.

An additional exclusion for missing data was made for Articles II-III to facilitate the validity of aggregating the individual social capital measures to the contextual level— respondents living in a SAMS area that had less than 20 SPHC respondents were therefore not included.

A final exclusion for Article III was made with regards to country or region of birth, requiring at least 250 respondents within native country groups and be relatively ethnically homogeneous to ensure sufficient power and meaningful representation of own-group ethnic density. Eight countries/regional groups – Chile, Finland, Former Yugoslavia, Horn of Africa, Iran, Iraq, Poland, and Turkey – are therefore presented in this paper. "Horn of Africa" includes respondents from Djibouti, Eritrea, Ethiopia, and Somalia while "Former Yugoslavia" consists of Bosnia and Herzegovina, Croatia, Macedonia, Montenegro, Serbia, and Slovenia. Table 3 gives a summary of the study populations, variables, and analyses for Articles I-IV.

Table 3: Study characteristics for Articles I-IV

	Article I	Article II	Article III	Article IV
Source of study population				
Stockholm Public Health Cohort	x	x	x	
Resiliency, Mental Health, and Social Integration of Refugees				x
Inclusion criteria				
Age 18-64; not adopted; resided more than 3 years in Sweden and 90% of time in Sweden for immigrants or from birth for Swedish-born; migration-related mental health diagnosis within 2 years of immigration; complete migration data	x	x	x	
Age at immigration > 17	x			
Reside in a SAMS area with 20+ respondents in SPHC		x	x	
Foreign-born			x	
Native country category homogenous and n > 250 respondents			x	
Sample size				
No. of eligible respondents, total / immigrants	64,905/ 7,705 (11.9%)	64,905/ 10,319 (15.6%)	8,559	464
Final sample size, total / immigrants	50,490/ 5,350 (10.6%)	56,487/ 8,895 (15.6%)	5,173	464
Covariates				
Exposures	Immigrant status	Neighbourhood ethnic density and diversity	Neighbourhood own-group density	Social participation
Mediator/explanatory variables	Social support; horizontal trust; horizontal participation; vertical trust; vertical participation	Social support; horizontal trust; contextual social support; contextual horizontal trust		Social support
Moderators	Gender		Native country	Network type
Confounders	Age; Gender; Years in Sweden; Type of Employment; Education; Family disposable income; Family constellation; Occupational status	Age; Gender; Years in Sweden; Type of employment; Education; Family disposable income; Native origin	Age; Gender; Years in Sweden; Education; Family disposable income	Age; Gender; Education; Years in Sweden
Outcome	Psychological distress	Psychological distress	Psychological distress	Depressive symptoms
Statistical analyses	Logistic regression; Baron & Kenny; Soble test	Multi-level Poisson regression	Multi-level Poisson regression	Multi-group structural equation modeling

4.5 STATISTICAL ANALYSIS

Statistical analyses for Articles I-III were conducted using SAS versions 9.3 & 9.4. Descriptive statistics were generated for Article IV using SPSS version 27 and Structural Equation Modelling (SEM) was conducted using MPlus version 8.4.

4.5.1 Article I

Article I employed in a series of steps as outlined by Baron and Kenny (Baron and Kenny, 1986) to determine the mediating role of a variable. This procedure was used to investigate the second research question: if social capital mediates the association between the immigrant status (exposure) and psychological distress (outcome). In the process, the first research question was also answered. The steps are: first, if the exposure is associated with the outcome; second, if exposure is associated with mediator; third, if mediator is associated with the outcome; and fourth, if adjusting for the mediator partially or completely attenuates the association between the exposure and the outcome. These conditions were tested using weighted logistic regression, stratified by sex. Each of the five individual social capital indicators were tested separately for steps two and three to establish their associations and were adjusted for demographic and socioeconomic factors. Testing the mediatory role of the individual social capital indicators was done in step four for horizontal trust and participation together as well as vertical trust and participation together. Social support was tested alone. As our main interest is the mediatory role of social capital, the primary focus of this study is on steps one and four.

Test of Indirect Effects

Additionally, for immigrant groups that were eligible for social capital mediation, the Sobel test was used to assess if the mediated effect of each individual social capital variable was significant (Baron and Kenny, 1986; Preacher and Leonardelli, 2001). Furthermore, the Sobel test was used to test the multiple mediation effect for two (Models 3b-c) and five (Model 4) social capital variables.

4.5.2 Articles II-III

Multi-level 'robust variances' Poisson regression was used to model the association between the 10% increase in ethnic heterogeneity (density and diversity) and psychological distress, stratified by ethnic background (Article II). The same statistical methods were used to model the association between a 5% increase in own-group ethnic density and psychological distress, stratified by native country (Article III). The results were presented as prevalence ratios (PR) with 95% confidence intervals (CI). A sandwich estimator was employed to correct for the overestimation of the standard error which can occur when using Poisson regression with a binary outcome (Barros and Hirakata, 2003). The analyses were structured as a two-level random intercept model with individuals nested within SAMS units. Given that we pooled data from three different years, we initially employed a three-level hierarchical model, with year as the middle level. However, year was ultimately eliminated from the model as it did not affect the variation in psychological distress. The variance partition coefficient for the null random intercept model (estimated via simulation) demonstrated that the SAMS units accounted for 0.46% of the variance in psychological distress in this sample for Article II and 0.29% in Article III. While this is small, the variance between SAMS areas was significant for both sets of analyses, so the multi-level model is justified. Article II used age, sex, years in Sweden, education, disposable family income, type of employment, and native origin (for foreign-background and foreign-born) as a priori confounders. Article III employed the same confounders except for native origin.

Article three followed the Baron & Kenny method as described above to investigate the mediatory role of individual and contextual social capital. However, the resulting associations for steps 2 and 3

did not support social capital as a mediator, so only the analysis of step 1, the association between own-group ethnic density and psychological distress is presented.

4.5.3 Article IV

Moderated mediation using multi-group Structural Equation Modelling

A multigroup SEM analysis was constructed to investigate the moderating role of network type in the relationships between social participation, support, and depressive symptoms. Five structural paths represented the individual associations between the exposure, mediator, and outcome; between social participation and depressive symptoms; social support and depressive symptoms; and social participation and social support. Given that social participation is trichotomous, *rare/no participation* serves as the reference category while *frequent participation in a broad range of activities* and *frequent participation in a limited range of activities* signify two structural paths to both social support and depressive symptom severity.

As a first step, a reference model (Model A) was specified in which all five paths are freely estimated across social capital. A series of nested models were then fit, beginning with fitting equality constraints to all five pathways, and then eliminating the constraints sequentially. The best fitting model was used by comparing several indices to the reference, including: chi-square ($\chi 2$), root mean square error of approximation (RMSEA) with 90% CI, comparative fit index (CFI), standardized root mean square residual (SRMR), and Satorra-Bentler scaling correction likelihood ratio ($^{S\text{-}B}\Delta\chi 2$) (Hu and Bentler, 1999; Kline, 2005; Satorra and Bentler, 2010). Moderation was indicated if the selected model contains structural paths that vary across network type.

Mediating function of social support

After selecting the best fitting multigroup SEM model, the mediating role of social support was investigated. A Maximum Likelihood estimator with 95% bias corrected bootstrap (5000 sampling) was used to estimate the direct effect of social participation on depressive symptom severity and the indirect effect via social support.

Moderated mediation

Whether social capital moderates the mediating role of social support was estimated using the Wald test (Ryu and Cheong, 2017) to determine the group difference in the indirect effects for bonding and bridging social capital.

4.6 ETHICAL CONSIDERATIONS

The data and general scope of all four studies have been subjected to ethical vetting by the Regional Ethical Review Board in Stockholm (Dnr **Articles I-III**: 2006/1112-31; 2012/1812-32 | Dnr **Article IV**: 2015/1463-1431 and 2016/549-32).

Separate ethical considerations are relevant to this project with regards to the collection of data versus its publication. This research in this thesis involved analysing data from two different studies— the SPHC and RMSR's cohort of Syrian refugees. Both studies use self-administered questionnaires and are supplemented with registry information from Statistics Sweden. The Swedish data security legislation provides laws for the protection of personal information that is collected in national registries. Researchers may apply for use of this data, which is then anonymized and provided by Statistics Sweden. While participating in these questionnaires posed no physical risk, avoiding psychological harm is a particularly relevant with regards to immigrants and specifically refugees. Given that many refugees experience migration-related trauma and stressors making them vulnerable to mental ill-health,

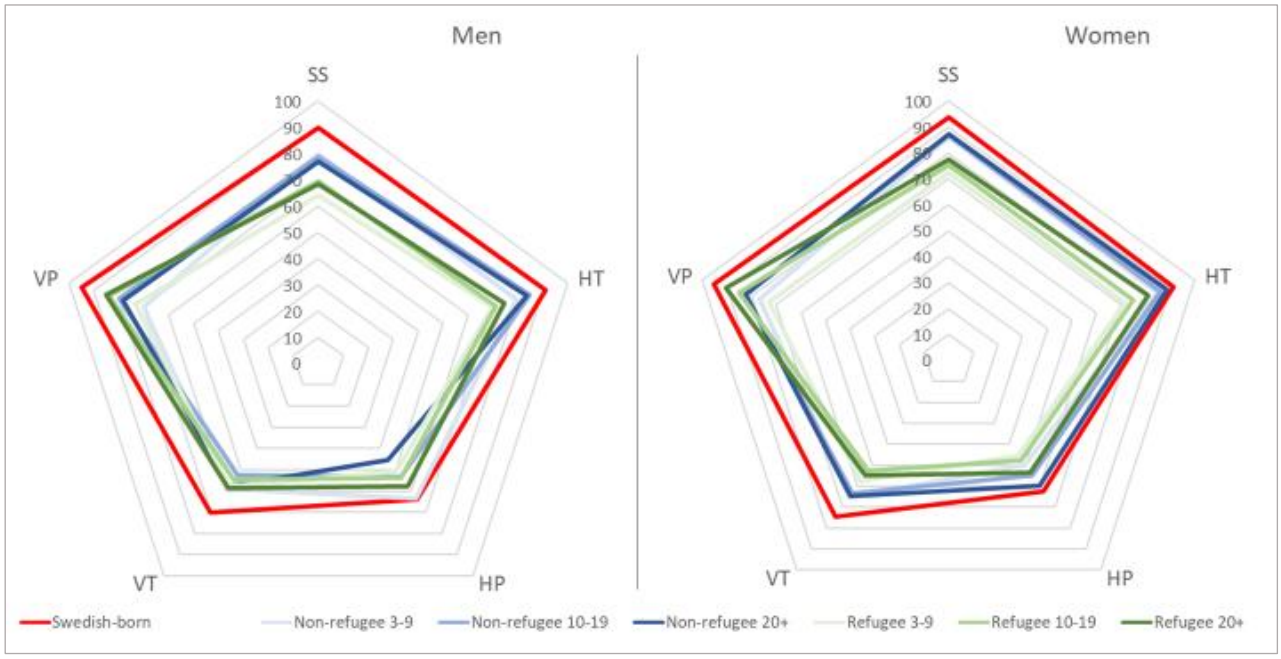
the RMSR questionnaire was carefully designed to avoid triggers that might aggravate trauma. Additionally, the instruments used to assess mental health in the both the SPHC and RMSR have been widely used and cross-culturally validated. Language barriers can also pose significant challenges to participating in questionnaires for newly-arrived immigrants. To attempt to mitigate this challenge, the RMSR was questionnaire was translated into Arabic and the SPHC into six languages spoken by the target population, facilitating representation of the largest immigrant groups in Sweden (Moradi et al., 2010). Immigrants who are new to Sweden may not be fully acquainted with their rights when engaging in questionnaires like these nor as participants in research in general. To ensure that the rights and integrity of the participants were protected, the SPHC and RMSR included information that facilitated free, prior, and informed consent.

While there is no direct benefit to filling-out a questionnaire, individuals' contributions do benefit the common good, which ultimately benefits participants. However, this latter point is contingent upon the manner in which results are presented. I recognize that with my publications, I am participating in "writing the social" - the idea that though as scientists we aim to simply observe, understand, and describe reality, our descriptive has the potential to be prescriptive, and inevitably is so to some extent. Considering that the study population that is the focus of this thesis is already a vulnerable group, often characterised by "otherness", writing poses the responsibility and the challenge of highlighting inequalities without perpetuating stigmas that reinforce them.

