Ethnicity, Immigration, and Adolescent Well-Being in the Context of Sociodemographic Background and Social Support

Eyrún María Rúnarsdóttir

Dissertation submitted in partial fulfilment of a Ph.D. degree

UNIVERSITY OF ICELAND
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Acknowledgments

Recently, I remembered that while writing my bachelor's thesis many years back, I had a vision for my journey as a researcher. The topic of the bachelor's thesis was the process of producing curriculum material, that plays a large part in children's and adolescents' educational experiences. I remember having the vision that my next large project should concern teaching and teachers as they are also important figures in children's education and lives. I thought to myself that it was logical to include and focus on children and adolescents in the third large project. As time passed, these thoughts were securely stowed back in my memory, but still my conscious appears to have guided me as my master's thesis was about the pedagogical vision of teachers and now, I am writing about children and adolescents.

This dissertation is about youth facing the challenges of migration. It is about the most valuable members of all societies, children, who have the right to protection and to develop and flourish with dignity as so clearly laid out by the Convention on the Rights of the Child. My study is dedicated to all children, that they may flourish.

I first want to thank the young participants of the three studies on which this dissertation is based. Without them sharing their time to answer questions about their lives, there would be no dissertation. I am grateful to school authorities, principals and teachers who gave permission for the research and assisted us in data collection in Icelandic compulsory schools. The data for the first two papers came from the Icelandic Health Behavior in School-Aged Children study. It was conducted by the Centre for Prevention Studies at the University of Akureyri in Iceland. I would like to thank the staff of the Centre for facilitating this research project. Furthermore, I would like to thank my assistants who participated in the data collection that I planned and conducted for the third paper. All this important participation and assistance are very appreciated.

In 2016 I received a three-year grant from the University of Iceland Research Fund, enabling me to focus on the study and finish the dissertation. For this I am very grateful. The study was awarded a grant from the Margaret and Bent Scheving Thorsteinsson Support Fund, Landsbanki Fund, and the Development Fund for Immigrant Affairs in

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The first steps of this PhD journey were taken at the University of Leiden, Holland. For a while I was guided through the jungle of cross-cultural psychology, theories and previous research by Paul Vedder and Mitch Van Geel while preparing my proposal. I learned a lot and want to thank them for their contribution to my preparation. I later had to relocate my study to the University of Iceland, School of Education, Faculty of Diversity and Education. Fellow PhD students and staff at the doctoral school are kindly thanked for creating a powerful learning community.

According to the theme of this dissertation supportive friends are vital in many ways. My doctoral sisters and good friends Guðrún Ragnarsdóttir, Anna Björk Sverrisdóttir, and Sunna Gestsdóttir provided me with important support during the whole process. I also want to thank my co-workers and friends in the Challenges Facing Children and Young People research center: Eva Harðardóttir, Hrund Þórarins Ingudóttir, Ragný Þóra Guðjohnsen and Ásdís Hrefna Haraldsdóttir for their support and understanding.

Finally, I could never have pulled through without my wonderful family. My husband, Þórður, was a rock for me through thick and thin. Willing to take most of the burden of supporting the family financially, he encouraged me to pursue my dream. My daughter, Unnur Sara, always asked the right questions at the right time and showed her support through her beautiful

singing or gift certificates to massages. Thanks to my sons Hrannar and Heiðar for the most important role of all shifting my attention and mind from the work for a while. Through filling my life with trips, playing ball games or board games, reading books, laughing, and dancing, everything became possible.

Ágrip (abstract in Icelandic)

Viðfangsefni þessa doktorsverkefnis er félagsleg tengsl og stuðningur unglinga af ólíku þjóðerni. Sjónum er beint að því hvernig þeir upplifa stuðning úr nánasta tengslaneti (vinir, fjölskylda) og íbúahverfi sínu. Líðan þeirra og lífsánægja er tengd fyrrgreindum stuðningi og efnahagslegum bakgrunni í fjölskyldu og íbúahverfi. Þótt rannsóknir hafi í nokkrum mæli beinst að líðan og velferð innflytjendabarna skortir þekkingu á því hvernig félagsleg staða tengist líðan þeirra og lífsánægju og hvernig félagslegur stuðningur gagnast þessum hópi til að fyrirbyggja vanlíðan og vansæld. Sér í lagi hafa vinatengsl unglinga af erlendum uppruna ekki hlotið næga athygli í rannsóknum. Markmið rannsóknarinnar var að kanna: 1) hvernig félagslegur stuðningur og félagsleg og efnahagsleg staða í fjölskyldu auk efnahagsstöðu íbúa hverfis tengdist líðan og lífsánægju ungmenna af ólíkum þjóðernisuppruna og 2) hvers konar félagslegan stuðning unglingar af erlendum uppruna gátu sótt til íslenskra vina og vina sem einnig höfðu erlendan bakgrunn.

Doktorsverkefnið byggðist meðal annars á gögnum úr landskönnuninni Heilsa og lífskjör skólanema (HBSC – Health Behaviour in School-Aged Children) sem safnað var annars vegar 2009–2010 og hins vegar 2013–2014 í 6., 8. og 10. bekk. Alls tóku 11561 nemendur þátt í fyrra skiptið (87% svarhlutfall) og 10561 tóku þátt 2013–2014 (84% svarhlutfall). Til viðbótar var ráðist í nýja gagnasöfnun fyrir rannsóknarverkefnið sem fór fram á vormisseri 2018. Í þeirri rannsókn tóku þátt alls 806 unglingar (82% svarhlutfall) í 8.–10. bekk úr níu grunnskólum. Beitt var markvissri úrtaksaðferð og voru skólarnir níu valdir til þátttöku með hliðsjón af staðsetningu (höfuðborgarsvæði og byggðakjarnar á landsbyggðinni), hlutfalli innflytjenda (hátt, meðalhátt og lágt), efnahagslegri stöðu fjölskyldna á svæði (lægri og hærri) og stærð skóla (meðalstórir og stórir).

Helstu niðurstöður doktorsverkefnisins voru að meiri vanlíðan og minni lífsánægja kom fram hjá ungmennum af pólskum og asískum uppruna samanborið við ungmenni sem höfðu íslenskan uppruna. Þessir upprunahópar bjuggu að jafnaði við lakari félagslega og efnahagslega stöðu miðað við ungmenni sem höfðu íslenskan uppruna. Atriði á borð við bágari efnahag fjölskyldu, að búa ekki hjá báðum foreldrum eða að

foreldrar voru án vinnu tengdust, síðri líðan og lífsánægju ungmenna. Jafnframt nutu ungmenni af erlendum uppruna síður stuðnings foreldra, vina og bekkjarfélaga en ungmenni af íslenskum uppruna, sem einnig skýrði lakari líðan og minni lífsánægju. Efnahagur fjölskyldna í íbúahverfi tengdist einnig líðan og lífsánægju unglinga, en ávinningur þess að búa í skólahverfi þar sem efnahagsstaða fjölskyldna var betri skilaði sér síður til unglinga af erlendum en innlendum uppruna. Þegar borinn var saman aðgangur hópanna að félagslegum stuðningi vina, nutu unglingar af erlendum uppruna síður tilfinningalegs stuðnings íslenskra vina en unglingar sem höfðu íslenskan uppruna.

Niðurstöður rannsóknarinnar undirstrika mikilvægi þess að bæta stöðu innflytjendafjölskyldna á Íslandi og huga betur þeim stuðningsúrræðum sem til staðar eru og standa ungmennum af erlendum uppruna til boða.

Abstract

The topic of this PhD dissertation is the social support networks adolescents of foreign origin and immigrant adolescents perceive to be available, both in their immediate environment (family, friends), and the more distal environment (neighborhood). More specifically, adolescents' sociodemographic backgrounds and social support are explored in relation to their well-being (life satisfaction, and distress). Although previous studies have addressed immigrant adolescent well-being, there is a lack of deeper understanding of the association of sociodemographic background with well-being and the benefits of social support. Further, scholars have called for more research into friendship relations in diverse settings. The aims of the study were to investigate how social support and sociodemographic background relate to the well-being of adolescents of different ethnic backgrounds at the individual level and neighborhood level in Iceland, and how adolescents of native and foreign origin perceive social support from friendship networks, native friends and friends of foreign origin.

The datasets used in the first two papers, come from the international research network Health Behavior in School-Aged Children (HBSC) collected in Iceland in 2009–2010 (first paper) and 2013–2014 (second paper). The research is population based, based on administering a standardized questionnaire to 11-, 13-, and 15-year-olds. In the 2009–2010 data collection cycle, 11,561 students answered (87% response rate), and in 2013–2014, 10,561 participated (84% response rate). A third data collection cycle was designed for this study and data collection took place in the spring term of 2018. A total of 806 adolescents (82% response rate) from nine lower-secondary schools (8^{th}–10^{th} grade) answered an anonymous online questionnaire administered in their schools. The sampling method used was purposive sampling and included nine compulsory schools selected to participate based on their geographic location (the capital area and four towns in the country side), ethnic diversity (high, medium, and low ratio of foreign origin), indicators of average family economic status in the area (lower and higher), and school size (midsized and large).

Findings revealed that youth of foreign origin were, on average, at a disadvantage in terms of family affluence and the likelihood of belonging to non-intact families. Furthermore, they perceived less social support from

family, friends, and classmates as compared to native youth. These disadvantages were associated with adolescents' well-being and varied by ethnicity. Neighborhood (school area) family affluence corresponded to more well-being in general, but adolescents of foreign origin were less likely to benefit from higher levels of neighborhood affluence compared to native adolescents. Furthermore, the perceived social support from friends differed by the origin of friends. Adolescents of foreign origin perceived more social support from other friends of foreign origin than from native friends.

In conclusion, the findings underscore the importance of improving the social and economic status of immigrant families. It is also important to increase resources and access to supportive systems for youth of foreign origin.

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The thesis is based on the following original papers:

Runarsdottir, E. M., Vilhjalmsson, R., Adalbjarnardottir, S., & Crosnoe, R. (in review). Ethnicity and the perceived friend support in a society with rising immigration. Manuscript submitted for publication.