5 RESULTS

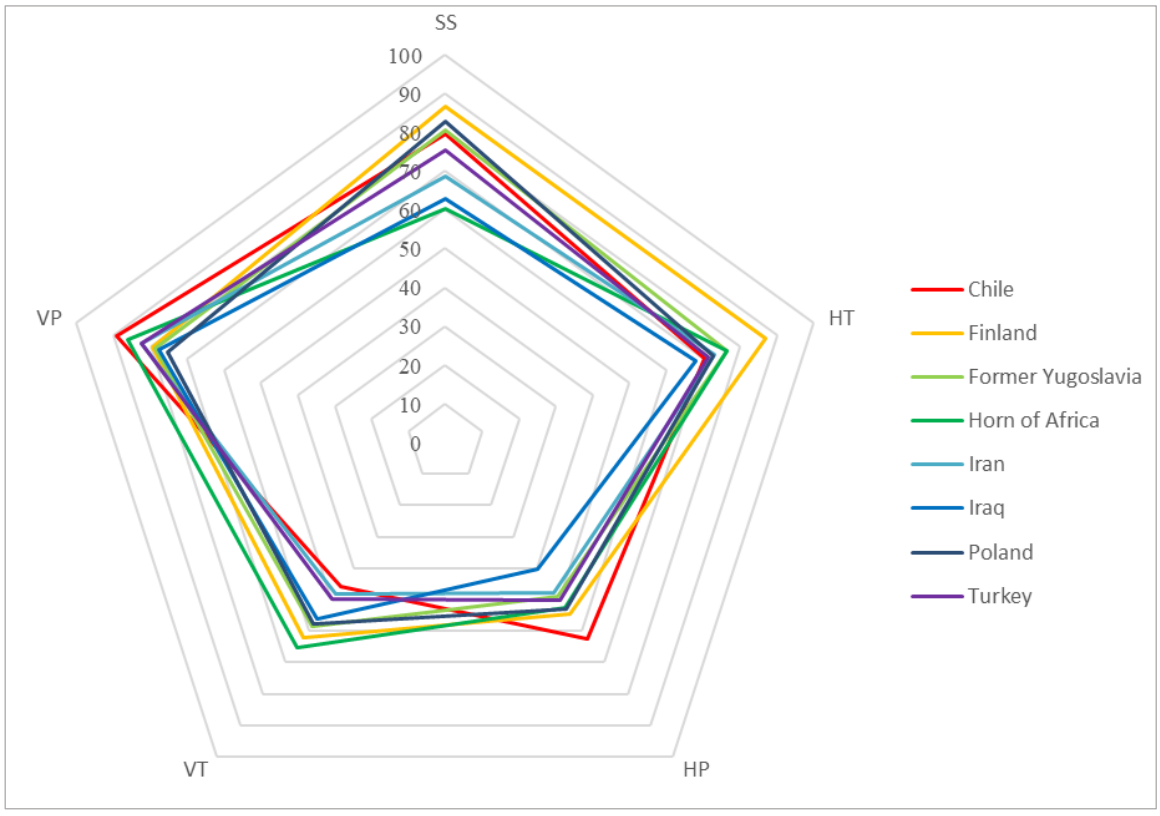
5.1 COHORT CHARACTERISTICS

5.1.1 Stockholm Public Health Cohort



SS: social support | HT: horizontal trust | HP: horizontal participation | VT: vertical trust | VP: vertical participation

Figure 1: Percent of high social capital by immigrant status and gender



SS: social support | HT: horizontal trust | HP: horizontal participation | VT: vertical trust | VP: vertical participation

Figure 2: Percent of high social capital by immigrant group

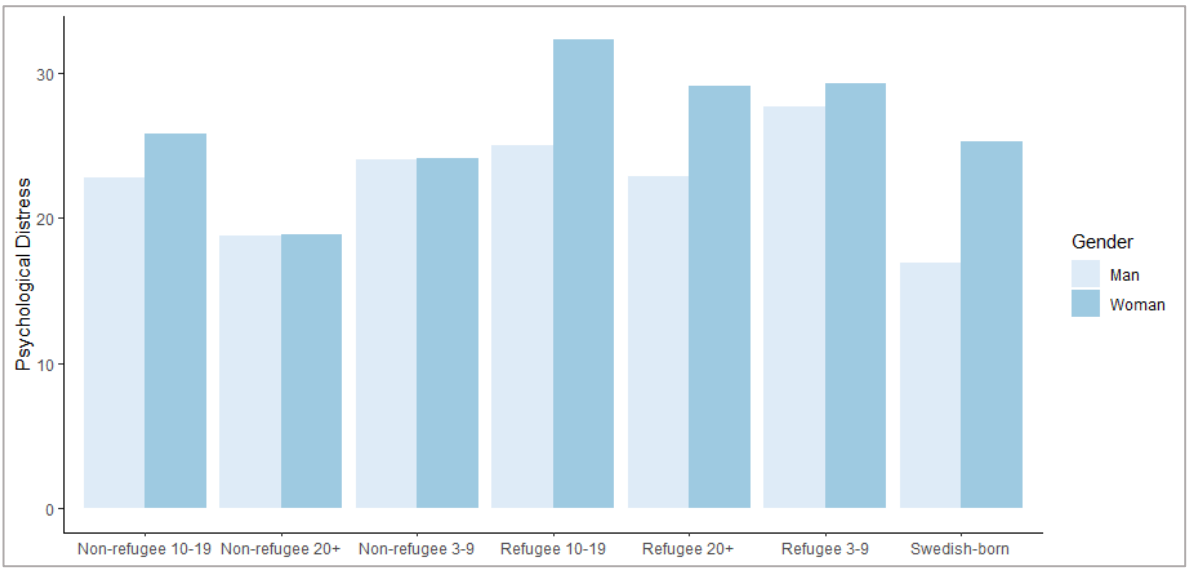


Figure 3: Prevalence of psychological distress for men and women

5.1.2 Resilence, Mental Health, and Social Integration of Refugees

Table 4: Descriptive statistics of sociodemographic and social network characteristics and depressive symptom severity (N = 464)

		n	%
Gender			
	Men	302	65,1
	Women	162	34,9
	Network type		
Bonding		294	67.6
	Bridging	141	32.4
	Social support		
	Mean (SD)	440	17.1 (5.8)
	High	216	49,1
	Low	224	50,9
	Social participation		
	Frequent participation in broad range of activities	164	38,9
	Frequent participation in limited range of activities	159	37,8
	Rare/no participation	98	23,3
Depressive symptom severity			
	Mean (SD)	444	1.7 (0.6)
	Above cutoff, 1.80	187	42,1
	Below cutoff, 1.80	257	57,9

5.2 ARTICLE I: IMMIGRANT STATUS AND PSYCHOLOGICAL DISTRESS

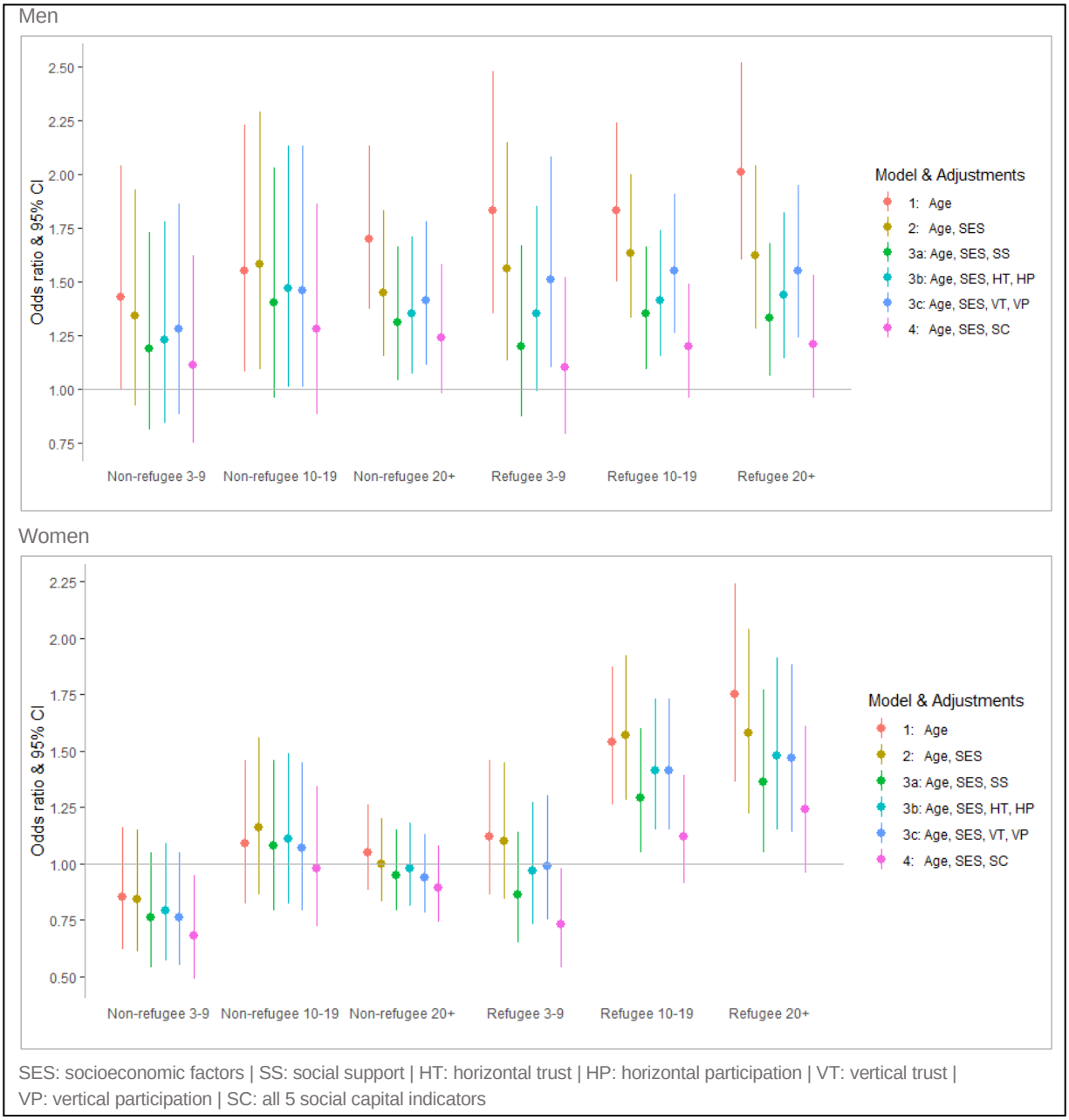


Figure 4: Association between immigrant status and psychological distress for men and women, mediated by social capital. Presented as Prevalence Ratios with 95% confidence intervals.

5.2.1 Immigrant status and psychological distress

Figures 4 shows the association between immigrant status, defined by reason for immigration and duration of residence, and psychological distress for men and women, respectively. Age-adjusted estimates in model 1 show that all categories of immigrant men had greater psychological distress than their Swedish-born counterparts. For women, only some categories of immigrant women reported worse psychological distress than their Swedish-born counterparts. Non-refugee women were not significantly different than Swedish-born women while refugee women in Sweden for more than 10 years reported significantly more psychological distress than Swedish-born women. Patterns remained the same even after adjustment for socioeconomic factors in model 2, except for non-refugee men in Sweden 3-9 years for which odds ratios became insignificant.

5.2.2 Social capital mediation

The association between immigrant status and psychological distress, Step 1 of Baron and Kenny, was established in the section above. The results for Step 2, whether immigrant status is associated with low social capital (results not shown here – see Article I, Table 5), found that Swedish-born respondents had significantly higher social capital than all categories of immigrant status except for horizontal participation, for which only half was significant. Step 3, which investigates the association between social capital and psychological distress (results not shown here – see Article I, Appendix I), generally showed significant associations between low social capital and psychological distress.

Step 4 of Baron and Kenny adjusts for each social capital variable, demonstrating whether it mediates the relationship between immigrant status and psychological distress. For men, social capital in one or two variable formulations (Models 3a-c) partially or fully mediated the association between immigrant status and psychological distress. Adjusting for all five social capital variables simultaneously (Model 4) fully explained any remaining association. The Sobel test for men showed that the indirect effect of social capital was significant for all eligible immigrant groups, except for social support and horizontal trust and participation for non-refugee men in Sweden 20+ years and refugee men in Sweden 3-9 years.

For women, social capital in one or two variable formulations (Models 3a-c) partially mediated the association between immigrant status and psychological status. Simultaneous adjustment for all five in Model 4 showed complete mediation. Furthermore, full adjustment showed that immigrant women in Sweden 3-9 years demonstrated significantly lower psychological distress than Swedish-born women. The Sobel test for women demonstrated significant indirect effects of social capital, for the one and two variable formulations and the five variable combination for all eligible immigrant groups.

5.3 ARTICLES II-III: NEIGHBOURHOOD ETHNIC COMPOSITION AND PSYCHOLOGICAL DISTRESS

Neighbourhood ethnic composition was examined with regards to both ethnic heterogeneity (Article II) and homogeneity (Article III). Overall, increasing neighbourhood ethnic heterogeneity, assessed by both ethnic density and ethnic diversity, is associated with psychological distress (results not shown here – see Article II, Table 3). However, this association is explained entirely by individual-level socioeconomic factors as well as contextual-level neighbourhood economic deprivation. There was no distinguishable difference in associations based on the ethnic heterogeneity measure used.

Figure 5 shows the stratified results for both ethnic density and diversity. They demonstrated that the association between ethnic heterogeneity and psychological distress differs based on ethnic background. For respondents with Swedish-background, demographic and individual and contextual socioeconomic factors fully explained the elevated risk of psychological distress associated with a 10% increase in ethnic heterogeneity. Additionally, including contextual horizontal trust (model 4d) showed that ethnic heterogeneity was protective against psychological distress.

5.3.1 Ethnic heterogeneity, ethnic background, social capital and psychological distress

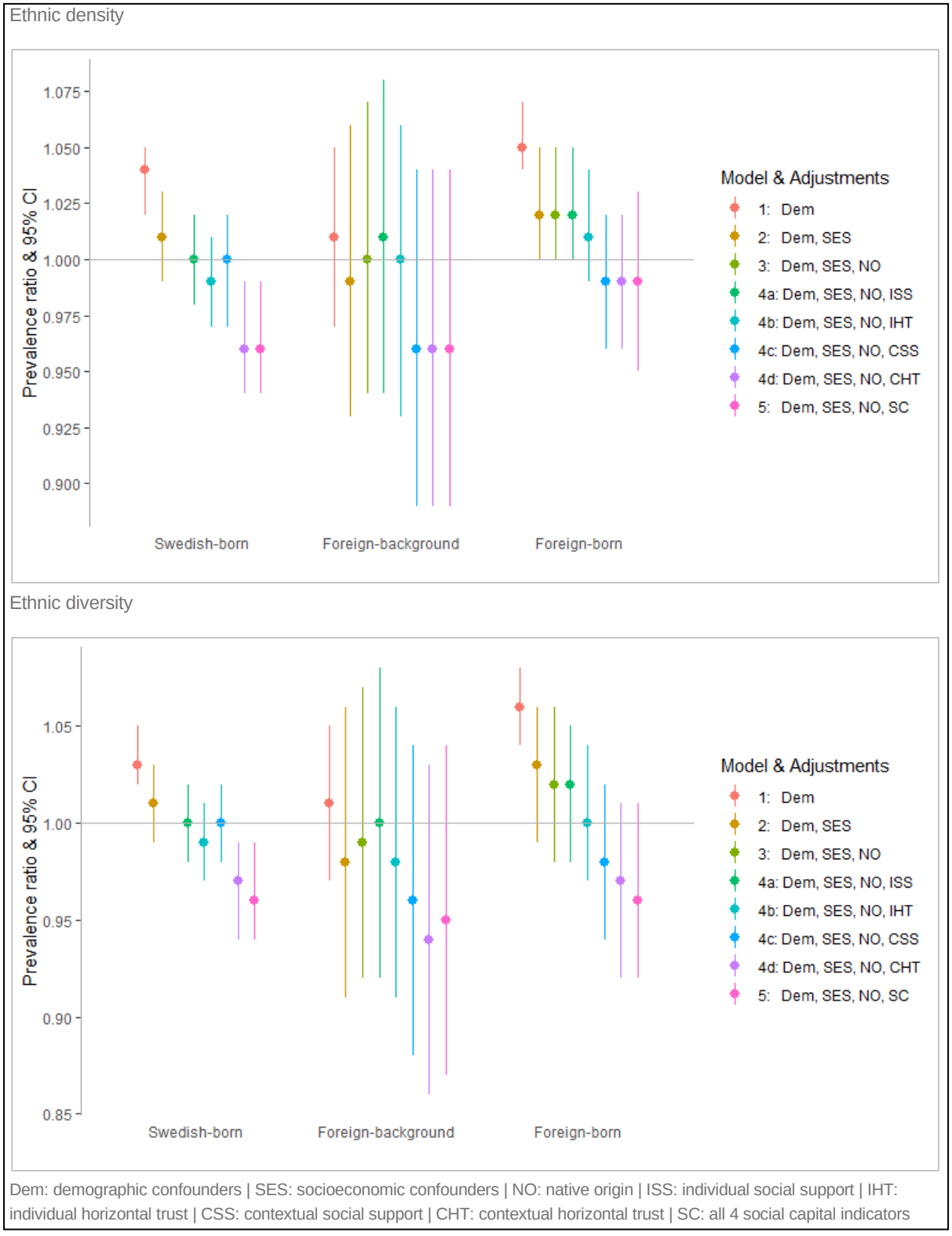
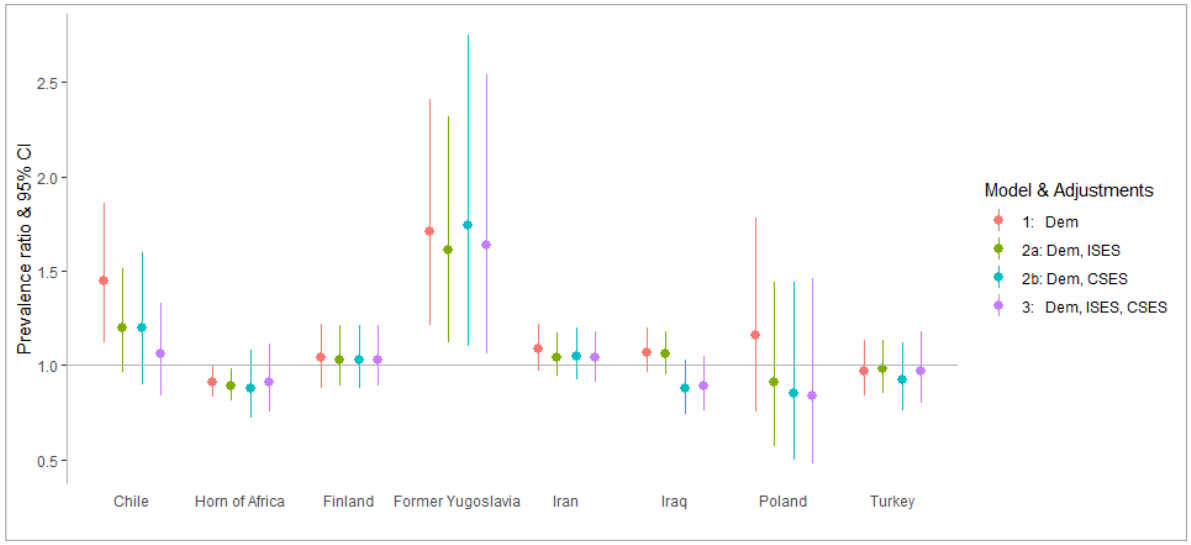


Figure 5: Bar chart of the association between the 10% increase in neighbourhood ethnic density, as measured by ethnic density/ethnic diversity, social capital, and psychological distress presented as Prevalence Ratios with 95% confidence intervals.

A 10% increase in ethnic heterogeneity among respondents with foreign-background showed no significant association with psychological distress in any model. For foreign-born respondents, a 10% increase in ethnic heterogeneity is significantly associated with psychological distress (model 1).

Adjusting for socioeconomic factors (model 2), native country (model 3), and social support (model 4a) explained the majority of the association, but remained significant. Individual horizontal trust, contextual social support, and contextual horizontal trust (models 4b-d) attenuated the relationship to insignificance.

5.3.2 Neighbourhood own-group ethnic density, social capital, and psychological distress



Dem: demographic confounders | ISES: socioeconomic confounders | CSES: contextual socioeconomic confounder

Figure 6: Bar chart of the association between a 5% increase in own-group ethnic density and psychological distress presented as Prevalence Ratios with 95% confidence intervals.

Figure 6 demonstrates the association between own-group ethnic density and psychological distress, stratified by immigrant group. The direction and magnitude of the association between own-group density and psychological distress varies by immigrant group. There is no significant association for respondents from Finland, Iran, Iraq, Poland, and Turkey while it was detrimental for those from Chile and Former Yugoslavia and protective for those from the Horn of Africa. Adjustment for socioeconomic factors in model 2 fully attenuated this association, except among respondents from Former Yugoslavia, for which it persisted.

5.4 ARTICLE IV: MODERATED MEDIATION OF DEPRESSIVE SYMPTOMS IN REFUGEES FROM SYRIA

5.4.1 Network type moderation

Multigroup Structural Equation Modelling was used to investigate whether network type (bonding versus bridging) moderates the relationship between social participation, social support, and depressive symptoms in a group of refugees from Syria resettled in Sweden. A series of models imposed equality constraints across network type onto various combinations of the five paths between social participation, social support, and depressive symptoms, while controlling for age, gender, education, years in Sweden, and cohabitation. Comparing various fit indices of these models to the reference model in which estimates for all five paths were permitted to vary (see Article IV, Table 2), the best fitting model had equality constraints between social participation and depressive symptoms. The resulting structural model is shown in Figure 7, panel a for bonding networks and panel b for bridging networks.

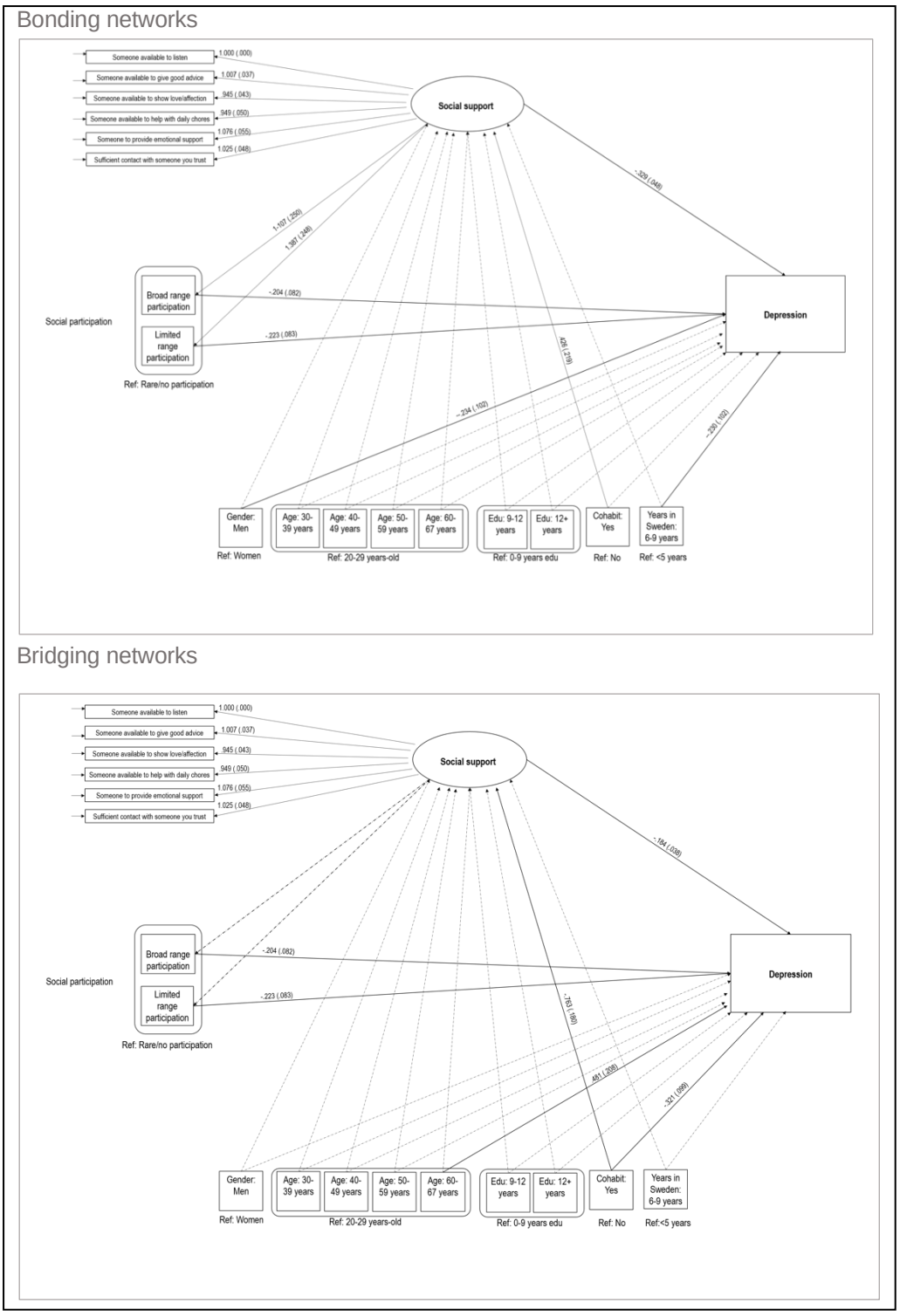


Figure 7: Bonding networks and Bridging networks Full Structural Equation Model of Depressive symptoms on the latent variable social support. The displayed estimates for regression weights are unstandardized (B) with standard error in parentheses. Significant weights are indicated by solid-line arrows and dashed-line arrows indicate nonsignificant associations. Values for residual variances of indicator variables (boxes) are not included in the figure for readability issues (empty arrows signify that variances were part of the full Structural Equation Model).

5.4.2 Individual relationships of the structural model

The final structural model demonstrated that there was no difference in the association between social participation and depressive symptoms between respondents with bonding versus bridging networks. Furthermore, those with bonding networks that reported *frequent participation in a broad* or *limited*

range of activities had significantly better social support and fewer depressive symptoms compared to those with *rare/no participation.* While *frequent participation in a broad* or *limited range of activities* was also significantly associated with fewer depressive symptoms for respondents with bridging networks, the association between social participation and social support was not significant whereas the association between social support and depressive symptoms was significant.

5.4.3 Social support mediation

Table 5: Estimates and 95% confidence intervals (CI) for the total, direct, and indirect effects of social support in mediating the relationship between social participation and depressive symptoms, stratified by social capital. Significant associations in bold.

Social participation	**Bonding social capital**		**Bridging social capital**	
	Est.	CI	Est.	CI
Broad range of participation vs. rare/no				
Direct	**-0.204**	**[-0.374, -0.041]**	**-0.204**	**[-0.374, -0.041]**
Indirect (via social support)	**-0.365**	**[-0.589, -0.134]**	-0.041	[-0.124, 0.025]
Total	**-0.569**	**[-0.849, -0.315]**	**-0.245**	**[-0.428, -0.069]**
Limited range of participation vs. rare/no				
Direct	**-0.223**	**[-0.395, -0.060]**	**-0.223**	**[-0.395, -0.060]**
Indirect (via social support)	**-0.457**	**[-0.716, -0.231]**	-0.052	[-0.130, 0.006]
Total	**-0.680**	**[-0.960, -0.429]**	**-0.274**	**[-0.454, -0.104]**

The results of the mediation analysis are displayed in Table 5, decomposed into the total and direct effect of social participation on depressive symptoms and the indirect effect of social support. For respondents with bonding networks, significant estimates of the total, direct, and indirect effect indicate that social support partially mediates the association between social participation and depressive symptoms. Conversely, no evidence of social support mediation is indicated for those with bridging networks, demonstrated by an insignificant indirect effect for the relationship between social participation and depressive symptoms. Significant Wald tests confirm moderated mediation, showing that social support mediation is different between those with bonding versus bridging networks, for both the effect of *frequent participation in a broad* (Wald = 12.044, df = 1, $p < 0.001$) and *limited range of activities* (Wald = 15.888, df = 1, $p < 0.001$) on depressive symptoms.

6 DISCUSSION

6.1 SUMMARY OF MAIN FINDINGS

Article I

- Psychological distress varies based on reason for immigration and duration of residence in Sweden.
- Refugee women who resided in Sweden at least 10 years and all immigrant men reported more psychological distress than their Swedish-born counterparts.
- Social capital explained differences between these immigrant groups and Swedish-born counterparts.
- Social support was the strongest mediator among the five social capital variables, though all five together had the strongest effect.

Article IV

- Frequent social participation, compared to rare/no participation, was significantly associated with lower depressive symptoms, regardless of whether participation included a broad or limited range of activities.
- Bonding networks amplified the effect of social participation on depressive symptoms via an increase in social support, resulting in those with bonding networks showing a twofold decrease in depressive symptoms compared to those with bridging networks.
- There was no demonstrable difference between the measures of ethnic heterogeneity (overall ethnic density and ethnic diversity) on psychological distress.

Article II

- Psychological distress was differentially associated with ethnic heterogeneity depending upon ethnic background.
- Foreign-born individuals and those with Swedish-background ethnic heterogeneity had a detrimental effect on psychological distress, but this was explained by socioeconomic factors.
- For individuals with Swedish-background, the association between ethnic heterogeneity and psychological distress was explained by neighbourhood deprivation and compositional factors. Adding contextual horizontal trust made heterogeneity protective.
- For foreign-born individuals, the association between ethnic heterogeneity was partially explained by neighbourhood deprivation, compositional factors, and then horizontal trust, contextual social support, and contextual horizontal trust explained the remainder.
- Ethnic heterogeneity and psychological distress doesn't appear to be associated for individuals with foreign-background.