Runarsdottir, E. M. and Vilhjalmsson, R. (2019). Ethnicity and adolescent well-being in the context of families, friends and neighborhoods. *Journal of Youth Studies*, *22*(10), 1345–1360. https://doi.org/10.1080/13676261.2019.1578873

Runarsdottir, E. M. and Vilhjalmsson, R. (2015). Ethnic differences in youth well-being: The role of sociodemographic background and social support. *Scandinavian Journal of Public Health, 43*, 580–587. doi:10.1177/1403494815588644

1 Introduction

Migration invariably involves dismantling social ties in the country of origin and establishing new social relationships in the destination country. For children and adolescents, this usually means that they leave behind extended family members, friends, classmates, and other significant people in their lives. The migration experience and the period of adapting to a new society can be exciting, yet stressful, for young immigrants. With access to proper support, the challenges associated with migration become more manageable (Cohen, Gottlieb, & Underwood, 2000; Cohen & Wills, 1985).

Iceland is an example of a country that has begun to attract immigrants in significant numbers fairly recently. The proportion of immigrants has grown rapidly from about 2% two decades ago to the current 12.6%, a ratio that resembles the other Nordic countries (Statistics Iceland, 2019c). Immigration has been closely aligned with labor market demand, for workforce explaining the fact that the proportion of immigrants is highest in the age group of 20 to 40. Most immigrants are of the first generation, originate from Eastern Europe, and have lived less than five years in Iceland. Studies of well-being and social relations of young immigrants are scarce in Iceland but there are indications that they enjoy less positive experiences of peer relations and less well-being as compared to native youth (Gudmundsdottir & Ragnarsdottir, 2013) and, are more likely to dislike school, be bullied, and believe other students are unkind to them (Bjarnason, 2006).

Among the factors found to affect immigrant adolescents' well-being are socioeconomic resources (Beiser, Hou, Hyman, & Tousignant, 2002), parental support, and support from friends and classmates (Oppedal & Røysamb, 2004; Thomas & Baek Choi, 2006). Youth in the age range of 11 to 16 years, which is the age in focus in this study, undergo various changes, not the least in their social networks. Parental support remains of vital importance, but gradually friends become more important than before (Bokhorst, Sumter, & Westenberg, 2010; Crosnoe & Needham, 2004). Moreover, migration may alter the parent-adolescent relationship through increased work demands and differences in acculturation levels between parents and their children (Glick, 2010). Psychological acculturation refers to the changes occurring in individuals as a result of contact with another culture and participation in acculturative change going on in their own culture (Berry, 2008). In these circumstances, new friends

may be vital to immigrant adolescents as providers of understanding, care, information, and assistance (Hartup & Stevens, 1997).

The topic of this PhD dissertation is the social support networks that adolescents of foreign origin perceive to be available, both in their immediate environment, such as family and friends, and the more distal environment, such as neighborhoods and school areas. More specifically, adolescents' sociodemographic background and social support is explored in relation to their well-being as measured through satisfaction in life and distress. Iceland provides a unique setting for studying the conditions and relationships of immigrant youth. Due to the short history of rapidly rising immigration most adolescents are recently migrated and share similar first-generation status in the country.

Little is known about social support relationships and sociodemographic background of adolescents of foreign origin and how these vary by ethnicity in their impact on well-being. Moreover, the question of whether adolescents of foreign origin can access and benefit from neighborhood resources to a greater or lesser extent than native youth has not been answered. Scholars have further called for research into friendship relations in diverse settings (Graham, Munniksma, & Juvonen, 2014; Leszczensky, 2013; Pratsinakis, Hatziprokopiou, Labrianidis, & Vogiatzis, 2017). The question of whether there are different benefits embedded in cross-cultural friendships than in same-cultural ones remains largely unanswered (Leszczensky, 2013; Pratsinakis et al., 2017). The study is intended to answer these calls. The aims of the study are to investigate how social support and sociodemographic background at both the individual level and neighborhood level relates to well-being for adolescents of foreign origin in Iceland as compared with native-born youth and how adolescents of native and foreign origin perceive social support from friends by two friendship networks, native friends and friends of foreign origin.

The contribution of the study is in exploring the importance of different social networks providing support to adolescents of foreign origin, and how these vary by ethnicity and sociodemographic background. Being the first study of its kind in Iceland, it furthermore aims to increasing understanding of available and important resources to adolescents of foreign origin in Iceland as they establish new social networks and adapt to a new society. Such understanding is crucial for policy making and practical work for educational authorities, schools, sport clubs, other institutions and for society in general.

Here, I use the term foreign origin to refer to those adolescents who are either first- or the second-generation immigrants. Immigrants are defined as person born abroad to foreign-born parents and all foreign-born grandparents,

while the second-generation is born in Iceland to foreign-born parents and grandparents (Statistics Iceland, 2019c). In Iceland, adolescents of foreign origin are mostly first-generation immigrants. I distinguish between groups of people who have a mixed foreign origin with one foreign-born parent, and non-mixed foreign origin with both two foreign-born parents.

The study presented here is based on questionnaire data and statistical analysis requiring a minimum number of participants to yield enough statistical power. As youth of foreign origin in the age group of this study are few, categorizing groups by racial or ethnic background was not always an option. In the first paper, I analyzed the data by ethnic subgroups but referred to their geographical origin. In the second and third papers, the research design did not allow analysis by ethnic subgroups. In those papers, I used the concept ethnicity to refer to groups that share geographical origin. This is in line with previous definitions of the concept that refer to groups that share geographical and ancestral origins, culture, and language (Bhopal, 2004).

This PhD dissertation consist of an exegesis and three papers submitted or published in peer-reviewed international journals.

1.1 Dissertation overview

Six main chapters provide the framework for the dissertation. In the second chapter I describe the context of immigration in Iceland and the history, demographics, school systems and resources that are available to and important for young immigrants along with the research findings on their well-being and social relationships. In the third chapter, there is a discussion of the main theoretical concepts employed in the study. These are social support, social networks, life satisfaction and distress, friendship, and the adolescent age period. The chapter ends by outlining gaps in the literature, aims and research questions. Methods and data collection are discussed in the fourth chapter and findings are presented in the fifth chapter. Finally, Chapter 6 includes a discussion of the theoretical and practical contributions of the study. Two independent published peer-reviewed papers are included in the appendices.

2 The Context: Immigration in Iceland

The purpose of this chapter is to provide an overview of immigration in Iceland and to introduce and explain the circumstances that inspired the study. I discuss the nature of immigration in Iceland, policy, and of procedure at the societal and educational levels. Also, I discuss the available studies of social relationships and well-being of immigrant youth.

2.1 The nature of immigration in Iceland

The Icelandic population numbers 357,000 (Statistics Iceland, 2019b) of which the majority live in the south-west of the country. Currently, 12.6% (43,736) are immigrants, which refers to persons born abroad with both parents and grandparents also born abroad. Additionally, 1.4% (4,861) are second-generation immigrants. This includes persons born in Iceland to foreign-born parents. This is a small but growing group, as only 0.1% of the population were second-generation immigrants merely 20 years ago (Statistics Iceland, 2019c).

Up until 1996, around 2.0% of the population were immigrants but during the last two decades there has been a steady rise in these numbers. In 2008 the percentage was 8.6%, dropping to roughly 8% in 2013. The percentage rose to 9.5% of the population in 2016 and to 12.6% in late 2018. The immigrant ratio is currently similar to that of the other Nordic countries as 14.1% of the Norwegian population are immigrants, 10.2% of the Danish population, and 18.6% in Sweden, the highest percentage (Statistics Iceland, 2019c).

Nordic citizens constituted the majority of immigrants in Iceland from the onset of immigration until the end of the 20th century. Since then, immigrants from Europe, mostly coming from Poland, have been in the majority. In 1996, 40% of immigrants originated in non-Scandinavian Europe. In 2008, this number rose to 68%. In the same year, 15% of immigrants were of Asian origin with the largest groups originating from the Philippines and Thailand (Gardarsdottir, Hauksson, & Tryggvadottir, 2009). In 2018, the same pattern was evident with Polish immigrants being the largest immigrant group in Iceland, currently constituting 38.8% of the immigrant population, with Lithuanians in the second place at 5.5%, and Filipinos in third place with 4% (Statistics Iceland, 2019c).

Increased immigration in Iceland in the 1990s is believed to mostly be due to the free movement of labor established through the European Economic Area

(EEA) in 1994 (EFTA, 2012). Citizens of EEA member states were granted the right to work, study, and live in Iceland and Icelandic citizens received the same rights in other EEA countries once Iceland joined. When EEA borders expanded to Eastern Europe in 2004, the country opened to new immigrants. The legislation enacting these changes could be postponed for two years, and Iceland, as most other member countries, opened to residents of Eastern Europe states within the EEA 2006 (Einarsson, 2007). Accordingly, the landscape of immigration changed. From 2006 on, the number of working permits granted to citizens outside of the EEA decreased dramatically as immigration from Eastern Europe increased (Skaptadóttir & Wojtynska, 2007). In the last seven years, there has been a sharp increase in migrants seeking asylum and in the number of refugees in Iceland (Hardardottir & Magnusdottir, 2018; Thingskjal nr. 1317/2017–2018).

Important factors explaining immigration to Iceland are access to the labor market, low unemployment rates, and a stable welfare system. These have attracted a particular type of migrants, those searching for jobs. This also explains the age composition of the immigrant group. The pattern of immigration has been closely aligned with employment rates. Following Iceland's financial crisis in 2008, the unemployment rate rose, and net migration became negative. Only when unemployment rates rose did the number of men and women among immigrants become similar. Early on, more women migrated to Iceland than men, but as of 2006, this pattern was reversed with more men than women immigrants (Gardarsdottir et al., 2009; Olafsdottir & Olafsson, 2014). The alignment of immigration and the labor market is also reflected in the fact that most immigrants have lived in Iceland for less than five years (Statistics Iceland, 2019c). The majority of immigrants fall within the age range of 20 to 40 (Gardarsdottir et al., 2009). In this age group, 20–25% of the population are immigrants while the percentages are lower for children and adolescents. In Table 1, the average percentage and number of first- and second-generation immigrant children and adolescents from 0–16-years-old are presented for 2006, 2010, and 2014.

Table 1. The percentage of first- and second-generation immigrant children and adolescents within each age group in Iceland from 2006–2018.

	2006	2010	2014	2018
	% (n)	% (n)	% (n)	% (n)
First-generation immigrants				
0–4 years	0.8 (117)	2.2 (354)	1.3 (228)	2.3 (410)
5–8 years	1.7 (275)	3.2 (536)	2.7 (471)	3.0 (570)
9–12 years	2.3 (404)	3.6 (618)	3.4 (564)	3.9 (702)
13–16 years	2.0 (374)	3.9 (708)	4.2 (729)	4.8 (823)
Second-generation immigrants				
0–4 years	3.2 (625)	6.8 (1409)	8.4 (1927)	9.2 (1925)
5–8 years	1.1 (170)	2.3 (389)	4.7 (803)	7.2 (1375)
9–12 years	0.4 (67)	1.0 (151)	2.2 (363)	4.4 (761)
13–16 years	0.2 (41)	0.3 (59)	0.9 (148)	2.1 (363)

Notes: From: Statistics Iceland. (2019a). *Population by origin, sex and age 1996-2018*.

Each cohort in Iceland includes 4,200 to 4,800 children. As the table indicates, the percentage of immigrant children and adolescents is lower than the 13% found in the overall population despite an increase in number of immigrants in all age groups during 2006–2018. These numbers also describe a development in the composition of the immigrant group in Iceland. The second-generation immigrants are more prominent in the younger cohorts of 0 to 8-years-old than in the older cohorts. However, a general increase in second-generation immigrants is also evident for adolescents, as only 0.2% were second-generation immigrants in 2006 as compared to 2.1% in 2018.

2.2 Social welfare and attitudes towards immigrants

On the whole, the standard of living has been high in Iceland, although Icelanders experienced a temporary drop in financial well-being following the crash of the financial sector in 2008. Also, employment has been high, health indicators and access to healthcare generally good, and levels of subjective well-being high (Olafsdottir & Olafsson, 2014).

Active participation at the labor-market is higher in Iceland than average participation in OECD countries. Numbers from 2016 and 2017 further indicate

that 83–88% of immigrants in Iceland are employed as compared to 80–82% of native residents. Immigrant workers tend to be found in the sectors where natives are reluctant to work, such as in fisheries, construction, and caring for the elderly (Skaptadottir, 2010). In recent years, the growing tourism industry has also demanded a migrant workforce. Immigrants have a lower median income, less assets, and higher dept compared to native residents (Statistics Iceland, 2019c).

Studies among immigrants in Iceland have revealed that the profile of immigration in Iceland including a high employment rate, short stay, and age composition, is reflected in their daily lives and in their relations with the native community. Connections to their home countries remain strong and are maintained through remittances, watching television from their home countries, travelling home regularly, and using the internet for communication with friends and family. Consequently, interest in adapting to the way of living in Icelandic society is less pronounced than maintaining the connection to the home country (Skaptadóttir & Wojtynska, 2007).

At the policy level, the focus is on active participation of immigrants in the society. In 2007 the Ministry of Social Affairs set out a policy on the integration of immigrants. An action plan was furthermore set in motion for 2016–2019 at the governmental level (Thingskjal nr. 1285/ 2015–2016). In general, these policy documents emphasize equal opportunities and access for immigrants so that they actively participate in society. They include second language learning, and the role of the primary school in addressing the needs of newly arrived immigrant children. Further, improved access to sports and leisure activities and prevention of school dropout is emphasized.

Despite ambitious goals the European Commission Against Racism and Intolerance (2017) points out evidence of immigrants in Iceland facing a number of problems in learning Icelandic, receiving appropriate information, and being treated fairly by employers. The Commission applauds important improvements such as a legislation providing protection against hate speech, a national action plan on integration and immigrant issues by the government and plans for educational reforms. At the same time, concerns exist over an increasingly racist public discourse that has not been met with anti-discrimination legislation. In the government action plan for 2016–2019, steps were taken to counteract such discourses (Þingskjal nr. 1285, 2015–2016). On a more general level, Icelanders seem to be more positive towards immigration than other Europeans (OECD, 2015; Onnudottir, 2009).

Surveys have also found slightly decreasing tolerance and increasing negativity towards immigrants over time (Onnudottir, 2009; Palmadottir,

Bernburg, Vikingsdottir, & Olafsdottir, 2011) and, more positive attitudes in the younger generations than among older people and in the capital area than in the countryside. Roughly half of the respondents were positive in regard to accommodating more refugees from Syria, with women more positive than men, younger people more positive than older people, and the more educated more positive than those with less schooling. It was also noted that attitudes towards immigration were dependent on the immigrants' countries of origin; more positivity was found the closer geographically or culturally the original country was perceived to be (Bogadottir, 2015).

Studies also show that a majority of Icelandic adolescents support the basic rights of immigrants and their opportunities to study and maintain their way of living (Adalbjarnardottir & Hardardottir, 2012). They claim that they trust people of different color, report to like the idea of having friends of different origins, do no support racist ideas (Ragnarsdottir & Jonsdottir, 2013), and respect different cultural and religious traditions (Gunnarsson, Finnbogason, Ragnarsdottir, & Jonsdottir, 2015).

2.3 Young immigrants: Schools, social relations, and well-being

Similar to the other Nordic countries, both the Icelandic health care system and the school system are primarily publicly funded, administered and supervised (Olafsdottir & Olafsson, 2014). The Icelandic school system is organized into four levels: pre-school, compulsory school with both primary and lower secondary, upper-secondary, and university level education. Although not compulsory, the majority of children aged 1–5 in Iceland, or 87%, attend pre-school (Statistics Iceland, 2018). A typical school day at the compulsory level (6–16-years-old) is six hours, and the municipalities offer after-school care for 6–9-year-olds.

Compulsory schooling in Iceland begins in the calendar year in which a child turns six years and lasts for ten years in primary and lower secondary school, or from six to 16 years of age. In some cases, students change schools at the lower-secondary level (14–16-year-olds) to join students from other primary schools in the neighborhood, but often all of compulsory education is within the same school. When adolescents enter the lower-secondary level, there are changes in the school curricula towards more subject-based learning. Schools are organized by neighborhoods and usually students attend school close to their homes (Antikainen, 2006). All primary schools are required to follow a reception plan established in the school or by the municipality, for students with Icelandic as a second language. Schools must provide training in Icelandic,

and the children and their parents are entitled to educational counseling (Compulsory School Act No. 91/2008).

Compulsory schools are comprehensive and do not select, track, or stream students within this level. Students move between grades irrespective of their progress in their studies or other status (Euridice, 2016). This is important for immigrant students, as international data suggests that tracking negatively affects education for immigrant youth. For example, they are more likely to repeat a grade or be enrolled in vocational programs, and less demanding academic tracks (OECD, 2015). The continuity of compulsory education is also important for immigrant students with regards to following the same group of school peers for longer periods, promoting the formation of relationships. These conditions are, however, not as positive once students enter the next school level. While 80.7% of immigrants enroll in an upper-secondary school, lower than the 95.7% of native-born students. By 19, only 23% of immigrant students are attending school as compared to 68.5% of native 19-year-olds (Statistics Iceland, 2019c).

The policy of organizing school zones by neighborhoods can be both positive and negative, particularly when ethnically segregated neighborhoods limit contact between natives and ethnic communities (McPherson, Smith-Lovin, & Cook, 2001). When neighborhoods and areas in Iceland were studied in terms of the percentage of immigrants, there was a somewhat higher ratio, or 11%, of immigrants in the capital as compared to the rest of the country's 8%. Fewer immigrants reside in the independent municipalities surrounding Reykjavik than in the city of Reykjavik itself, or 6.8%. Two neighborhoods in Reykjavik stand out in terms of a higher proportion of immigrants with 16–20%. An additional two neighborhoods have 12–15%, while in the remaining neighborhoods each have 4–12% immigrant residents. A recent study indicates that ethnic residential segregation has been increasing in the capital for the past two decades (Audardottir & Magnusdottir, 2018). Immigrants not only settle in the capital area. Various areas around the country also include a high percentage of immigrants. This particularly applies to the West Fjords and the Southern Region (Haraldsson, 2016),

Limited research is available on the social relationships and friendships of immigrant youth in Iceland. Qualitative studies done as master's theses show that some young immigrants find it difficult to make friends within their native peer group, even when they have gained skills in Icelandic (Magnusdottir, 2010; Thorarinsdottir, 2009). Furthermore, 11–13-year-olds reported higher rates of being teased when their home language was foreign. They had less frequent interactions with friends, fewer friends and reported less well-being than youth

who had Icelandic spoken at home (Gudmundsdottir & Ragnarsdottir, 2013). In a 2006 report from the international research network Health Behavior of School-Aged Children (HBSC), findings revealed worse outcomes for immigrant youth who spoke a different language than Icelandic at home as compared to youth who spoke Icelandic at home. Adolescents who spoke a different language than Icelandic at home were 2.2 times more likely to dislike school, 3.1 times more likely to have been bullied, and 2.8 times more likely to think that other students were unkind (Bjarnason, 2006). While native-born Icelandic students ranked amongst the highest for happiness in school in the 2012 PISA, immigrant students reported being less happy than their native peers, and they reported less of a sense of belonging at school (OECD, 2015). Furthermore, studies show insecurity among Icelandic youth and teachers towards immigrants resulting in immigrants being separated socially from the rest of the school community (Schubert, 2010) and participating less in sports or other afterschool activities (Gudmundsdottir & Ragnarsdottir, 2013; Thorarinsdottir, Georgsdottir, & Hafsteinsdottir, 2009). These findings underscore the importance of supporting immigrant and native adolescents in improving peer relations and school satisfaction for all.