Article III

- The direction and magnitude of association between own-group ethnic density and psychological distress varies by immigrant group.
- There was a detrimental association for Chileans and former Yugoslavians and a protective association for those from the Horn of Africa.
- These associations were explained by individual and contextual socioeconomic factors for those from Chile and the Horn of Africa, but not for former Yugoslavians.
- There was little support for social capital as a mediator in this relationship.

6.2 INDIVIDUAL-LEVEL SOCIAL CAPITAL AS A MEDIATOR

Together, Articles I and IV explored the relationship between seven components of social capital and mental health, investigating whether they explain health inequalities between immigrants and those born in Sweden as well as the mechanisms by which they influence mental health and each other.

Article I investigated the inequalities in psychological distress between Swedish-born individuals and immigrant groups, finding that they do vary based on reason for immigration and years in Sweden. Significant differences in psychological distress were observed between all immigrant men and refugee women residing in Sweden for 10 years or more compared to their Swedish-born counterparts. Most of these differences held, even after adjusting for socioeconomic factors. Previous studies have also found a gap in mental health inequalities over and above what socioeconomic factors can account for (Tegegne and Glanville, 2019; Tinghög et al., 2007). A study by Tinghög et al. (2007) found that socioeconomic differences only accounted for part of the increased risk of depression in non-Western immigrants. Our findings align with these results given that the majority of the immigrants in the SPHC are of non-Western origin.

Where adjusting for socioeconomic factors only accounted for part of the differences psychological distress, social capital explained the rest. Similarly, Tegegne & Glanville (2019) investigated the subjective well-being immigrant-native gap in Europe, finding that more than half of the non-Western immigrant-native gap was explained by informal social connections and generalized trust and significantly explained the smaller Western immigrant-native gap.

Social support had the greatest explanatory effect in accounting for differences between immigrant groups and Swedish-born individuals while the effect of horizontal and vertical trust and participation were present, but less apparent. Similarly, Article IV establishes that social support has an independent effect on depressive symptoms in a cohort of Syrian refugees, but that the indirect effect of social participation was only present among respondents with bonding networks, which increased social support and thereby amplified its effect on depressive symptoms. Though the refugees with bridging networks still showed a protective effect of social support against depressive symptoms, it was not due to social support associated with participating in activities with Swedes. This is aligned with previous research showing that the close ties associated with bonding social capital are more influential with regards to mental health than the looser ties characterizing bridging social capital (De Silva et al., 2005; Ehsan and De Silva, 2015). Lin (2001) notes that bonding networking facilitate emotional support whereas bridging facilitates instrumental support. Studying the differential impacts of providing and receiving emotional versus instrumental support, (Morelli et al., 2015) found that the latter only influences wellbeing in instances where the former is also present. This may be particularly crucial for refugees, considering the potential presence of comorbidities due to pre-migration trauma and post-migration stress (Sengoelge et al., 2020). As such, bonding support has been found to attenuate the association between torture and PTSD (Gottvall et al., 2019b) and as well as buffer the effects of low socioeconomic status on mental health (Uphoff et al., 2013).

6.3 CONTEXTUAL LEVEL SOCIAL INTEGRATION AND MENTAL HEALTH: NEIGHBOURHOOD ETHNIC COMPOSITION AND SOCIAL CAPITAL

Understanding that neighbourhood characteristics can facilitate immigrant social integration and influence post-migration mental health, Articles II & III employed three indicators of neighbourhood ethnic composition. Theoretically, such indicators are meaningful in two ways—first, it describes the possible ‘supply’ of interethnic and co-ethnic ties to all inhabitants and thereby the social capital resources, whether trust, norms, or resources are potentially accessible to them. Second, given that social structures are embedded in and overlap with other social structures (Lin et al., 1999), neighbourhood composition affects the composition of lower-level social structures and thereby the types of accessible social capital. This was tested empirically by including individual and contextual social capital variables as potential explanatory factors of the relationship between neighbourhood ethnic composition and psychological distress.

The association between ethnic heterogeneity and psychological distress varied based on ethnic background. While there was no apparent association for respondents with foreign-background, the individual socioeconomic factors and neighbourhood deprivation explained the association for respondents who were foreign-born or had Swedish-background. After adjusting for contextual horizontal trust, respondents with Swedish-background demonstrated a protective effect of ethnic heterogeneity on psychological distress. This supports Vermeulen, 2011 findings that an increase in ethnic heterogeneity in Dutch neighbourhoods resulted in the erosion of heterogeneous ties, but not homogeneous ones (Vermeulen et al., 2011). Our findings also contrast studies that have found that individual-level social capital is generally more important for mental health than contextual-level (De Silva et al., 2005; Ehsan and De Silva, 2015). These results should be interpreted cautiously however, given that ethnic heterogeneity and contextual social capital are highly collinear ($r2 > 0.7$), the main effects of ethnic density and diversity may be distorted (Vatcheva et al., 2016).

Article II was among the first studies to investigate if neighbourhood ethnic heterogeneity was differentially important to mental health based on immigrant generation, finding no association for second-generation ("foreign-background"). This is in contrast to the findings of three subsequent studies that all found a more detrimental effect for the children of immigrants compared to immigrants themselves (Emerson et al., 2018; Schofield et al., 2018; Yan et al., 2019). This highlights a limitation of the foreign-background categorization in Article II – the proportion of respondents with foreign-background were severely under-represented in the final dataset compared to the proportion of Swedish-born individuals with two foreign-born parents residing in Stockholm County in 2006 (3.5% versus 6.4%; Statistics Sweden, 2021). This was, in part, due to excluding respondents with missing register information regarding parent country birth.

The results regarding own-group ethnic density and psychological distress in Article III showed no association for most immigrant groups. Where there was an association, we found that the direction and magnitude differed between groups, as expected via the results of other individual studies (Bécares et al., 2013; J. Das-Munshi et al., 2012; Feng et al., 2013; Halpern and Nazroo, 2000). Own-group ethnic density was initially detrimental for Chileans and protective for immigrants from the Horn of Africa, but these associations were attenuated after adjusting for individual and contextual socioeconomic factors. For Chileans, this signals that it is actually the clustering of low socioeconomic status that causes psychological distress, not the higher presence of fellow Chileans. For respondents from the Horn of Africa, we see that the protective effect of living amongst co-ethnics is diminished when adjusting for neighbourhood deprivation. However, this is due to high correlation between own-group density and neighbourhood deprivation ($r2 > 0.87$; VIF = 3.9; see p. 43 for further discussion), making it difficult to disentangle their effects. Individuals from the Horn of Africa had the highest own-group density in the study, which is unsurprising considering they are the most geographically concentrated ethnic minority group in Sweden (Andersson et al., 2010). For respondents from former Yugoslavia, a detrimental association of own-group density persisted despite adjustments. This may be due to transfer of ethnic tensions from home, given that many respondents from former Yugoslavia likely immigrated as refugees during the Yugoslav wars. On the other hand, Becares (2013) found that negative associations with own-group density may be a result of limited access to culturally meaningful resources.

The results of Article III align to some extent with the other two Swedish studies that have investigated the relationship between own-group ethnic density and mental health. Mezuk et al., (2015) found that Iraqis living in Iraqi enclaves did not have a greater prevalence of affective and

psychotic disorders than Iraqis living in predominantly Swedish neighbourhoods (Mezuk et al., 2015). Similarly, our findings showed no association between own-group density and psychological distress for Iraqi immigrants. On the other hand, the results of Dyxhoorn et al., (2020) stand in contrast, as they found that lower own-region density was associated with an increased risk of non-affective psychosis, particularly for probable visible minorities, even after adjusting for individual and contextual socioeconomic factors.

The findings of both Articles II & III point to the necessity to include socioeconomic factors, both individual and contextual, in exploring neighbourhood-level effects in mental health. A systematic review by Uphoff (2013) found that socioeconomic disadvantage and low social capital tend to overlap. Ahnquist (2012) found that the two have a synergistic effect on self-rated health and theorised that the causal pathways (via main effects and buffering mechanisms) linking socioeconomic status and social capital to health overlap and may precipitate downward social mobility. This is a particularly relevant consideration within a neighbourhood context in Sweden, given the socioeconomic drivers fuelling the clustering and overlap of ethnic composition and neighbourhood deprivation in the larger cities. Thus, the socioeconomic factors used as confounders in Articles II & III were likely in the causal pathway. Future research should employ multiple mediation methods to account for the joint effects of socioeconomic status and social capital within ethnically and economically segregated contexts.

6.4 METHODOLOGICAL CONSIDERATIONS

6.4.1 Study population, selection bias, generalizability

The SPHC is a population-based study in which selection of study participants was conducted using random sampling, facilitating the generalizability of the results to the broader population of Stockholm County. However, generalizability may be compromised due to selection bias potentially introduced through non-response among individuals with low social capital, poor mental health, or language barriers, all of which immigrants are particularly vulnerable to. While the proportion of foreign-born individuals living in Stockholm County in 2002, 2006, and 2010 between the ages 18-64, residing in Sweden at least 3 years, and not adopted was 18-19% [personal communication between KE and Statistics Sweden: Email, subject: Utlänsk bakgrund, 2 Feburary 2015], by the same criteria, immigrants were slightly underrepresented in the final study population of Articles I-III at roughly 16%. Article I included statistical methods to reweight the data to account for non-response based on country of birth (Lundström and Särndal, 1999; Svensson et al., 2013). Reweighting methods were not used for Articles II-III due to the challenge of utilizing them together with multilevel modelling. While this could result in prevalence estimates that reflect higher social capital as well as better mental health, it is unlikely to affect the associations between these variables (Rothman and Greenland, 2005).

Random sampling was also used to select potential participants of the RMSR cohort used in Article IV. The study population at follow-up was used to pursue specific study questions regarding social participation and network type. Selection bias may have consequently been introduced during recruitment at baseline and as a result of drop-out at follow-up. Therefore, generalizability could be compromised depending upon the extent to which the study sample reflects the general population of refugees from Syria in Sweden. Furthermore, these results may not be generalizable to other ethnic groups, as there is some evidence that different ethnic groups value different forms of social support and may vary in its effect on mental health (Du Plooy et al., 2019). Finally, like Articles I-III, selection bias may also occur based on mental health and social capital, as individuals with good

mental health and more social resources likely hold greater trust in institutions and thereby may be more willing to participate in a questionnaire.

6.4.2 Residual confounding and reverse causality

The relationship between social capital and mental health is an endogenous one, influenced by reverse causality or residual confounding from omitted variables.

Reverse causality

The main analyses for all four articles in this thesis used cross-sectional design for which the exposure and the outcome and/or the mediator and the outcome were measured at the same point in time. Therefore, reverse causality is potentially an issue. For Articles I-III, immigrants diagnosed with a potentially migration-related mental illness within two years of arrival to Sweden were excluded from the study samples. Given that most immigrants in the SPHC have lived in Sweden for a decade or more, mental health status at time of survey could still affect social capital. A few studies have attempted to empirically investigate the potential impact of reverse causality by measuring the causal effect of health on social capital. For example, self-reported health has been found to be positively associated with social trust (Giordano and Lindström, 2016; Zhang, 2020) and social participation (Habibov and Weaver, 2014; Sirven and Debrand, 2012). Likewise, Roychowdhury (2021) found that individuals with mental ill health have lower social trust and are less likely to socially participate than those who don't. Taken together with previous research on the effect of social capital on mental health, all evidence points to a circular relationship between the two. Disentangling the strength and direction of this relationship is complex and likely varies based on exogenous factors. Two previous studies point to opposing implications for the results of this thesis. Sirven and Debrand (2012) employs bi-directional causal effects in disentangling the relationship between social participation and mental health, confirming its circular nature, but finding that the effect of mental health on social participation is significantly stronger than the reverse. Though this study was conducted in a cohort of Europeans over 50 years of age, it could indicate that the effect of social capital on mental health in this thesis is overestimated. Conversely, Habibov and Weaver (2014) uses instrumental variable estimation to correct estimates for potential bias due to reverse causality and finds that the naïve models underestimate the effect of social capital on self-reported health, indicating that the effect of social capital on mental health as reported in this thesis could be stronger. This is to say that reverse causality is likely reflected in the results of this thesis, but it is difficult to know to what extent.

Two sensitivity analyses were conducted to investigate the potential presence of reverse causality. The first was for Article III, using longitudinal data from the SPHC. Exchanging psychological distress at baseline for psychological distress at four-year follow-up, there was no association between neighbourhood own-group ethnic density and psychological distress for any immigrant group, except among those from Poland. Even with the considerable dropout rate of nearly 40%, this finding indicates that reverse causality may be reflected in the cross-sectional analysis. The second sensitivity analysis was conducted for Article IV using a subset of the data that included only respondents among the baseline refugee cohort who reported depression at follow-up. There was no significant difference in social participation based on mental health at baseline in this group, indicating that the potential for reverse causality between the exposure and outcome, while still potentially present, would not greatly alter the results.

Residual confounding

Several potential confounding factors were included in each of the analyses. However, there are likely others not included that could impact the results. For example, an individual's pre-migration circumstances, such as their social capital, economy, and exposure to trauma could influence both

their post-migration social capital and mental health. Additionally, while individual-level social capital was aggregated to approximate neighbourhood-level social capital in Articles II and III, social capital in other contexts, such as within the household (Giordano et al., 2013, 2011) or the workplace (Oksanen et al., 2010; Suzuki et al., 2010) also affect individual social capital and mental health. Furthermore, reason for immigration would have been relevant to include in the analyses for Articles II and III, given that, compared to non-refugees, refugees from the same country have worse mental health (Hollander, 2013) and their post-migration circumstances are such that they would be more likely to reside in economically deprived and ethnically dense neighbourhoods in Stockholm County.