The principle of equal opportunity for all to acquire education irrespective of gender, ethnicity, religion, sexual orientation, disability status, economic situation, or residential location is clearly stated in Icelandic law and the national curriculum (Compulsory School Act No. 91/2008). It has been argued, however, that the current understanding of equal opportunity to education in various policies does not incorporate social justice or equity (Hardardottir & Magnusdottir, 2018).

Several factors may also limit policy implementation. Among those are a lack of professional development for teachers, a lack of cooperation within schools and between schools, and budgetary restrictions. A study by Ragnarsdottir and Tran (2016) indicated that some school personnel think that multicultural education is only for others, not for the whole student group. More importantly, the authors reported that some school staff focused on student's perceived lack of Icelandic skills and did not notice how these students brought important experiences and perspectives into the school. Teachers also complain of lack of resources and skills in meeting the educational needs of students of foreign origin and bilingual students (Danielsdottir & Skogland, 2018; Hardardottir & Magnusdottir, 2018). In short, education and peer relations of immigrant students needs to be improved, which is also revealed by the fact that immigrant students in Iceland lag behind in academic achievement. This is, for example, indicated by lower PISA scores in reading and mathematics (Danielsdottir & Skogland, 2018; OECD, 2015) as well

as higher dropout rates at the upper-secondary school level (Ólöf Garðarsdóttir & Hauksson, 2011).

2.4 Summary

The above findings indicate that many immigrant children and adolescents are worse off than their native peers and that their families may also be in vulnerable financial situation. From the overview, I maintain that there is an obvious lack of research into the intersection of several factors that may be affecting the well-being and adaptation of immigrant youth in Iceland and their ability to access the resources in their environments. The available studies are predominantly based on qualitative data, which provide an insight into the perspectives of those studied, but do not provide a thorough overview of the situation.

3 Theoretical Background and Previous Research

This thesis is about ethnic differences in social relationships and well-being in adolescence. Key concepts include social networks, social support, adolescent friendships, sociodemographic background, and well-being. In this chapter, these main concepts are discussed and how they apply to the circumstances of adolescents of foreign origin. Related theoretical concepts are explored: Primary and secondary networks, strong and weak ties, social capital, theory of segmented assimilation and the frog pond perspective. Social support is explored in relation to immigrant youths' well-being. Belonging to a positive social network increases the likelihood of being able to access social support (Thoits, 2011), thus creating and sustaining a positive experience resulting in well-being (Cohen et al., 2000).

Adolescent friendships will be discussed in more details than other ties in the primary social network. Importance of friendships and sources evident in friend relations within and across ethnic lines are explored. This chapter ends with a summary of current gaps in the literature followed by stating the aims and research questions of the study.

3.1 Social networks

The term social network refers to structural properties of social relationships and indicates the social integration of a person (Gottlieb & Bergen, 2010). Social networks include sets of actors and relations and ties or edges between those actors (Katz, Lazer, Arrow, & Contractor, 2004). Thus, social networks refer to structural aspects but are not descriptive of a function that a network can have in, for example, supporting its members (Gottlieb & Bergen, 2010).

An individual's social ties of individuals are made up of primary and secondary networks; the primary network consists of informal and intimate relations with family members, friends and close relatives. In the secondary network, the relationship is built on more formal and less personal communication. This network is usually larger and includes actors from different spheres of life (Thoits, 2011). Another way to discuss primary and secondary networks are through Granovetter's (1973) concepts of strong and weak ties. Strong ties are those which adolescents have in their primary networks where they seek emotional support and cultivates trust. Weaker ties

refer to the secondary network of relationships with more distant relatives, acquaintances, peers, and schoolmates (Katz et al., 2004).

Adolescents are more likely to get protection, emotional support, and encouragement through strong ties than through weaker ones. However, weak ties found in secondary networks often yield valuable support through information flow and through bridging groups that have defined boundaries, such as ethnic groups (Granovetter, 1973, 1983). It may, for example, be beneficial for a group of adolescents with foreign origins to maintain ties, if only weak, with native adolescents to access important information from a more distant part of their social system, thus getting informational support.

3.1.1 Social networks of immigrant adolescents

In most cases children and adolescents migrate with their families, thus maintaining a significant part of their primary network. Glick (2010) summarizes studies of immigrant families and points out the lack of theorizing about family processes shortly after migration. She discusses whether the whole family moves at the same time or if a husband or a wife first move first and the rest of the family joins later may vary by ethnic background. Also, immigrants may come from countries with different traditions regarding gender roles from those found in the receiving society, for example, on whether both parents work for pay or only one.

Migration may alter the parent-child relationship through increased work demands, differences in acculturation levels between parents and their children, and linguistic and cultural distance with social institutions. Immigrant children tend be language brokers for their parents, and differences in acculturation levels between parents and children may cause tension in their relationships (Glick, 2010). Parental values and the host society values might also be at odds, and the strain from the migration process itself may impinge on the time and energy the parents have to support and monitor their children (Perreira & Ornelas, 2011; Walsh, Harel-Fisch, & Fogel-Grinvald, 2010). Usually, migrants search and find better lives, even if these come at the cost of parents working long hours and other stresses resulting in them being less suited to support their children. In these cases, it has been pointed out that peer groups can become critical to immigrant adolescents' well-being (Suárez-Orozco & Suárez-Orozco, 2001).

New friends may be vital to the immigrant adolescent as providers of understanding and care and sources of information and assistance (Hartup & Stevens, 1997). Adolescents benefit from being embedded in large social networks, as having more friends is associated with the perception that friends

are caring, dependable, and soothing (Flynn, Felmlee, & Conger, 2017). Studies with immigrant adolescents find a strong tendency for friends to share the same ethnicity (Jugert, Noack, & Rutland, 2011; Titzmann & Silbereisen, 2009; Titzmann, Silbereisen, & Mesch, 2012). In fact, extensive studies mapping friendship relations in adolescence since 1970 have revealed that friendships across ethnic or cultural boundaries tend to be less common than friendships amongst peers of the same ethnic or cultural group (Aboud, Mendelson, & Purdy, 2003; Graham, Taylor, & Ho, 2009; Kao & Joyner, 2004). The tendency to connect with similar people has been referred to as ethnic homophily (Feld, 1982). In Iceland, studies have not yet been conducted on the scope or effects of cross- vs same-ethnicity friendships, but qualitative studies suggest that the previously reported pattern of same-ethnicity friendship preferences applies here (Gudmundsson, 2013; Tran, 2015).

3.1.2 Friend networks and neighborhood ties

Ethnic homophily is a recurrent theme in friendships, which is not surprising given the emphasis adolescents place on having similarity in interests, experiences, activities, and communicative abilities with friends (Hartup & Stevens, 1997). Along with homophily, propinquity is influential in friendship formation. It refers to the likelihood of social activities bringing together people of similar social status and attributes (Feld, 1982). Friend networks of immigrant adolescents may thus be determined by various contextual factors.

The everyday life of most adolescents takes place in their near surroundings (Carlson et al., 2016) of home or their local school, clubs, or other after-school locations. This particularly applies to adolescents in Iceland, where the educational system is organized so that students can attend schools close to their homes (Antikainen, 2006; Bernburg, Thorlindsson, & Sigfusdottir, 2009). This indicates that they are affected by the attributes of their neighborhoods.

Studies taking proximity into account suggest that the frequency of cross-ethnicity friendships does not grow linearly with increased ethnic heterogeneity, although they have revealed that the smaller the minority group, the more likely their members are to look for friends outside the group (Howe, 2009). In cases when there is no longer an ethnic minority, same-ethnicity preferences in friendships decrease (Jugert & Feddes, 2015). Further, school diversity may impact cross-ethnicity relations differently depending on ethnic groups (Bagci, Kumashiro, Smith, Blumberg, & Rutland, 2014; Jugert et al., 2011; Smith, McFarland, Tubergen, & Maas, 2016). Establishing and maintaining friendship ties also requires spending time together.

Titzmann and Silbereisen (2009) studied the friendships of immigrant adolescents from the former Soviet Union living in Germany. They found that ethnic homophily was stronger among newcomer youth, that is immigrants who had lived for a short time in Germany, as compared to those who had lived there for a longer period. Accordingly, the length of exposure and spending time together is an important component in developing relations across ethnic lines. The school helps to organize this shared time. As previously explained, the compulsory school level in Iceland is organized by neighborhoods and most students attend school close to their homes. Thus, immigrant adolescents usually attend schools where they live, making it easier for them to establish and maintain ties with new friends. Moreover, all students move between grades irrespective of their academic progress or other status, which provides them with uninterrupted time with their classmates.

Three theoretical perspectives discussed here focus on the neighborhood in relation to ethnic diversity or ethnic background. In the theory of segmented assimilation, Portes and Zhou (1993) maintain that experiences of immigrants and their children depend on which segment of the society they belong to and the neighborhoods in which they settle. Migration to the US consists mainly of two groups that differ by human capital, educated and/or highly skilled professionals and unskilled manual workers. While the first group easily accesses their new society by moving into the better neighborhoods with good schools and advantageous conditions to raise their children, the latter group may face greater challenges. Thus, lower-paid immigrant workers have less possibilities of starting a home in more affluent neighborhoods, creating challenges for their children which may affect their children's psychological and behavioral adjustment (Portes & Fernández-Kelly, 2008). Following this work, researchers ask whether immigrant youth are more or less affected by contextual factors than native youth (Xie & Greenman, 2011), which is one of the questions in the current study.

The second perspective that sheds light on ethnic diversity and different ethnic backgrounds in the context of neighborhoods is the frog pond perspective of social comparison. This concept illuminates relative evaluations in comparison to others in a specific context. These evaluations, however, do not necessarily relate to how this context ranks in the real world (Crosnoe, 2009; Espenshade, Hale, & Chung, 2005). One example of how the frog pond is that immigrant adolescents may be more vulnerable to stigmatization in a low-diversity neighborhood or even face a double disadvantage by belonging to a low-SES family in a high-SES, low-diversity neighborhood. The analogy suggests that the frog may be better off in a small pond with a relatively high ranking

among its peers rather than facing tougher comparison and competition in a different pond.