6.4.3 Potential misclassification

Misclassification of exposures

Misclassification may have occurred when formulating "immigrant status", the exposure variable used in Article I, composed of "reason for immigration" and "duration of residence". The STATIV register (STAND, 2018) can be used to retrieve precise information on reason for immigration but is not reliable before 1998. Given that the SPHC includes individuals that immigrated to Sweden as early as the 1940s, reason for immigration was therefore formulated based on country of birth and year of immigration, categorized as "refugee" or "non-refugee". Consequently, individuals with other migration claims were included in these two classifications, such as those immigrating for studies, work, or family reunification. International students and workers that are designated refugees could underestimate the results in that category, whereas those that are designated as non-refugees would be unlikely to affect the outcome. Overall, the potential misclassification of students is not likely to affect the results given that students made up only 5% of the total immigrant population between 1980 and 2007 (Migrationsverket, 2021) and even fewer would have been likely to stay in Sweden long enough to participate in the SPHC. Similarly, Sweden had limited labour migration from 1970 to 2008 (Andersson, 2007b), so misclassification here is unlikely to greatly influence the results of the study. Individuals seeking family reunification on the other hand, accounted for 33-65% of all residence permits granted between 1980 and 2007 (Migrationsverket, 2021). While pre-migration circumstances of immigrants and their family members would likely be similar, the latter would already have access to social support in Sweden, which could underestimate the results for both the refugee and non-refugee categories. Misclassification likely also occurred for some refugees regarding their duration of residence in Sweden, given that the date of first residence is based on date of registration rather than the date of entry to Sweden and processing times for asylum applications can take years. This would reduce the differences in psychological distress between duration of residence groups.

Article IV uses a cluster analysis to formulate the social participation variable based on the frequency of participation in five types of activities. The resulting three-cluster solution had a 'fair' silhouette score of 0.4, classifying respondents into 'rare/no participation' for those who answered they rarely participate in any of the five, 'frequent participation in a limited range of activities' for those that answered they frequently participate in sports/games, entertainment, leisure, and 'frequent participation in a broad range of activities' for those that frequently participate in all five types of activities. There are respondents that fell between categories, some misclassification likely occurred, particularly between the broad and limited range of activities categories. This could hide differences, adding uncertainty to the validity of the results that found no difference in depressive symptoms between the two groups. However, there is a sizable distinction between frequently participating in 1 versus 5 types of activities and most respondents were likely to fall closer to one versus the other.

Misclassification of social capital

The social capital variables employed in these studies rely on self-reported assessments from respondents. Misclassification of social capital could occur due to mood-congruent attentional bias (Koster et al., 2005) in which respondents' perceptions of their own social capital is negatively influenced by their mental health, i.e. respondents experiencing psychological distress or depressive symptoms may evaluate their social capital to be lower than it otherwise would be. Additionally, attitudes and experiences from the country of origin may also be reflected in the assessment of social capital. This is particularly relevant with regards to the measures of social support, as, for the most part, they do not distinguish whether one has individuals that lend support who live in Sweden or elsewhere. Other measures of social capital used more clearly assess perceptions of and interactions within Sweden.

Misclassification of mental health

Perceptions of mental health vary across cultures (Marsella, 1982). Both instruments (GHQ-12 and HSCL-15) used to assess mental health in this thesis have been cross-culturally validated. Even so, it is possible that mental health as measured by the GHQ-12 is not valid for all immigrant groups represented in the SPHC.

6.4.4 Multicollinearity

Article II uses three contextual-level variables (neighbourhood economic deprivation, ethnic heterogeneity, and contextual social capital) that are continuous and have high correlations between them (between $r^2 > 0.77$). This can present a dilemma for results interpretation (Vatcheva et al., 2016). To date, there are no inferential methods in epidemiology that can parse the separate effects of collinear variables (Vatcheva et al., 2016). One method used to mitigate this issue is to categorize the variables, but this can be problematic due to increased potential for type 1 error resulting from multiple comparisons, arbitrary assumptions regarding within group homogeneity, and loss of power and precision (Bennette and Vickers, 2012). These issues however are less problematic in large datasets and when the main effects of the variable are not of interest. Given that neighbourhood economic deprivation is only used as a confounder, it was deemed appropriate to use its categorical version. As the explanatory variable, the continuous version of contextual social capital was used to preserve the full extent of adjustment. Likewise, continuous ethnic hetereogeneity was employed as the primary exposure, using its categorical formulation only to augment interpretation. Using only two variables continuously rather than three decreased the variance inflation factor from a range of 6.1 – 6.4 to 1.7 – 1.8. Article III also uses several continuous variables (neighbourhood economic deprivation, own-group ethnic density, and contextual social capital). Own-group ethnic density was used continuously as the main exposure, while the mediation method required a categorical formulation of contextual social capital. Given the relatively small sample size of the immigrant groups, neighbourhood economic deprivation was used continuously to preserve power. The variance inflation factor ranged from below 1.0 for Finland to 3.8 for the Horn of Africa. Thus, collinearity is unlikely to drastically influence the results of Articles II and III, but they should be interpreted with caution.

7 CONCLUSIONS

The findings of this thesis contribute to the scientific evidence that social capital and neighbourhood ethnic composition, as individual and contextual social integration factors, can influence immigrant mental health. More specifically:

- Mental health inequalities between immigrant groups and the host population can be explained by social capital.
- While the weaker, more diverse social ties of bridging networks can help prevent mental ill-health, the strong social ties characterising social support and co-ethnic, bonding networks appear to offer even greater protection, particularly for newly-arrived immigrants.
- Mental health benefits conferred by social participation may have more to do with the frequency of participation over the type of activity.
- Socioeconomic factors, not social capital, accounted for the association between increasing neighbourhood ethnic composition and psychological distress for the majority of groups studied, indicating that economic hardships might overpower the potential benefits of social ties on mental health.

8 POINTS OF PERSPECTIVE

Newly-arrived immigrants provide the ideal circumstance to study social network development and social capital. Some considerations for future research are:

- Bonding and bridging social capital essentially characterize within and without group ties, but these dynamics may operate differently depending up the group itself. More investigation
- How are the components of social capital are mechanistically related? Does social participation beget trust or does trust allow individuals to self-select into meaningful modes of participation? What role does social support play in this mechanism?
- Different types of social ties are theoretically better at different points in the integration process, but this lacks broad empirical investigation
- To that end, there is a small body of evidence showing a time lag between social capital acquisition and mental ill-health. More investigation is required to understand how long is too long to go without social capital.
- Bonding and bridging are primarily studied in immigrant poulations as it is in non-immigrant populations. This neglects the role ethnic bonding and bridging plays in facilitating integration and mental health post-resettlement

For policy makers

- Among immigrants, mental ill-health has been associated with lower engagement with one's own community and lower levels of trust. To facilitate integration, addressing potential mental health problems should be the first order of business.
- Investigate the relative importance of various social resources at difference stages of the resettlement process.

Personal reflections of the role of research in society: An understanding of the role of research in society

By a broader definition, the role of research in society is foundational and fundamental. One quote particularly inspires me in this regard, while causing me to reflect on research, as it is today, in relation to the broader ideal of justice. *"Access to knowledge is the right of every human being, and participation in its generation, application and diffusion a responsibility that all must shoulder in the great enterprise of building a prosperous world civilization – each individual according to his or her talents and abilities. Justice demands universal participation."* A few reflections here:

- Though access to knowledge is a human right, practical considerations have created a system where only academics have ready access to much of the knowledge produced.
- Though I am an immigrant myself, I recognize that being "the researcher" given the voice to speak on behalf of "the subjects" of my studies, comes from a position of privilege.
- Research as it is seen today is largely constrained to the realm of the highly educated and the elite. For some fields, this may be an appropriate hierarchy. However, this quote speaks to the inquisitive spirit of human nature and that everyone can contribute with their unique capacities to better understand and develop society. Our collective reality is such that solutions for many of the social challenges faced today depend upon the contributions of individuals from every stratum of society. It would be exciting to see a future where the motive and principles of scientific inquiry are present within families, neighbourhoods, workplaces, and schools.

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11 APPENDIX A: POPULAR SCIENCE SUMMARY IN DIFFERENT LANGUAGES

ARABIC

"اللحي العرقي والتكوين الاجتماعية الثروة :للمهاجرين العقلية والصحة والسياقية الفردية الاجتماعي التكامل عوامل"

عام ملخص

اعتبارًا من عام الفين وعشرين ، كان هنالك ما يقارب من 272 مليون مهاجر من جميع أنحاء العالم ، وهو ما يمثل 3.5 ٪ من سكان الكرة الارضية, بينما يشكل المهاجرون في السويد اقل من 20 بالمئة من السكان الاصليين في وقت اكدت فيه الابحاث وجود عدم مساواة في الصحة النفسية بين مجموعات محددة من المهاجرين واولئك الذين لديهم خلفية سويدية.

وتظهر الأبحاث الحالية أن عوامل التكامل مثل التوظيف واكتساب اللغة والسكن المستقر تمثل فقط "القليل" من هذا التفاوت وعدم المساواة بين هذه المجموعتين. و كتفسير محتمل للاختلافات المتبقية في الصحة النفسية بين هذين المجموعتين تم اقتراح فكرة اضافة ميزات الشبكات الاجتماعية ، مثل "رأس المال الاجتماعي" الذي يعرف بانه سمة من سمات التنظيم الاجتماعي

كالشبكات والمعايير والثقة المتبادلة التي تسهل بدورها التنسيق والتعاون لتحقيق المنفعة الجمعية".

و لأغراض القياس ، فقد تم تفكيك هذه الميزات إلى أبعاد أو جوانب مختلفة لتلتقط سمات جديدة لرأس المال الاجتماعي ، مثل الدعم المتبادل و درجة الثقة والمشاركة مع المجتمع الأوسع والمؤسسات المجتمعية.

بالإضافة إلى ذلك ، يتم تقييم رأس المال الجماعي من خلال قوة وانفتاح روابط الشبكات الاجتماعية, ويكننت وصف شبكات "الترابط" بانها الروابط بين الأفراد الذين يتشاركون في هوية اجتماعية مشتركة (على سبيل المثال ، الإثنية أو الروابط " المشتركة" لأغراض هذه الأطروحة) أو شبكات "الجسور" المكونة من أفراد لا يشاركون تلك الهوية على سبيل المثال العلاقات "بين الأعراق".

وهذا يعني بان الترابط المجتمعي بين هاتين الفئتين مهمة بشكل خاص في بداية عملية الاندماج ، لأنها توفر إحساسًا بالاستقرار والانتماء ، في حين أن تجسير العلاقات يصبح أكثر أهمية كلما طال عمر المهاجرين في البلد المضيف ، مما يوفر الوصول إلى المعلومات والموارد، وزيادة في فرص الحراك الاجتماعي.

وبالنظر إلى أن الشبكات الاجتماعية تعمل ضمن سياق مجتمعي ، فإن الحي هو ساحة بارزة للتكامل الاجتماعي.

وفي أوروبا ، غالبًا ما يتم جمع المهاجرين معًا في أحياء منفصلة اقتصاديًا وعرقيًا ما يؤثر سلبًا على الصحة العقلية ، في وقت اكدث فيه الحاث علمية بان العيش بين الأعراق المشتركة يمكن أن يكون ذا تأثيى إيجابي على المهاجرين وهكذا ، فإن التركيب السكاني للحي والمقاس من حيث التنوع العرقي والكثافة العرقية للمجموعة الخاصة (أي نسبة الأفراد من نفس الخلفية العرقية) ، أصبح مجالات اهتمام الباحثين ، في وقت استكشفت فيه القليل من الدراسات في السويد هذه الظواهر .

ياتي ذلك في وقت تحاول فيه هذه الأطروحة المساهمة في استكشاف عوامل التكامل المتعلقة بخصائص الشبكات الاجتماعية التي قد تفسر بشكل أكبر الاختلافات في الصحة النفسية ، وتبحث فيه عن أي خصائص للشبكات الاجتماعية المقاسة برأس المال الاجتماعي ، والأحياء ، كبيئة تعمل فيها.

الى ذلك تشير نتائج هذه الأطروحة إلى أنه من بين خمسة الاف مستجيب من عموم السكان في مقاطعة ستوكهولم ، تختلف فيها الضغوط النفسية للمهاجرين بناءً على سبب هجرتهم وعدد سنوات عيشهم في السويد. فالرجال المهاجرون بشكل عام ، بغض النظر عن سبب هجرتهم أو السنوات التي قضوها في السويد ، أفادوا بأن صحتهم التفسية أسوأ من الرجال المولودين في السويد.

ومع ذلك ، فإن اللاجئات فقط هن اللائي يعشن في السويد لمدة 10 سنوات أو أكثر كان لديهن صحة نفسية أسوأ بكثير من النساء المولودات في السويد.

هذا و أوضح رأس المال الاجتماعي الاختلافات النفسية بين المهاجرين ونظرائهم السويديين ، فكان للدعم الاجتماعي التأثير الأقوى. فيما تسلط النتائج الأولية لمجموعة من 450 لاجئًا من سوريا الضوء على الدور المحتمل لنوع الشبكة الاجتماعية في الوصول إلى الدعم الاجتماعي للمهاجرين الوافدين حديثًا. الى ذلك ادت المشاركة في شبكات الترابط الاجتماعي إلى تضخيم الدعم ، مما ساهم في انخفاض مضاعفات أعراض الاكتئاب مقارنةً بالمشاركين بشكل أساسي في شبكات التجسير.

وفيما يتعلق بالتكوين العرقي للحي ، اختلف الارتباط بين التنوع العرقي والضيق النفسي بالنسبة للأفراد اعتمادًا على ما إذا كانوا مهاجرين ، أو من أصول أجنبية (أي السويديين المولودين مع والدين مهاجرين) ، أو كانوا من خلفية سويدية هو فلم يكن هناك ارتباط واضح بين المستجيبين من أصول أجنبية. ومع ذلك ، فبالنسبة لكل من المهاجرين والمستجيبين من خلفية سويدية ، تم تفسير تأثير التنوع العرقي على الضيق النفسي بشكل أساسي من خلال العوامل الاجتماعية والاقتصادية ، مع تأثير رأس المال الاجتماعي قليلاً. بالإضافة إلى التنوع العرقي.