A third relevant perspective to this study is social capital that defines relations between actors as a form of capital (Coleman, 1988). These are beneficial social networks (Bourdieu, 1986) that have impact through information, influence, and solidarity (Adler & Seok-Woo, 2002). Putnam (2007), one of the scholars addressing social capital, believes that ethnic diversity negatively affects social cohesion. While there are examples of studies that have found links supporting Putnam's arguments (Mavridis, 2015), others point out factors such as low socioeconomic status (Letki, 2008) and the interaction of segregation with diversity and poverty, deprivation, and inequality that may explain what appears to be a negative link between diversity and social capital (Portes & Vickstrom, 2011).

Studies of the ethnic diversity of school children draw a somewhat different picture with evidence of students experiencing more safety and more social satisfaction in ethnically diverse classrooms and schools than in more homogenous ones (Juvonen, Nishina, & Graham, 2006). There is also a higher risk for ethnic minority students being harassed in schools with lower concentrations of ethnic minorities (Agirdag, Demanet, Van Houtte, & Van Avermaet, 2011). A protective effect from immigrant congruence on mental health outcomes of immigrant adolescents has also been reported (Georgiades, Boyle, & Fife, 2013). Being surrounded by like people seems likely to promote a sense of belonging, security, and safety (Benner & Crosnoe, 2011).

Finally, a distinction is made between bonding social capital and bridging social capital. In bridging social capital, ties are formed across groups (Putnam, 2001), for example, across ethnic groups. Bonding social capital refers to internal structures of networks or the ties between people that belong to a collective or a social or ethnic group (Adler & Seok-Woo, 2002; Putnam, 2004). The benefits of such ties come, for example, in the form of social and psychological support (Putnam, 2001).

3.2 Social support

Social support addresses the positive sides of social relationships, beneficial intentions, or consequences (Thoits, 2011) and refers to available or provided social resources (Cohen et al., 2000). Although there is awareness of the negative sides of social relationships, the focus here is on healthy relations that have positive effects on the lives of adolescents. It is maintained that social support may affect both mental and physical health by influencing cognition,

emotions, and behaviors. In this regard, two models have been proposed, a main effect model and a stress-buffering model.

The main effect model proposes that participation in a social network exposes a person to peer pressures and social controls which influences normative health behavior. Social networks also provide positive affect through a sense of predictability, stability, purpose, security, and belonging and a recognition of self-worth (Cohen et al., 2000). In the stress-buffering model, the perception of social support is believed to prevent stress appraisal responses to stressful events, or even expectations of stressful events. When a person expects help to be available, he or she may redefine how harmful an event could be. Negative consequences for health may also be reduced when support acts to alleviate the impact of stress appraisals (Cohen & Wills, 1985). Findings have supported such arguments about how social support benefits people's well-being (Cohen, 1988; Thoits, 2011; Umberson & Montez, 2010). The experience of migration may entail challenges and instances of stressful events and anxiety about what lies ahead. Belonging to a healthy social network with members who are willing and able to provide social support can be vital in such circumstances.

Social support has been defined as received and perceived support (Thoits, 2011). Perceived support is the belief that support is available in one's social network should it be needed. Received support refers to actual support accessed (Gottlieb & Bergen, 2010). Studies have shown a clear distinction between these two types of support. They are, in fact, only weakly related to each other (Thoits, 2011). Appraisals of received or perceived support are created based on experiences of real events usually assessed with questions asking participants to reflect on such events. As Hobfoll (2009) argues, there is a fundamental difference between received and perceived support pertaining to the dimension of time. Thus, received or enacted support is assessed by referring to particular stressful instances in the recent past, for example, in the past 30 days, while measures of perceived social support refer to overall assessments of many real instances of receiving various forms of help. In short, exploring perceived support is more suitable for yielding generalized assessments of the support available in the social network based on general experiences of getting various assistance over time.

Perceived social support has been found to be positively related to physical and psychological well-being (Cohen, 1988; VanderZee, Buunk, & Sanderman, 1997). More importantly, the benefits of perceived social support on mental and physical health are consistent and strong, while received social support has a weak and sometimes contradictory association with health (Thoits, 2011). It is

argued that these results may partly be explained by the previously discussed differences in measuring perceived and received support. Received support may also lose some of its effectiveness when the one at the receiving end finds him- or herself facing an expectation of reciprocity or repayment (Cohen et al., 2000).

In this study, I focus on perceived social support, but not on received or enacted support. The focus is on assessing how adolescents perceive the social support available in their social network because of its more consistent and positive associations with mental well-being in previous research. This leads to the question of which functions adolescents feel are available from their friends.

3.2.1 Social support functions

Social support functions refer to the various types of resources that can flow through the social ties in networks (Gottlieb & Bergen, 2010). The literature commonly reports three functions of social support: emotional, instrumental, and informational (House & Kahn, 1985). Emotional support involves discussions and demonstrations of feelings, caring, approval, and sympathy. Instrumental or task support refers to practical assistance with everyday tasks. Informational support refers to being able to seek advice and information about resources when needed (Cohen et al., 2000).

Social companionship and validation are categorized separately (Cohen & Wills, 1985). It has been argued that the conceptualization of companionship as an aspect of social support is problematic, if not untenable (Rook, 1984, 1985; Vilhjalmsson, 1989). Although companionship may increase positive well-being and reduce distress, it does not mean that it is a type of social support. As Rook (1984a, 1985) and Vilhjalmsson (1989) have argued, it is most useful to conceptualize social support specifically as a help-oriented phenomenon. This conceptualization excludes companionship, because it is not necessarily oriented toward helping a particular person.

Factor-analytic studies of support functions have identified at least three functions of social support, i.e., emotional support, informational support, and tangible support. Studies also suggest that, when material support items are included in support inventories, a material support factor is additionally identified (Vilhjalmsson, 1993). Material support refers to assistance in the form of lending things or money (Heimisdottir, Vilhjalmsson, Kristjansdottir, & Meyrowitsch, 2010; Vilhjalmsson, 1993).

Generally, studies on social support include at least some common measures of emotional support, but the specific measures depend on the focal

stressors, the network being reviewed, any other included functions, and how these are defined and measured (Gottlieb & Bergen, 2010). Although the measures include subscales of functions, they are used separately in analysis or added to create a total score of social support. The multidimensional scale of perceived social support (MSPSS) (Zimet, Dahlem, Zimet, & Farley, 1988), student social support scale (SSSS), and child and adolescent social support scale (CASS) (Malecki & Demaray, 2002) are examples of social support inventories intended to address perceived social support among adolescents. Despite the fact that these measures include more than one function of social support, they do not separate them. Instead, they distinguish between specific sources, i.e., parents, teachers, classmates, and close friends. Thoits (2011) claims that sources of support are important in terms of matching the need for support to the function of support. Accordingly, she proposes distinctive support roles for significant others and similar others.

Significant others are members of the primary network with strong ties. The secondary network refers to weak ties with peers and teachers at school, distant relatives or other acquaintances (Granovetter, 1973; Thoits, 2011). Thoits (2011) argues that similar others are part of the secondary network who share important experiences, such as a stressful situation. In that light, a similar other can provide more tailored information, advice, and understanding than a significant other. While close friends are considered significant others, it can be argued that some close friends are also similar others when they share experiences of migration.

Only one study that I know of has focused on both functions and sources of social support perceived by migrants. The participants were adult immigrants and sojourners in Singapore (Ong & Ward, 2005). The findings indicated that they sought social support equally from members of their new society and from people living in other countries. However, social networks in the new country provided more instrumental and informational support than emotional support whereas emotional support was provided by family, friends and other acquaintances overseas. The latter group represented more in-depth ties. Interestingly, the study also found that the informational and instrumental support perceived in the host country network was more strongly associated with lower levels of depression than the emotional support perceived from the overseas ties (Ong & Ward, 2005). This suggests that both sources and functions of social support are important for immigrants and that they are more likely to seek emotional support from those they with whom they have intimate ties.

3.3 Mental well-being: Life satisfaction and distress

A vast literature on well-being has explored the concept from different perspectives. In the *Encyclopedia of Positive Psychology*, Seaton (2009) states that psychological adjustment outcomes, such as self-esteem and absence of distress, anxiety, or depression, are often studied in psychological research as a response to particularly stressful life events. Proctor, Linley, and Maltby (2009) further point out that positive psychology has shifted the emphasis from psychopathology to the more positive ends of mental health, thus allowing researchers to explore how happiness is achieved.

Within cross-cultural psychology, psychological and socio-cultural adjustment have been studied in connection with the adjustment or adaptation of immigrant youth. Psychological adjustment refers to psychological well-being, while socio-cultural adjustment has to do with acquiring the cultural skills deemed appropriate by the host environment (Ward & Kennedy, 1999). Life satisfaction, self-esteem, loneliness, and depression are among the factors measured to assess psychological adjustment (Nguyen & Benet-Martínez, 2013). Ward and colleagues have suggested that psychological adjustment is linked to stress and coping models and, thus, to personality, life changes, social support and social difficulties (Searle & Ward, 1990; Ward & Kennedy, 1999). The well-being indicators explored in this study are life satisfaction and distress.

Life satisfaction as a theoretical and measurable concept is usually traced to the discussion of subjective well-being and the work of Diener (Diener, Emmons, Larsen, & Griffin, 1985). Life satisfaction is one component of well-being, the others being positive and negative affect. Life satisfaction refers to a person's overall judgments, feelings, and attitudes about his or her quality of life (Diener, 1984). Thus, the concept covers both cognitive and affective appraisals and refers to both contentment and enjoyment. It refers to an overall evaluation of the quality of life at the present time (Veenhoven, 1996). Negative affect, a second indicator of well-being, is an umbrella term of a broad range of aversive emotions that can also be referred to as subjective distress (Diener et al., 1985). It is the second of two well-being indicators explored in this study.