هذا وتمت دراسة أهمية الكثافة العرقية للمجموعات المجاورة للصحة العقلية لثماني من أكبر مجموعات المهاجرين في السويد. بعد حساب العوامل الديموغرافية والاجتماعية والاقتصادية ، بعد ان استمر التأثير الضار للكثافة العرقية للمجموعة الخاصة للمهاجرين من يوغوسلافيا السابقة. و بالنظر إلى أن الكثيرين جاءوا كلاجئين خلال الحروب اليوغوسلافية ، فقد يشير ذلك إلى استمرار التوترات العرقية حتى بعد إعادة التوطين في السويد.

وبدلاً من ذلك ، تشير الأبحاث السابقة أيضًا إلى أن التأثير الضار للكثافة العرقية للمجموعة الخاصة على الصحة النفسية يمكن أن يكون بسبب نقص الموارد ذات المغزى الثقافي التي يمكن الوصول إليها غفي وقت لا يبدو فيه يأن رأس المال الاجتماعي يؤثر على هذه العلاقات. هذا ووجدت هذه الأطروحة بأن العوامل المتعلقة بالهجرة ، مثل سبب الهجرة والسنوات في السويد ، تؤثر على نتائج الصحة النفسية للمهاجرينٍ في وقت يفسر فيه رأس المال الاجتماعي عدم المساواة في الصحة العقلية بين المهاجرين والأفراد من أصول سويدية. في حين أن شبكات الترابط والتواصل مفيدة للصحة العقلية ، فإن نتائج هذه الأطروحة تؤكد أن الوصول إلى الشبكات العرقية المشتركة في المراحل الأولى من إعادة التوطين يوفر مصدرًا مهمًا بشكل خاص للدعم الاجتماعي ، والذي بدوره يفيد الصحة التفسية.

وبشكل عام ، لم يكن التركيب العرقي للحي مرتبطًا بالضيق النفسي بما يتجاوز تأثير العوامل الاجتماعية والاقتصادية ، حيث كان لرأس المال الاجتماعي تأثير ضئيل. في حين أن القيود المنهجية لهذه الأطروحة تقيد إثبات التأثير السببي لرأس المال الاجتماعي بشكل لا لبس فيه على الصحة العقلية ، تشير النتائج إلى أن تيسير تنمية رأس المال الاجتماعي بين المهاجرين من المرجح أن يساهم بشكل كبير في الحد من عدم المساواة في الصحة النفسية .

FARSI

" عوامل موثر بر انسجام اجتماعی فرد و سلامت روانی مهاجرین : سرمایه اجتماعی و ترکیب قومیتی محله ها "

نوشته : چاریس جانسون- سینگ

ترجمه : رسا نیکوئی فرد و **غزال رئوفی** - موسسه آموزش عالی بهایی

چکیده عرفی

تعداد مهاجران بین المللی در سراسر جهان به ۲۷۲ میلیون نفر در سال ۲۰۲۰ رسیده است که بیش از ۳.۵ درصد جمعیت جهان را تشکیل می دهند. نزدیک به ۲۰ درصد جمعیت سوئد را مهاجران تشکیل می دهند و تحقیقات نابرابری هایی را در سلامت روان مابین برخی از گروه ها و آنهایی که پیشینه سوئدی دارند شناسایی کرده اند. مطالعات فعلی نشان می دهند تلفیقی از عواملی همچون اشتغال، یادگیری زبان و مسکن با ثبات، تنها توضیح دهنده بخشی از این نابرابری ها است. ویژگی های شبکه های اجتماعی از جمله سرمایه اجتماعی به عنوان توضیح محتمل برای تفاوت باقیمانده میان سلامت روان میان دو گروه مطرح گردیده است.

سرمایه اجتماعی به عنوان «ویژگی هایی از سازمان اجتماعی مانند شبکه ها، هنجارها، و اعتماد اجتماعی که هماهنگی و همکاری را برای سود مشترک تسهیل می کنند» تعریف شده است. برای مقاصد اندازه گیری، سرمایه اجتماعی به ابعاد یا منظر های گوناگون که ویژگی های مختلف آن را نشان می دهند مانند پشتیبانی اجتماعی و میزان اعتماد و مشارکت در جامعه بزرگتر و سازمان های اجتماعی، تقسیم می شود. همچنین سرمایه اجتماعی با قدرت و آزادی و پذیرا بودن پیوندهای اجتماعی ارزیابی می شود؛ شبکه های 'متصل کننده' پیوندهای میان افرادی را که هویت اجتماعی مشترک دارند را توصیف می کنند (برای مثال پیوند های قومی یا 'هم نژادی' که مد نظر این رساله هستند) یا شبکه های 'پل زننده' که از افرادی تشکیل شده اند که چنین هویت مشترکی ندارند (برای مثال پیوندهای درون نژادی). اهمیت ویژه پیوندهای متصل کننده بخصوص در آغاز فرایند انسجام مطرح می شود از آنجا که این پیوندها می توانند حس ثبات و تعلق را فراهم کنند، حال آنکه پیوند های پل زننده با گذشت زمان و طولانی تر شدن زندگی مهاجران در کشور میزبان، با فراهم آوردن دسترسی به اطلاعات، منابع، و فرصت ها برای تحرک اجتماعی ضرورت می یابند.

از آنجا که شبکه های اجتماعی در ساختار جامعه عمل می کنند، محله عرصه برجسته انسجام اجتماعی است. در اروپا، در بیشتر موارد مهاجران در محله هایی که از نظر قومی و اقتصادی جداسازی شده اند، در کنار یکدیگر زندگی می کنند. تحقیقات قبلی نشان می دهند که زندگی در محله هایی که از نظر اقتصادی محروم هستند می تواند تاثیر منفی بر سلامت روان بگذارد حال آنکه زندگی در میان هم نژادان تاثیر مثبت خواهد داشت. از این رو ساختار قومی محله، هم از نظر تنوع قومیتی و هم میزان تراکم افراد هم نژاد (منظور نسبت افرادی است که پیشینه قومی یکسان دارند)، به موضوعی جالب توجه برای محققان تبدیل شده، با این حال مطالعات کمی در سوئد به بررسی این موضوع پرداخته اند. این رساله تلاش می کند تا به بررسی فاکتور های انسجام مرتبط با مشخصه های شبکه های

اجتماعی بپردازد که ممکن است توضیح دهنده تفاوت در سلامت روان باشند، خصوصا مشخصه هایی که با سرمایه اجتماعی اندازه گیری می شوند و همچنین محله ها به عنوان محیطی که آنها در آن عمل می کنند.

نتایج این رساله نشان می دهند که در میان ۵۰،۰۰۰ پاسخ دهنده از جمعیت بخش استکهلم، اضطراب روانی در میان مهاجران بر اساس دلیل آن ها برای مهاجرت و تعداد سالهای زندگی در سوئد متغیر است. مردان مهاجر به طور عمومی، فارغ از دلیل مهاجرت یا سالهای اقامت در سوئد، سلامت روان پایین تری را نسبت به مردان متولد شده در سوئد گزارش کردند. با این حال، تنها زنان پناهنده که ۱۰ سال یا بیشتر در سوئد زندگی کرده بودند سلامت روان پایین تری از زنان متولد شده در سوئد گزارش کردند. سرمایه اجتماعی توضیح دهنده تفاوت های میان میزان اضطراب روانی در مهاجران و همتایان متولد سوئد آنها بود که در این میان پشتیبانی اجتماعی بیشترین تاثیر را داشت. نتایج اولیه از یک گروه ۴۵۰ نفری از مهاجران از سوریه روشنگر نقش بالقوه نوع شبکه اجتماعی در ارزیابی پشتیبانی اجتماعی برای مهاجران تازه از راه رسیده است. عضویت در شبکه های متصل کننده پشتیبانی اجتماعی را تقویت می کند که منجر به کاهش مضاعف علائم افسردگی در مقایسه با آنهایی می شود که عمدتا در شبکه های پل زننده مشارکت دارند.

در رابطه با ترکیب قومی محله، رابطه میان تنوع قومیتی و اضطراب در میان افراد بر اساس اینکه آیا مهاجر بودند، پیشینه خارجی داشته (یعنی متولد سوئد با والدین مهاجر بودند)، و یا پیشینه سوئدی داشتند، متفاوت بود. هیچ رابطه مشخصی میان پاسخ دهندگان با پیشینه خارجی وجود نداشت. با این حال، هم برای مهاجران و هم برای پاسخ دهندگان با پیشینه سوئدی، تاثیر تنوع قومیتی بر اضطراب روانی به طور عمده با شاخصهای اجتماعی-اقتصادی قابل توضیح بود و سرمایه اجتماعی تاثیر کوچکی در این زمینه داشت. علاوه بر تنوع قومیتی، اهمیت تراکم نژادی در محله در سلامت روان در هشت گروه از بزرگترین گروه های مهاجر سوئد، مورد مطالعه قرار گرفت. با احتساب شاخصهای جمعیتی، تاثیر مشخص تراکم نژادی در مهاجران از یوگوسلاوی سابق، همچنان قابل مشاهده بود. از آنجا که بیشتر آنها در دوران جنگهای یوگوسلاوی مهاجرت کرده بودند، این امر می توانست نشان دهنده تداوم تنش های نژادی حتی پس از اقامت در سوئد باشد. همچنین، مطالعات قبلی نشان می دهند که تاثیر مشخص تراکم نژادی بر سلامت روان می تواند به دلیل نبود منابع فرهنگی در دسترس باشد.

یافته های این رساله نشان می دهند که شاخصهای مرتبط با تجارت از جمله دلیل مهاجرت و تعداد سالهای سکونت در سوئد، پیامدهای سلامت روانی مهاجر را تحت تاثیر قرار می دهند. سرمایه اجتماعی نابرابری ها در سلامت روان میان مهاجران و افراد با پیشینه سوئدی را توضیح می دهد. با اینکه هر دو شبکه های متصل کننده و پل زننده برای سلامت روان مفید هستند، یافته های این رساله تایید می کنند که دسترسی به شبکه های هم نژاد در مراحل اولیه سکونت، فراهم کننده منبع مهمی از پشتیبانی اجتماعی است که به نوبه خود برای سلامت روان مفید است. به طور کلی، ترکیب قومیتی محله رابطه ای فراتر از تاثیر شاخصهای اجتماعی-اقتصادی با اضطراب روانی ندارد و در اینجا سرمایه اجتماعی تاثیر حداقلی دارد. در حالیکه محدودیتهای متودولوژیک در این رساله، اثبات صریح تاثیر علّی سرمایه اجتماعی بر سلامت روان را محدود می سازد، نتایج نشان می دهند که تسهیل توسعه سرمایه اجتماعی مابین مهاجران می تواند به طور قابل ملاحظه ای به کاهش نابرابری ها در سلامت روان کمک کند.

FINNISH

"Yksilölliset ja kontekstuaaliset sosiaalisen integraation tekijät ja maahanmuuttajien mielenterveys: sosiaalinen pääoma ja naapuruston etninen koostumus"

Kääntänyt: Vivika Mäkelä

Yleistajuinen tiivistelmä

Vuoden 2020 arvion mukaan, maailmassa on 272 miljoonaa kansainvälistä siirtolaista, mikä vastaa 3,5% maailman väestöstä. Hieman alle 20% Ruotsin väestöstä on maahanmuuttajia, ja tutkimukset ovat osoittaneet eriarvoisuutta mielenterveydessä tiettyjen maahanmuuttajaryhmien ja ruotsalaistaustaisten ryhmien välillä. Nykyiset tutkimukset osoittavat, että integraatiotekijät, kuten työllisyys, kielen oppiminen ja asumisen vakinaisuus, selittävät osan, mutta eivät kaikkea, tästä eriarvoisuudesta. Sosiaalisten verkostojen ominaisuuksia, kuten sosiaalista pääomaa, on ehdotettu mahdollisena selityksenä ryhmien välisissä mielenterveyden eroissa.

Sosiaalinen pääoma määritellään "sosiaalisen organisaation piirteiksi, kuten verkostoiksi, normeiksi ja sosiaaliseksi luottamukseksi, jotka helpottavat koordinointia ja yhteistyötä molemminpuolisen hyödyn saavuttamiseksi". Mittaustarkoituksia varten se on purettu eri ulottuvuuksiin tai näkökohtiin, jotka kuvaavat sosiaalisen pääoman eri piirteitä. Näitä ovat sosiaalinen tuki sekä luottamuksen ja osallistumisen aste laajempaan yhteisöön ja yhteiskunnallisiin instituutioihin. Lisäksi sosiaalista pääomaa arvioidaan sosiaalisten verkostojen siteiden vahvuuden ja avoimuuden perusteella. 'Sidosverkostot' kuvaavat yhteyksiä sellaisten yksilöiden välillä, joilla on yhteinen sosiaalinen identiteetti (esimerkiksi tässä väitöskirjassa käytetyt etnisyys tai yhteydet samaan etniseen ryhmään kuuluvien kanssa), kun taas 'siltaverkostot' koostuvat yksilöistä, joilla ei ole samaa identiteettiä (esim. eri 'etnisten ryhmien väliset siteet'). On ehdotettu, että sidosverkostojen luomat yhteydet ovat erityisen tärkeitä kotoutumisprosessin alussa, koska ne luovat vakauden ja yhteenkuuluvuuden tunnetta ja mahdollisuuksia sosiaaliseen liikkuvuuteen.

Koska sosiaaliset verkostot toimivat yhteisön sisällä, naapurusto on sosiaalisen integraation keskeinen areena. Euroopassa maahanmuuttajat on usein ryhmitelty yhteen taloudellisesti ja etnisesti erillään oleviin lähiöihin. Aiemmat tutkimukset ovat osoittaneet, että vaikka asuminen taloudellisesti heikossa asemassa olevassa naapurustossa voi vaikuttaa kielteisesti mielenterveyteen, samasta etnisestä taustasta tulevien henkilöiden keskuudessa eläminen voi olla positiivista. Niinpä naapuruston etninen koostumus, mitattuna sekä etnisen monimuotoisuuden että oman etnisen ryhmän tiheyden perusteella (eli samaan etniseen taustaan kuuluvien yksilöiden osuudella), on kerännyt tutkijoiden kiinnostusta, mutta Ruotsissa näitä ilmiöitä on tutkittu harvassa tutkimuksessa. Tämä väitöskirja pyrkii edistämään niiden sosiaalisten verkostojen ominaispiirteisiin liittyvien integraatiotekijöiden tutkimista, jotka voivat tarkemmin selittää mielenterveyden eroja. Näitä tekijöitä ovat sosiaalisten verkostojen ominaisuudet sosiaalisella pääomalla mitattuina, ja naapurustot ympäristöinä, joissa verkostot toimivat.

Tämän väitöskirjan tulokset osoittavat, että Tukholman läänin väestöstä 50 000 vastaajan joukossa psykologinen huonovointisuus vaihtelee maahanmuuttajilla maahanmuuton syyn ja Ruotsissa asuttujen vuosien määrän perusteella. Riippumatta maahanmuuttoon johtaneesta

syystä tai Ruotsissa vietetyistä vuosista, maahanmuuttajamiehet raportoivat yleisesti ottaen huonommasta mielenterveydestä kuin ruotsalaissyntyiset miehet. Naisilla kuitenkin vain pakolaisnaisilla, jotka olivat asuneet Ruotsissa vähintään 10 vuotta, oli huonompi mielenterveys kuin ruotsalaisilla naisilla. Sosiaalinen pääoma selitti maahanmuuttajien ja ruotsalaissyntyisten väliset psykologisen huonovointisuuden erot, ja sosiaalisella tuella oli voimakkain vaikutus. Alustavat tulokset 450 syyrialaisen pakolaisen kohortista valaisevat sosiaalisten verkostojen mahdollisen roolin vastikään saapuneiden siirtolaisten sosiaalisen tuen saamisessa. Osallistuminen sidosverkostoihin vahvistaa sosiaalista tukea, mikä johtaa kaksinkertaiseen masennuksen oireiden vähenemiseen verrattuna niihin, jotka osallistuvat ensisijaisesti siltaverkostoihin.

Naapuruston etnisen koostumuksen osalta etnisen monimuotoisuuden ja psykologisen huonovointisuuden välinen yhteys vaihteli yksilöiden välillä sen mukaan, olivatko he maahanmuuttajia, ulkomaalaistaustaisia (eli Ruotsissa kahdelle maahanmuuttajavanhemmalle syntyneitä), vai ruotsalaistaustaista. Ulkomaalaistaustaisilla vastaajilla yhteyttä ei ilmennyt. Sen sijaan sekä maahanmuuttajilla että ruotsalaistaustaisilla etnisen monimuotoisuuden vaikutus psykologiseen huonovointisuuteen selitettiin pääasiassa sosioekonomisilla tekijöillä, ja sosiaalisella pääomalla oli pieni vaikutus. Etnisen monimuotoisuuden lisäksi naapuruston oman ryhmän etnisen tiheyden merkitystä mielenterveydelle tutkittiin kahdeksan Ruotsin suurimman siirtolaisryhmän parissa. Väestörakenteen ja sosioekonomisten tekijöiden huomioon ottamisen jälkeen oman ryhmän etnisen tiheyden haitallinen vaikutus säilyi entisestä Jugoslaviasta tulleiden maahanmuuttajien osalta. Koska monet tulivat pakolaisina Jugoslavian sotien aikaan, tämä voi merkitä etnisten jännitteiden jatkumista myös Ruotsiin muuton jälkeen. Vaihtoehtoisesti aiemmat tutkimukset viittaavat myös siihen, että oman ryhmän etnisen tiheyden haitallinen vaikutus mielenterveyteen voi johtua saatavilla olevien kulttuurisesti merkityksellisten resurssien puutteesta. Sosiaalinen pääoma ei näyttänyt vaikuttavan näihin suhteisiin.

Tässä väitöskirjassa havaittiin, että maahanmuuttoon liittyvät tekijät, kuten maahanmuuttoon johtanut syy ja Ruotsissa vietettyjen vuosien määrä, vaikuttavat maahanmuuttajien mielenterveystuloksiin. Sosiaalinen pääoma selittää mielenterveyden epätasa-arvoa maahanmuuttajien ja ruotsalaistaustaisten henkilöiden välillä. Vaikka sekä sidos- että siltaverkostot ovat hyödyllisiä mielenterveydelle, tämän väitöskirjan tulokset vahvistavat, että pääsy etnisten ryhmien verkostoihin kotoutumisprosessin alkuvaiheessa on erityisen tärkeä sosiaalisen tuen lähde, mikä puolestaan hyödyttää mielenterveyttä. Yleisesti ottaen naapuruston etnisellä koostumuksella ei ollut muuta yhteyttä psykologiseen huonovointisuuteen kuin sosioekonomisten tekijöiden selittävä vaikutus, ja sosiaalisen pääoman vaikutus oli minimaalinen. Vaikka tämän väitöskirjan metodologiset rajoitukset rajoittavat yksiselitteisen kausaalisen vaikutuksen todistamista sosiaalisen pääoman vaikutuksesta mielenterveyteen, tulokset osoittavat, että sosiaalisen pääoman kehittämisen helpottaminen maahanmuuttajien keskuudessa auttaisi todennäköisesti merkittävästi vähentämään mielenterveyseroja.

SPANISH

Factores de integración social individual y contextual y la salud mental de los inmigrantes: Capital social y la composición étnica de los barrios

Traducido por: Sofia Cortes Calderón o Zhena Kavelin

Resumen de divulgación científica

En 2020, había 272 millones de inmigrantes internacionales en todo el mundo, lo que representa el 3,5% de la población mundial. Menos del 20% de la población sueca son inmigrantes y las investigaciones han identificado inequidades en la salud mental entre determinados grupos y aquellos grupos de origen sueco. Las investigaciones actuales demuestran que los factores de integración, como el empleo, la adquisición del idioma y la vivienda estable, sólo explican una parte, pero no toda, de dicha inequidad. Las características de las redes sociales, como el capital social, se han propuesto como una posible explicación de las diferencias en la salud mental entre estos distintos grupos.

El capital social se define como "características de la organización social como las redes, las normas y la confianza social que facilitan la coordinación y la cooperación en beneficio mutuo". A efectos de medición, se ha deconstruido en varias dimensiones o aspectos que captan diferentes características del capital social, como el apoyo social, así como el grado de confianza y participación con la comunidad en general y las instituciones sociales. Además, el capital social se evalúa en función de la fuerza y la apertura de los lazos de la red social; las redes de 'bonding' describen los lazos entre individuos que comparten una identidad social común (por ejemplo, la etnia o los lazos "co-étnicos" a efectos de esta tesis) o las redes de 'bridging' compuestas por individuos que no comparten esa identidad (por ejemplo, los lazos "interétnicos"). Se ha sugerido que los lazos de bonding son especialmente importantes al principio del proceso de integración, ya que proporcionan un sentido de estabilidad y pertenencia, mientras que los lazos de bridging se vuelven más cruciales cuanto más tiempo lleven los inmigrantes viviendo en el país de acogida, ya que proporcionan acceso a información, recursos y oportunidades de movilidad social.

Dado que las redes sociales operan en un contexto comunitario, el barrio es un escenario prominente para la integración social. En Europa, los inmigrantes suelen agruparse en barrios económica y étnicamente segregados. Investigaciones anteriores han descubierto que, mientras que vivir en un barrio económicamente desfavorecido puede tener un impacto negativo en la salud mental, vivir entre co-étnicos puede ser positivo. Por tanto, la composición étnica del barrio, medida tanto en términos de diversidad étnica como de densidad étnica del propio grupo (es decir, la proporción de individuos del mismo origen étnico), se han convertido en áreas de interés para los investigadores, pero pocos estudios en Suecia han explorado estos fenómenos. Esta tesis intenta contribuir a explorar los factores de integración relacionados con las características de las redes sociales que pueden explicar las diferencias en la salud mental, es decir, las características de las redes sociales, medidas por el capital social, y de los barrios, como entorno en el que operan.

Los resultados de esta tesis indican que, entre las 50.000 participantes de la población general del condado de Estocolmo, el trastorno psicológico varía en el caso de los inmigrantes en función de su motivo de inmigración y del número de años que llevan viviendo en Suecia. Los hombres inmigrantes en general, independientemente de su motivo de inmigración o de los años que llevan en Suecia, declararon tener peor salud mental que los hombres nacidos en Suecia. Sin embargo, sólo las mujeres refugiadas que llevaban 10 años o más en Suecia tenían peor salud mental que las mujeres nacidas en Suecia. El capital social explica las diferencias en el trastorno psicológico entre los inmigrantes y sus homólogos nacidos en Suecia, siendo el apoyo social el que tenía un mayor efecto. Los resultados preliminares de una cohorte de 450 refugiados procedentes de Siria arrojan luz sobre el posible papel

del tipo de red social en el acceso al apoyo social de los inmigrantes recién llegados. La participación en redes de bonding amplifica el apoyo social, lo que se traduce en una disminución doble de los síntomas depresivos en comparación con los que participan principalmente en redes bridging.

En cuanto a la composición étnica del barrio o vecindario, la asociación entre la diversidad étnica y el trastorno psicológico difiere según se trate de personas inmigrantes, de origen extranjero (es decir, nacidos en Suecia con dos padres inmigrantes) o de origen sueco. No hubo ninguna relación aparente para los participantes con antecedentes extranjeros. Sin embargo, tanto en el caso de los inmigrantes como en el de los participantes de origen sueco, el efecto de la diversidad étnica en el trastorno psicológico se explicaba principalmente por factores socioeconómicos, mientras que el capital social tenía un pequeño efecto. Además de la diversidad étnica, se estudió la importancia de la densidad étnica del propio grupo del vecindario para la salud mental de ocho de los mayores grupos de inmigrantes de Suecia. Tras tener en cuenta los factores demográficos y socioeconómicos, la densidad étnica del propio grupo seguía teniendo un efecto perjudicial para los inmigrantes de la antigua Yugoslavia. Dado que muchos llegaron como refugiados durante las guerras yugoslavas, esto podría indicar una continuación de las tensiones étnicas incluso después de reasentarse en Suecia. Por otra parte, las investigaciones anteriores también sugieren que el efecto perjudicial de la densidad étnica del propio grupo sobre la salud mental podría deberse a la falta de recursos accesibles y culturalmente significativos. El capital social no parece influir en estas relaciones.

Esta tesis encontró que los factores relacionados con la migración, como la motivación de la migración y los años de residencia en Suecia, influyen en los resultados de la salud mental de los inmigrantes. El capital social sí explica las inequidades en la salud mental entre los inmigrantes y los individuos de origen sueco. Tanto las redes de bonding como las bridging son beneficiosas para la salud mental. No obstante, los resultados de esta tesis confirman que tener acceso a redes co-étnicas en las primeras etapas del reasentamiento proporciona una fuente de apoyo social especialmente importante, lo cual a su vez beneficia a la salud mental. En general, la composición étnica del barrio no se asoció con el trastorno psicológico más allá del efecto de los factores socioeconómicos, y el capital social tuvo un efecto mínimo. Las limitaciones metodológicas de esta tesis restringen la demostración inequívoca del efecto causal del capital social sobre la salud mental. Sin embargo, los resultados indican que facilitar el desarrollo del capital social entre los inmigrantes probablemente contribuiría de forma significativa a reducir las inequidades en el ámbito de la salud mental.

SWEDISH

Individuella och kontextuella faktorer kopplade till integration och psykisk hälsa hos migranter: socialt kapital och grannskapets etniska komposition

Översatt av: Karin Engström

Populärvetenskaplig sammanfattning

Sedan 2020 finns det 272 miljoner internationella migranter i världen, vilket motsvarar 3,5% av den globala befolkningen. Knappt 20% av Sveriges befolkning är migranter och flera studier har visat på en ojämlikhet i psykisk hälsa mellan vissa grupper av migranter och dem med svensk bakgrund. Aktuell forskning visar att faktorer kopplade till integration, som sysselsättning, språkkunskap och bostadsförhållanden, står för en del men inte all denna ojämlikhet. Egenskaper hos sociala nätverk, som till exempel socialt kapital, har lyfts fram som en möjlig förklaring till de återstående skillnaderna i psykisk hälsa.

Socialt kapital definieras som ”det sociala organiserandets egenskaper, såsom nätverk, normer och social tillit, som förenklar koordination och samverkan till ömsesidig nytta”. För att kunna mäta socialt kapital har det delats in i olika dimensioner eller aspekter som fångar dess olika egenskaper, såsom socialt stöd samt graden av deltagande i samhället i stort och tillit till samhällets institutioner. Dessutom bedöms socialt kapital utifrån styrkan och öppenheten i de sociala nätverkens kopplingar; ‘sammanbindande‘ nätverk beskriver kopplingar mellan individer som har en gemensam social identitet (t.ex. etnicitet, här kallat ‘sametniska‘ kopplingar, d.v.s. mellan personer med samma etniska bakgrund) eller ‘överbryggande‘ nätverk som består av individer som inte delar den identiteten (t.ex. ‘interetniska‘ kopplingar, det vill säga mellan personer med olika etnisk bakgrund). Det har föreslagits att sammanbindande kopplingar är särskilt viktiga i början av integrationsprocessen, eftersom de ger en känsla av stabilitet och tillhörighet, medan överbryggande kopplingar, som ger tillgång till information, resurser och möjligheter till social rörlighet, blir mer avgörande ju längre en migrant har bott i värdlandet.

Med hänsyn till att sociala nätverk är verksamma i geografiskt eller socialt avgränsade sammanhang, är grannskapet en viktig arena för social integration. I Europa samlas migranter ofta i ekonomiskt och etniskt segregerade stadsdelar. Tidigare forskning har funnit att medan att vara bosatt i ett ekonomiskt utsatt område kan påverka den psykiska hälsan negativt, kan det vara positivt att leva bland personer med samma etniska bakgrund. Således utgör grannskapets sammansättning, mätt både som etnisk mångfald och som ‘egna gruppens etnicitetsdensitet‘ (d.v.s. andelen med samma etniska bakgrund), ett intressant forskningsområde, men få studier har undersökt dessa fenomen i Sverige. Denna avhandling försöker bidra till en ökad kunskap kring integrationsfaktorer relaterade till egenskaper hos sociala nätverk som ytterligare kan förklara skillnader i psykisk hälsa, närmare bestämt egenskaper hos sociala nätverk mätt som socialt kapital, såväl som hos grannskap som en miljö vari nätverken är verksamma.