Selye (1976), sometimes referred to as the father of stress, devoted his career to studying stress and exploring the phenomenon of stress, stressors, eustress, and distress. He maintained that stress was "the nonspecific response of a body to any demand" (Seley, 1976, p. 53). A stressor is something that produces stress. The differentiation between eustress and distress is found in negative or positive responses to stressors. Eustress is an agreeable or healthy stress response and distress a negative, unhealthy, or pathogenic stress

response. Stressors can, thus, influence us in a positive manner, as in eustress, or elicit a more harmful response, as in distress (Selye, 1976).

Sheila Ridner (2004) reviewed and analyzed how concepts of stress have been used and discussed through history by different research fields. She pointed out that, while distress is often regarded a physiological concept and was originally understood in those terms by Selye, he later connected dots between distress and coping mechanisms such as love and self-motivation suggesting a psychological component to it. Ridner (2004, p. 539) defined distress as "a non-specific, biological or emotional response to a demand or stressor that is harmful to the individual." Distress is usually measured by self-reported health complaint scales which indicate subjective health and a subject's perception and interpretation of his or her physical sensations (Watson & Pennebaker, 1989).

Life satisfaction and distress tap into negative and positive evaluative dimensions of a person's life and provide a more general picture of this evaluation than is gained by exploring some of the affects that refer to a more specific condition, for example depression or anxiety. While it can be argued that exploring outcomes referring to a specific condition would provide a detailed account of these specific conditions, exploring life satisfaction and distress provides a broader view of well-being and, thus, a more general picture of immigrant adolescents' adjustment. Proctor and colleagues (2009) reviewed studies of youth life-satisfaction. They argue that life satisfaction has proven to be a key indicator of well-being and research has shown how it is clearly linked to various emotional, social, psychological and behavioral outcomes. As an example of this they point out findings that confirm how depression and life satisfaction are strongly negatively correlated.

In the case of life satisfaction and distress, it is important to bear in mind the individual meaning of life experiences that shape the appraisals of one's quality of life or psychosomatic symptoms. For example, distress does not occur unless there is a stressor present that a person believes to be a threat in connection with perceived or actual loss of control and ineffective coping (Ridner, 2004).

3.3.1 Ethnic background and adolescent well-being

Research findings on the well-being of immigrant youth are inconsistent. Contradictory findings imply a complex interplay of situational, e.g., migration experiences; contextual, e.g., socio-economic status; and cultural, e.g., ethnic differences factors that have a role in youth well-being. In many prior studies, these three sources of influence are not distinguished. Here, I discuss research findings that distinguish among the three.

3.3.1.1 Migration experiences

Studies indicate better physical health for first generation immigrant youth when compared to natives but also that integration into the mainstream poses a threat to the mental health of immigrant youth, namely an increased risk of anxiety and depression (Katsiaficas, Suárez-Orozco, Sirin, & Gupta, 2013; Perreira & Ornelas, 2011). Less life satisfaction has been reported in newly migrated adolescents as compared to their native peers in Israel (Ullman & Tatar, 2001), and Italy (Vieno, Santinello, Lenzi, Baldassari, & Mirandola, 2009) indicating challenges associated with the experience of migration. Jaeger, Hossain, Kiss, and Zimmerman (2012) discuss findings of more depression in immigrant adolescents as compared to their Swiss counterparts. However, a comparison of self-reported health and life satisfaction among adolescents from twelve European countries yielded differences between natives and immigrants in only two countries; Ireland and Wales (Molcho et al., 2009).

Studies suggest less difference in well-being between immigrant and native youth associated with longer stays in their new country (Ullman & Tatar, 2001). This may also explain the findings that came out of a large international study conducted in thirteen countries revealing similar levels of life satisfaction, self-esteem, and psychological problems for immigrant and native youth (Berry, Phinney, Sam, & Vedder, 2006). In that study, a large proportion of the immigrant youth were born in the host country or had moved there at a young age. Thus, it seems that the experience associated with migration may be challenging for adolescents, but this experience may impact youth differently according to their length of stay in the new country.

3.3.1.2 Ethnic differences and well-being

Well-being outcomes may differ by gender (Berry et al., 2006; Carlerby, Viitasara, Knutsson, & Gillander Gådin, 2011; Oppedal & Røysamb, 2004) and ethnicity (Khatib, Bhui, & Stansfeld, 2013; Lien, Claussen, Hauff, Thoresen, & Bjertness, 2005). Research results have revealed a higher prevalence of distress symptoms in immigrant boys as compared to host country boys in Norway (Oppedal & Røysamb, 2004), more distress in immigrant girls in Sweden (Carlerby et al., 2011), and more mental distress and bodily pain in Sub-Saharan immigrants as compared to natives in Norway (Lien et al., 2005). In England, Khatib et al. (2013) found black adolescents to be less likely to report psychological distress as compared to white UK adolescents. The majority of participants in the English study were born in England or had lived there for more than ten years.

Studies of mixed and non-mixed ethnic background as factors in mental health have differing results. Weathers, Novak, Sastry, and Norton (2008) found that non-mixed foreign background was associated with worse health than mixed background while Abu-Rayya (2004) found higher prevalence of depression and anxiety in mixed background youth than in those with a non-mixed foreign background.

Contradictory findings in previous studies raise questions about the importance of context in understanding the impact of immigration and ethnicity on well-being and adaptation (Walsh et al., 2010).

3.3.1.3 Sociodemographic background and social support

Among important contextual factors that may influence the well-being of immigrant youth are socioeconomic status and family income (Almgren, Magarati, & Mogford, 2009; Bradby et al., 2007; Currie et al., 2008; Elgar et al., 2015; Reinhardt Pedersen & Madsen, 2002; Von Rueden, Gosch, Rajmil, Bisegger, & Ravens-Sieberer, 2006), parental support (Oppedal & Røysamb, 2004; Walsh et al., 2010), and support from classmates and friends (Kovacev & Shute, 2004; Oppedal & Røysamb, 2004). These are the factors emphasized in the current study.

Adolescents who grow up in low income or poor families tend to experience more financial strain and more disruptive family relationships (Brooks-Gunn, Duncan, & Maritato, 1997; Repetti, Taylor, & Seeman, 2002). They have less access to generally accepted material goods and may feel disadvantaged as compared to their peers. Their parents may experience relatively low levels of well-being, affecting parenting skills, parent-child relationships, and adolescent well-being (Evans, 2004). Further, family structure is related to life satisfaction. For example, living with relatives other than parents or non-relatives, living with fathers only or a mother and another adult correspond to less life satisfaction when compared to other family structures (Proctor et al., 2009). When comparing well-being of immigrant youth with native youth studies show that sociodemographic factors are important when explaining these differences (Beiser et al., 2002; Davies & McKelvey, 1998).

Parental emotional support is of vital importance in adolescence (Adalbjarnardottir, 2019; Rueger, Malecki, & Demaray, 2010; Smetana, Campione-Barr, & Metzger, 2006) and is found to have a stronger relationship to well-being in adolescence than other sources of support (Helsen, Vollebergh, & Meeus, 2000; Vilhjalmsson, 1994). Perceived parental support and classmate support have been found to positively relate to students' life satisfaction (Danielsen, Samdal, Hetland, & Wold, 2009) and mental health (Wit, Karioja, Rye, & Shain, 2011). Some studies have shown less access to parental

emotional support for immigrant youth as compared to their native peers (Oppedal, Røysamb, & Sam, 2004; Yu, Huang, Schwalberg, Overpeck, & Kogan, 2003) while other studies have revealed no difference in terms of parental emotional support (Vedder, Boekaerts, & Seegers, 2005). A Finnish study showed how parental support may reduce immigrant youths' stress related to migration and increase life satisfaction (Liebkind & Jasinskaja-Lahti, 2000). Increases in family and classmate support positively affected mental health in immigrant children in Norway (Oppedal et al., 2004). However, no comparison of native and immigrant youth was made in these two studies.

A growing literature on features of neighborhoods that may affect the development of positive and negative mental health suggests that socioeconomic position or structural characteristics of neighborhoods are associated with depressive symptoms (Mair, Diez Roux, & Galea, 2008). Neighborhood social support has been associated with life satisfaction in early adolescence (Oberle, Schonert-Reichl, & Zumbo, 2011), and various mental well-being indicators across countries (Mathieson & Koller, 2008). While this applies in general, the question remains of whether neighborhood social support benefits all adolescents similarly. The study by Wight, Botticello, and Aneshensel (2006) found that perceived social support among adolescents was associated with better mental health, but more benefits were found for adolescents living in advantaged areas. Their study however did not take area level social support into account. This also begs the question of whether immigrant adolescents can access and benefit from neighborhood social support to a greater or lesser extent than native youth.

In short, immigrant youths' well-being is dependent on various factors in the immediate environment of primary networks or more distal factors in the neighborhood in which they reside. These factors also interact in their influence on well-being. For example, belonging to non-intact or economically challenged family may enhance the negative impact of the migration experience. It may also be easier to migrate to a country with similar values and a similar culture as opposed to moving to a more distant country geographically and culturally (Ward, Bochner, & Furnham, 2001).

3.4 Adolescent friendships

Ample evidence indicates that cross-ethnic friendships improve intergroup attitudes by for example, decreasing prejudice (Pettigrew & Tropp, 2008). Less is known about the intimacy and social support within such friendships. Few studies have sought to answer the question of how friends across ethnic lines are different from friends from the same culture. Thus, the question of whether

there are other benefits embedded in cross-cultural friendships remains largely unanswered (Leszczensky, 2013; Pratsinakis et al., 2017). Let's first look at the development of friendship relations in adolescence.

Adolescence, as it has been studied in the Western world, is often seen as a period of rapid change driven by changes in hormonal activity and life course. Developmental tasks and changes associated with this period take place in psychological, physiological, cognitive, and behavioral domains and in their intersections. More importantly, these tasks and changes are affected by social pathways of institutional roles and activities, and by interpersonal relations in the daily lives of adolescents, structures in society and historical contexts (Crosnoe & Johnson, 2011).

In adolescence, the structure and function of social ties and social networks develop. Social understanding increases followed by a struggle between intimacy and autonomy. The task is not only to develop autonomy from family control (Crosnoe & Needham, 2004) but also to negotiate and integrate needs by balancing closeness and individuality with friends (Selman & Schultz, 1990). Time spent with friends increases although time spent with friends and away from family usually does not affect emotional parent-child bonds (Berndt, 2004; Crosnoe & Johnson, 2011; Flynn, Felmlee, & Conger, 2017). At a time when interaction with parents often decreases, which may reduce closeness and monitoring by parents, (Brown & Larson, 2009), acceptance from peers is likely to become an important source of self-esteem (Birkeland, Breivik, & Wold, 2014).

In adolescence, friendships grow closer, more intimate, and more disclosing (Berndt, 2004; Smetana et al., 2006). Mutual trust, loyalty, and exclusivity become more important, as do knowledge and understanding of each other's preferences, which leads to friends providing emotional and material social support. It is argued that the need for closeness is stronger at the early adolescent stage. Subsequently, a need for more individuality arises, a need for power and freedom to express individual views that will be respected by others (Shulman, Laursen, Kalman, & Karpovsky, 1997).

Intimacy in healthy friendships is characterized by mutual trust and care. In healthy friendships, adolescents practice their sense of autonomy by communicating with friends over issues about their daily lives and future concerns. They reveal their secrets and special concerns, including personal problems, and share common interests, feelings, opinions, and attitudes. Their search for emotional support among friends outside the family is one way of becoming more autonomous (Adalbjarnardottir, 2019; Collins & Steinberg, 2008; Selman & Schultz, 1990). They practice their social skills in of

communication, collaboration, and conflict resolution, and they share the challenging tasks they face and support each other. Such friendships indicate an important feeling of belonging (Selman & Schultz, 1990).

3.4.1 Friendships and ethnic background

Just like other youth, immigrant children and adolescents perceive friends as providers of emotional support, promoting a sense of belonging, enjoyment, and acceptance (Suárez-Orozco, Suárez-Orozco, & Todorova, 2009). More importantly, the literature underscores the importance of social support from friends for adolescents adapting to a new society (Kovacev & Shute, 2004; Thomas & Baek Choi, 2006).

Given previous reports of the lower frequency of cross-cultural friendships and more inclination towards making friends with someone from one's own ethnic group, it is worth exploring whether there are differences in friendship relations across such lines as compared to friendships that are formed within ethnic groups. Aboud and colleagues (2003) found similar levels of friendship quality in same-ethnic and cross-ethnic friendship, with the exception of lower levels of intimacy. Discussions of private matters with same-ethnic friends were preferred over intimate discussion with cross-ethnic friends. Similarly, other studies have reported less closeness in cross-ethnic friendships (Kao & Joyner, 2004; Rude & Herda, 2010; Schneider, Dixon, & Udvari, 2007).

Studies have also shown that immigrant adolescents prefer to seek support from other immigrants (Chan & Birman, 2009; Kim et al., 2012). This tendency is also reflected in research findings where immigrant adolescents explained how friendships with other immigrants became deeper than friendships with people from other ethnic groups (Kim et al., 2012; Tran, 2015). In a study by Suárez-Orozco, Suárez-Orozco, & Todorova (2009), minority ethnic children found their same-ethnic peers to provide them with emotional support needed to reduce shameful feelings of not understanding everything that was going on in class. Access to same culture peers provided newly arrived immigrants with valuable information about the school culture, counteracted loneliness, and helped with language translation

Moreover, there are indications that friendships with someone from the same cultural group correspond to increased emotional well-being (self-esteem and depression), although it may vary between ethnic groups (McGill, Way, & Hughes, 2012). In a study of unaccompanied refugees in Norway, Oppedal and Idsoe (2015) found a small increase in social support from native friends associated with being in the country for a longer time, thus indicating extended social networks over time.

3.5 Gaps in the literature

There are clear indications that well-being and social relations of youth of foreign origin in Iceland warrant more attention. The available studies shed light on the issues and raise questions of how sociodemographic factors and social support from different sources are interrelated.

Findings of mental well-being protective effects from social support for adolescent of foreign origin are inconsistent (Oppedal and Røysamb 2004) and need further exploration. More importantly, there is little knowledge about if the effects of support on adolescent well-being differ by ethnicity or ethnic context. Establishing new relations and belonging to a social network may be of vital importance for immigrants' well-being as they leave one network behind and enter another in a new country. It begs the question of whether youth of foreign origin can access and benefit from neighborhood social support to a greater or lesser extent than native youth. To my knowledge no study has previously investigated these explanatory factors jointly at the individual and neighborhood levels.

Friendships within and across ethnic groups is an understudied topic (Graham et al., 2014; Leszczensky, 2013; Pratsinakis et al., 2017), though it is gaining increased attention. Studies suggest that minority ethnic and immigrant adolescents may prefer and benefit psychologically from intimate friendships with other adolescents of foreign origin, but there are no studies focusing on perceptions of social support in adolescents' friend networks of different ethnic backgrounds.

In short, it is important to explore the extent to which sociodemographic background (family affluence, family structure, parental occupational and employment status) impact youth of foreign origins' well-being and the role of social support in their well-being. These associations have not been properly investigated and need to be explored in both the more immediate environment and the more distal one. This is particularly true of research within the Icelandic setting. Furthermore, little is known about the support available in the friendships of foreign origin and recently migrated immigrant youth.

With rising immigration levels, and with most immigrant adolescents sharing similar first-generation status, Iceland provides a unique setting for studying conditions and relationships within and across ethnic lines.

3.6 Aims, research questions and hypothesis

The aims of the study are to investigate how sociodemographic background and social support both at the individual level and neighborhood level relate to

well-being of native adolescents and those of foreign origin in Iceland and how both native adolescents and those with foreign origins perceive social support from friends by two friendship networks, native friends and friends of foreign origin. Thus, the study provides a much-needed overview of the well-being of immigrant youth in Iceland. It also increases understanding of the associations between sociodemographic factors and social support and the role these associations play in explaining ethnic differences in adolescent well-being. The premise of the aims is that immigrant adolescents face challenges affecting their well-being, that their well-being is sometimes worse than for native adolescents, and that may be explained by sociodemographic factors and social support.

The first aim of the study was addressed in two separate papers. The first paper explored life satisfaction and distress among Polish and Asian immigrant youth in comparison with their native peers and the role of sociodemographic background and perceived social support in their well-being. The paper is titled "Ethnic Differences in Youth Well-Being: The Role of Sociodemographic Background and Social Support". No previous studies are available addressing the well-being of these ethnic groups, who represent large immigrant groups in Iceland.

Life satisfaction and distress among four groups with foreign origins were explored: non-mixed Polish (both parents born in Poland), non-mixed Asian (both parents born in Thailand, the Philippines, or Vietnam), mixed Polish (one parent born in Poland), and mixed Asian (one parent born in an Asian country). The mixed ethnic groups had one Icelandic parent in 69% of the cases for the mixed Polish group and in 75% of the cases for the mixed Asian group.

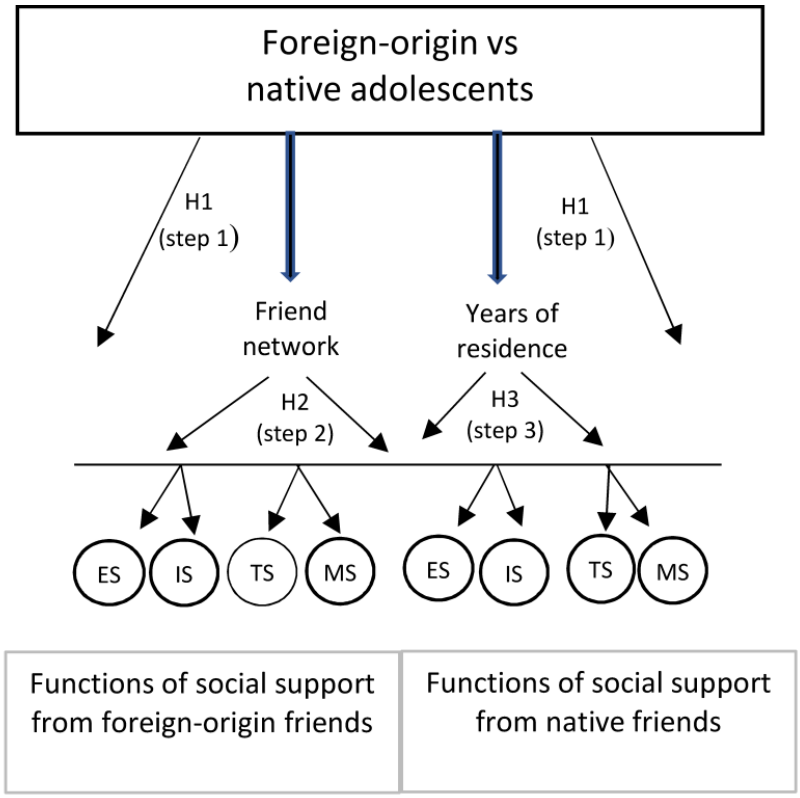
The research questions of this paper were whether immigrant youth in Iceland reported less life satisfaction and more distress than their native peers, whether youth of mixed-ethnic backgrounds fared worse than youth of non-mixed foreign and native backgrounds, and whether sociodemographic factors explained ethnic differences in psychological well-being, if ethnic differences in perceived parental, peer and classmate support explained ethnic differences in psychological well-being, and if support affected well-being differently depending on ethnicity (interaction).