Resultaten visar att i ett urval på 50 000 respondenter från befolkningen i Stockholms län varierar nedsatt psykiskt välbefinnande för migranter beroende på orsaken för migration och antal år i Sverige. Män som migrerat till Sverige rapporterade över lag, oavsett orsak till migration eller antal år i Sverige, sämre psykisk hälsa än svenskfödda män. Bland kvinnor rapporterade endast de som kommit av flyktingskäl och som bott i Sverige 10 år eller mer sämre psykisk hälsa än svenskfödda kvinnor. Socialt kapital förklarade skillnaderna i nedsatt psykiskt välbefinnande mellan migranter och svenskfödda, där socialt stöd hade störst effekt. Preliminära resultat från en kohort på 450 flyktingar från Syrien indikerar att typen av socialt nätverk har betydelse för tillgången till socialt stöd bland nyanlända migranter. Deltagande i sammanbindande nätverk förstärker socialt stöd, vilket resulterar i en halvering av depressiva symtom jämfört med dem som främst deltar i överbryggande nätverk.

När det gäller etnisk sammansättning i grannskapet såg sambandet mellan etnisk mångfald och nedsatt psykiskt välbefinnande olika ut för individer beroende på om de var migranter, hade utländsk bakgrund (d.v.s. svenskfödda med två migrantföräldrar) eller svensk bakgrund. För respondenter med utländsk bakgrund sågs inget tydligt samband. För både migranter och dem med svensk bakgrund förklarades effekten av etnisk mångfald på nedsatt psykiskt välbefinnande främst av socioekonomiska faktorer, medan socialt kapitals påverkan var svag. Utöver etnisk mångfald undersöktes betydelsen av den egna gruppens etnicitetsdensitet för psykisk hälsa, för åtta av Sveriges största migrantgrupper. Efter att ha tagit hänsyn till demografiska och socioekonomiska faktorer kvarstod en negativ effekt av den egna gruppens etnicitetsdensitet för migranter från forna Jugoslavien. Med tanke på att många kom som flyktingar under jugoslaviska krigen kan detta tyda på fortsatt etniska spänningar även efter flytten till Sverige. En alternativ förklaring, enligt tidigare forskning, är att en negativ effekt av den egna gruppens etnicitetsdensitet på psykisk hälsa kan bero på bristfällig tillgång till sådant som möjliggör ett utövande av den egna kulturen.

Denna avhandling visar att faktorer relaterade till migration, som orsak till migration och antal år i Sverige, påverkar migranters psykiska hälsa. Socialt kapital förklarar ojämlikheter i psykisk hälsa mellan migranter och personer med svensk bakgrund. Även om både sammanbindande och överbryggande nätverk är positiva för psykisk hälsa, bekräftar resultaten i denna avhandling att tillgång till nätverk med personer från samma etniska bakgrund är en särskilt viktig källa till socialt stöd under första tiden efter migrationen, vilket i sin tur gynnar psykisk hälsa. Generellt sett visades etnisk sammansättning i grannskapet inte vara associerat med nedsatt psykiskt välbefinnande utöver effekten av socioekonomiska faktorer, där socialt kapital endast spelade en minimal roll. Även om metodologiska begränsningar i avhandlingen försvårar att entydigt visa på ett orsakssamband mellan socialt kapital och psykisk hälsa tyder resultaten på att åtgärder för att öka socialt kapital bland migranter sannolikt skulle bidra väsentligt till att minska ojämlikheten i psykisk hälsa.

TURKISH

2020 yılı sayıları dünya genelinde 272 milyon uluslararası göçmen olduğunu göstermektedir ve bu sayı dünya nüfusunun yaklaşık %3,5'ini oluşturuyor. İsveç'in nüfusunun ise yaklaşık % 20'si göçmendir ve bugüne kadar yapılan araştırmalara göre göçmenlerle etnik isveçliler arasında ruh sagligi konusunda önemli farklılıklar olduğu ortaya cikmistir. Gene yapılan araştırmalar bu eşitsizligin tamaminin degil sadece bir bölümünün, issizlik, dil edinimi ve kalıcı konut gibi bilinen entegrasyon faktörleri ile aciklanabildiğini göstermiştir. Kalan farkliligi aciklayabilecek bir olgu olarak genel sosyal doku faktörleri ve özellikle de sosyal kapital önerilmektedir.

Sosyal kapital burada, "karşılıklı fayda amaciyla koordinasyon ve işbirliğini kolaylaştıran sosyal dokular, normlar ve karşılıklı güven gibi sosyal organizasyon özellikleri " olarak tanımlanmaktadır . Arastirmada kullanimini kolaylastirmak ve kavramin degisik boyutlarini kapsama amaciyla, sosyal kapital burada 'genis anlamda topluma ve onun kurumlarina duyulan güven ve katılım derecesi' olarak tanımlanmıştır. Ek olarak, var olan sosyal dokuların güçlülüğü ve acikligi da sosyal kapitalin önemli bir bölümünü oluşturur ; 'birleştirici' sosyal dokular, ortak bir sosyal kimliği paylaşan bireyler arasındaki bağlar olabilir (örneğin, ortak etnik köken veya 'eş-etnik ' bağlar) veya bu kimliği paylaşmayan bireylerden oluşan "köprü kuran dokular" (örneğin, 'interetnik' bağlar) . Bağlayıcı dokularin kalicilik ve aidiyet sağlayan özellikleri nedeniyle daha cok entegrasyon surecinin özellikle baslangicinda etkili oldugu dusunulurken, köprü kuran dokular etkilerini göcmenlerin göcettikleri ulkedeki kalis sureleri arttikca daha cok gösterirler. Zira bu dokular sosyal hareketlilik için elzem olan bilgi, fırsat ve kaynak erişimi icerirler.

Sosyal dokularin ancak bir toplum bağlamında var oldugu dusunulurse, mahalle(semt) kavraminin önemli bir sosyal entegrasyon alani oldugu görülür. Avrupa'da göçmenler genellikle ekonomik ve etnik olarak ayrılmış mahallelerde kümelenirler . Varolan araştırmalar ruh sagliginin ekonomik olarak yoksun bir mahallede yaşamaktan olumsuz yönde etkileyebilecegini gösterirken ayni zamanda kendi etnik grubu arasında yaşamanın ruh sağlığına olumlu etkileri olabileceğini gösteriyor. Bu nedenle, mahalle etnik bileşimi, hem etnik çeşitliliği hem de kendi grubundaki etnik yoğunluğu göstermesi açısından İsveç'te araştırmacıların ilgi alani haline geldi ama arastirmalarin sayisi hala yeterli olmaktan uzak.

Bu gerçekten yola çıkarak, bu tez, genelde sosyal dokulara baglantili entegrasyon faktörlerine katkida bulunmayi amaçlarken özel olarak bu faktörlerin ruh sagligi uzerindeki etkilerini aciklamaya calisir. Bunu yaparken sosyal dokularin kendini gösterdigi mahalle olgusunu sosyal kapital kavramını kullanarak inceler.

Bu tezin sonuçları Stockholm'de yaşayan ve 50.000 göçmen katılımcının, göç edis nedenlerine ve göçmenlik sürelerine bağlı olarak psikolojik sikintilarinin değişkenlik gösterdiğini ortaya koyar.

Tezin kapsamindaki göçmen erkekler genelde, göç nedenine ve İsveç'te kalis suresina bagli olmaksizin etnik isveçli erkeklere göre daha guclu psikolojik sikinti yasadiklarini belirtmektedirler. Tezin kapsamindaki göçmen kadınların durumuna baktığımızda yalnızca isveç'te 10 yil veya daha fazla kalanlarin etnik isveçli kadınlara oranla daha guclu psikolojik sikinti yasadiklarini belirttikleri görülür. Arastirma sosyal kapitalin kapsamina giren sosyal desteğin bu farki aciklayan en önemli nedenlerden biri olduğunu göstermektedir..

Suriye'den son dönemde İsveç'e göç eden 450 mülteciye dayanan ön sonuclar sosyal dokunun kapsamina giren sosyal destek faktörünün önemini vurgulamaktadir.

Toplumdaki baglayici sosyal dokulara katilimin sosyal destek faktörunu besleyerek sadece köprü kuran sosyal dokulara katılıma oranla depresyon belirtilerini yari yariya azalttığı görülmektedir.

Mahalle etnik kompozisyonuna gelince, etnik köken ile psikolojik sikinti arasındaki bağlantı isvec dogumlu ancak göçmen ebeveynlere sahip olan bireylerle etnik isveçli bireyler arasinda farkliliklar göstermektedir. Sadece göçmen bireylere bakıldığında ise bu bağlantıda herhangi bir farklılık gözükmemektedir. Bununla birlikte, hem göçmenler hem de İsveç kökenli katılımcılara bakildiginda, etnik kökenin psikolojik sıkıntı üzerindeki etkisi (her ne kadar sosyal kapitalin çok az bir etkisi görülse de) temel olarak sosyo ekonomik faktörlerle açıklanmıştır.

Etnik kökendeki farkliliga ilave olarak, mahalle ortak etnik köken yoğunluğunun ruh sağlığı üzerindeki etkisi İsveç'in en büyük sekiz göçmen grubunda incelenmistir. Demografik ve sosyo ekonomik faktörleri cikardigimizda, sadece yugoslav kökenli göçmenler arasinda ortak etnik grup yoğunluğunun ruh sagligi uzerinde negatif bir etkisi gözlemlenmiştir. Bu gözlem

gruptaki bireylerin pek çoğunun Yugoslavya iç savaşı sırasında göç ettiği göz önüne alındığında, var olan etnik gerilimlerin İsveç'te de devam ettiğini göstermektedir.

Önceki araştırmalar, bu grup söz konusu oldugunda, alternatif bir aciklama olarak ortak ve ulaşılabilir kulturel kaynaklarin eksikliğine işaret etmektedir. Sosyal kapitalin bu grup içerisinde herhangi bir etkisi gözlemlenmemiştir.

Bu tez göç ediş nedeni ve göçmenlik suresi gibi göç kaynaklı etkenlerin göçmenlerin ruh sagligi uzerinde etkili olduğunu ortaya çıkarmıştır. Göçmenlerin ve etnik isveçlilerin ruhsagligini arasindaki farkliliklari belirleyen bir diğer faktör de sosyal kapitaldir.

Bu tezin ortaya cikardigi bir başka bulgu da, göç edilen toplumdaki baglayici ve köprü kuran dokulara katilimin göçmenlerin ruh sagligini olumlu yönde etkilediğidir. Dahasi ortak etnik kökene bagli sosyal dokulara erişimin, özellikle göçmenliğin ilk yıllarında, sosyal destegi besleyerek ruh sağlığına olumlu etkilerde bulundugu gözlemlenmiştir.

Mahalle etnik kompozisyonunun psikolojik sikintiya olan etkisine bakıldığında ise bunun sadece sosyo ekonomik faktör kanalıyla oldugu (sosyal kapitalin minimal bir etkisi dışında) ortaya cikmistir.

Bu tezin metodolojik sınırlamaları sosyal kapitalin ruh sagligi uzerindeki nedensel etkisinin kesin olarak kanıtlanmasını kısıtlarken, sonuclar itibariyle, göçmenler arasında sosyal kapital gelişimini kolaylaştıran cabalarin, göçmenlerle etnik isveçliler arasindaki ruh sağlığı eşitsizliğinin azaltılmasına muhtemelen önemli ölçüde katkıda bulunacağını göstermektedir.

12 APPENDIX B

12.1 NATIVE COUNTRY CLASSIFICATION (USED FOR ARTICLES I & III)

Baltics
Bosnia and Herzegovina*
British Isles
Canada and U.S.
Chile
Denmark
East Africa
East Asia
Eastern Europe 1
Eastern Europe 2
Finland
Former Yugoslavia excluding Bosnia and Herzegovina*
Germany
Iran
Iraq
North Africa and Middle East
Norway and Iceland
Oceania
Poland
Rest of Africa
Rest of Asia
Rest of Europe
Rest of North and Central America
Rest of South America
Southeast Asia
Southern Europe
Turkey

*For Article III the two categories “Bosnia and Herzegovina” and “Former Yugoslavia excluding Bosnia and Herzegovina” were merged to create “Former Yugoslavia”.

12.2 NATIVE ORIGIN CLASSIFICATION (USED FOR ARTICLE II)

Variable Name	**Native Country**	**Parent Country of Birth**	**Native Origin**
Variable Description	Index person country or region of birth classification	Parent country or region of birth classification	Common classification between index persons and parents
Variable Categories	Baltics	Baltics and Russia	Eastern Europé
	Bosnia and Herzegovina	Former Yugoslavia	Former Yugoslavia
	British Isles	Great Britian and Ireland	Great Britian, Ireland
	Canada and U.S.	Canada and U.S.	Canada and U.S.
	Chile	South America South	Chile
	Denmark	Norway, Denmark, Iceland	Norway, Denmark, Iceland
	East Africa	East Africa	East Africa
	East Asia	Northeast Asia	East Asia
	Eastern Europe 1	Eastern Europé	Eastern Europé
	Eastern Europe 2	Eastern Europé	Eastern Europé
	Finland	Finland	Finland
	Former Yugoslavia excl Bosnia-Herzegovina	Former Yugoslavia	Former Yugoslavia
	Germany	Western Europé	Western Europé
	Iran	Iran	Iran
	Iraq	Iraq	Iraq
	North Africa and Middle East	Middle East	North Africa and Middle East
		North Africa	North Africa and Middle East
	Norway and Iceland	Norway, Denmark, Iceland	Norway, Denmark, Iceland
	Oceania	Oceania	Oceania
	Poland	Eastern Europé	Eastern Europé
	Rest of Africa	West Africa	Rest of Africa
		Rest of Africa	Rest of Africa
	Rest of Asia	Central Asia	Rest of Asia
	Rest of Europe	Western Europé	Western Europé
	Rest of North and Central America	Rest of North and Central America	Rest of North and Central America
	Rest of South America	Rest of South America	Rest of South America
	Southeast Asia	Southeast Asia	Southeast Asia
	Southern Europe	Southern Europé	Southern Europé
	Sweden	Sweden	Sweden
	Turkey	Middle East	North Africa and Middle East