In the second part of the first aim, individual and neighborhood predictors of adolescent well-being were addressed, resulting in a second paper of the study, "Ethnicity and Adolescent Well-Being in the Context of Families, Friends and Neighborhoods". In light of theories about the importance of neighborhoods as a context for adolescents of foreign origin's well-being, this paper explores family affluence, social support, and ethnic diversity at both

individual and neighborhood levels. In this paper, the research questions were whether affluence and social support from family and friends at the neighborhood level contributed to explaining the well-being of native adolescents and those with foreign origins alongside, or in combination with, individual level affluence and social support. Furthermore, it was asked if ethnic diversity in the neighborhood affected adolescent well-being, either independently or in combination with social support and affluence. In the study, a neighborhood was defined by school areas, since most students attend a primary school in the neighborhood in which they live. However, not all school areas are proper neighborhoods. The participants are from rural and urban areas of Iceland. A school area thus, is in most cases set within an urban setting (city, capital area, towns, and villages), but some of the participating schools are located at the countryside and attended by students living at smaller locations or farms.

Based on previous findings an association was expected between individual level family affluence and adolescent well-being, with greater affluence corresponding to higher well-being (Elgar et al. 2015). Similarly, it was expected that individual level family and friend support were associated with higher well-being (Berndt 2004). Since previous studies are inconclusive about the role of neighborhood social support and neighborhood affluence, their actual links to adolescent well-being are unclear. To my knowledge previous studies have not considered cross-level interactions of ethnic background and neighborhood affluence and support, nor have they considered cross-level interactions of neighborhood ethnic diversity and individual level affluence and support when predicting adolescent well-being.

The second aim of the study focused on both native adolescents' and those with foreign origins perceptions of four functions of social support: emotional, informational, task, and material support, from two friendship networks, friends of foreign origin and Icelandic friends. This resulted in the third paper titled "Ethnicity and the Perceived Support of Adolescent Friends in a Society with Rising Immigration". Few studies address social support from friends in immigrant samples, and no studies that I know of focus on functions of social support by friend networks that differ by ethnic origin. Figure 1 presents a conceptual model for the study. Native adolescents were a reference group in the analysis.



Notes:
Functions of social support explored are emotional support (ES), informational support (IS), task support (TS), and material support (MS)
H1 = Hypothesis 1, etc.
Native adolescents as a reference group

Figure 1. A conceptual model of the association between ethnic origin and social support from friends mediated by number of friends and years of residence

There were three aims for this part of the study. The first was to explore how adolescents of foreign origin perceived social support from their friends of foreign origin and Icelandic friends. As previous studies indicated a preference for seeking social support from other immigrants of a similar origin (Kim et al., 2012; Tran, 2015), it was expected that adolescents of foreign origin would perceive more emotional, informational, task, and material support from friends of foreign origin than from native adolescents would and that adolescents of foreign origin would perceive less emotional, informational, task, and material support from Icelandic friends than do native adolescents. These hypotheses are presented in Figure 1 as H1 (Step 1).

The second aim was to explore the role of the size of friend networks (number of foreign-origin and number of Icelandic friends) in the adolescents' perceptions of social support. In line with the general findings of more social support perceived in larger friend networks (Flynn et al., 2017), it was expected

that the size of a friend network would be associated with adolescents perceived social support. This hypothesis is labelled as H2 (Step 2) in Figure 1. More precisely, it was hypothesized that the size of the friend network would partly explain the previously hypothesized perceptions of social support (all types) from friends of foreign origin and Icelandic friends.

The third aim of this part of the study was to explore the role of the number of years lived in Iceland in relation to adolescents of foreign origin's perceptions of social support. Studies about the development of cross-ethnicity relations of adolescents of foreign origin over time are scarce (Titzmann & Silbereisen, 2009), but one argument is that time spent in the new country might lead to closer ties with friends. Accordingly, it was hypothesized that the longer an adolescent of foreign origin has resided in Iceland, the more social support he or she would enjoy from both friends of foreign origin and Icelandic friends. This hypothesis is labelled as H3 (Step 3) in Figure 1. In other words, it was expected that a previously hypothesized difference in perceived support between adolescents of foreign origin and native adolescents would become smaller when taking years of residence into account.

4 Methods

This dissertation is based on three quantitative data sets, one for each of the three studies introduced in the previous chapter. Two data sets come from the Icelandic data collection of the World Health Organization's international research network Health Behavior in School-Aged Children (HBSC). The network was established in 1982 (Molcho et al., 2009) and now includes over 40 countries Every four years, teams from the participating countries administer a standardized questionnaire to 6th, 8th, and 10th graders, aged 11, 13 and 15 respectively. In this study, Icelandic data collected in 2009–2010 was used in the analysis for the first paper and data collected in 2013–2014 in the analysis for the second paper (Bjarnason, Hjalmsdottir & Arnarsson, 2010; Arnarsson, Gisladottir & Jonsson, 2016). The third paper is based on a study titled Friendship Relations in a Diverse Society (FRDS), which I specifically designed and conducted for this doctoral project.

The HBSC study is a population study in Iceland administered to students in all schools with a 6th, 8th, and 10th grade. As previously discussed, an overview of immigrant youth's social relations and well-being in Iceland is lacking. Available studies are mostly based on qualitative research methods which are useful in gaining insight into the lives of marginalized groups and have provided valuable information (Gudmundsson, 2013; Magnusdottir, 2010; Schubert, 2010). The quantitative approach employed here offers a generalizable overview of the topic under study, which is also important. To have generalizable results, a sufficient number of participants of foreign origin are required. In a small nation of around 357,000 people with a low percentage of immigrants in the younger cohorts (around 4–7%) who attend schools throughout the country, gathering data from a sufficient number of immigrant youth requires either a large sample or sampling methods that maximize the number of high-percentage immigrant attendance. Although there was an increase in the number of immigrants during the data collection period, it was less dramatic in the younger population (Chapter 2, Table 1). In this regard, the population-based approach used in the HBSC study in Iceland was important.

The HBSC survey focusses on social contexts such as relations in families and with peers and friends, e.g., family support and friend support, and within schools. Also, the survey focusses on physical and mental health, health behaviors, physical activity, and risk behaviors (Inchley et al., 2016). This data

enabled exploring several important indicators, but it also had limitations which called for additional data collection. Detailed questions about the ethnic origin of friends and friendship relations were largely missing and no questions about how long foreign-born youth have been living in Iceland were included. Measures of perceived social support were not detailed enough for exploring different functions of social support. The FRDS study was designed to provide data that included information missing from the HBSC study. Thus, the FRDS questionnaire included more questions about friendships, a more detailed social support scale and questions about the origin of friends, and length of residence in Iceland. The questionnaire also included scales for measuring mental well-being, perceived discrimination, attitudes towards immigrants, and social anxiety which are not used in the dissertation.

In all three studies standardized anonymous questionnaires were administered in schools to students present the day of the administration. The HBSC surveys were paper and pencil questionnaires administered in the classroom by teachers (Arnarsson, Sveinbjornsdottir, Thorsteinsson, & Bjarnason, 2015). Measures included questions and scales thoroughly translated and tested by the HBSC team (Roberts et al., 2009).

In the FRDS study, the questionnaire was answered online at the school through the questionnaire tool Qualtrics. Participants answered on school computers or I-pads. Trained assistants administered the survey with additional assistance from teachers. The questionnaires were in Icelandic, which automatically excluded adolescents who had lived in Iceland for too short a period of time to have a good grasp of Icelandic. As each of the three papers were based on a different sample, each will be discussed in turn.

4.1 Ethnic differences in youth well-being

4.1.1 Participants

The first paper is based on the 2009–2010 data collection of the HBSC study in Iceland in which 11,561 students, from 161 schools participated. The response rate was 87% (Bjarnason, Hjalmsdottir, & Arnarsson, 2010). Males were 50.5% of the respondents. Of the total respondents, 32.5% were 6th graders (11–12-year-olds), 33.9% 8th graders (13–14-year-olds), and 33.2% 10th graders (15–16-year-olds). Foreign-born students were 8.7%. Of these, 8.4% reported to having mothers and 7.8% fathers born in a foreign country. Icelandic citizens born to Icelandic parents born abroad are included in the numbers of foreign-born parents. In order to minimize classification error arising from this, native

background was restricted to those having both parents born in Iceland, or 84.9% of the sample.

4.1.2 Measures

In the study the two largest groups of youth with foreign backgrounds were compared to youth with a native background. Thus, five ethnic groups were created: 1) non-mixed Icelandic background (both parents born in Iceland, 2) non-mixed Polish background (both parents born in Poland), 3) mixed Polish background (one parent born in Poland), 4) non-mixed Asian background (both parents born in an Asian country), and 5) mixed Asian background, (one parent born in an Asian country). Dummy variables were created for the five groups with the non-mixed Icelandic group as a reference.

A binary variable was created for gender (boy = 0, girl = 1), and two dummy variables for age by grades. In the HBSC study, students from the 6^{th}, 8^{th} and 10^{th} grade participated and 6^{th} grade students were a reference group in the analysis. Two dummy variables were created for the employment status of the participants' mothers and fathers (1 = not employed; 0 = employed). Three dummy variables for family structure were also created: single-parent household, living with a stepparent in addition to a biological parent, and other arrangement, with both biological parents living in the home as a reference group.

The HBSC study uses the Family Affluence Scale (FAS) as an indicator of the socioeconomic status of the participants (Boyce, Torsheim, Currie, & Zambon, 2006). The FAS scale had four questions about car and computer ownership in the household, family holidays, and if the child has his or her own bedroom. Each item was scored, and the four items were added to create a total FAS score for each participant on a scale of 0–9. The mean FAS was 7.10, and the standard deviation was 1.57.

To assess perceived support, participants were asked to answer the question of "[h]ow easy is it for you to talk to the following persons about things that really bother you." In this study, answers for mother, father, and best friend were used: Responses were rated on a five-point scale (0 = Do not have or see this person to 4 = Very easy). A score for perceived parental support was created by using the higher support value, whether it was from a mother or a father. Classmate support (Torsheim, Wold, & Samdal, 2000) was assessed by three items in the following questions "The students in my class(es) enjoy being together. Most of the students in my class(es) are friendly. The students in my class(es) accept me as I am." Responses were rated on a five-point scale (-2 = Strongly disagree to 2 = Strongly agree). The scores for the

three items were summed to form a scale (Cronbach's alpha = .79). When tested for each ethnic group, Cronbach's alpha was .80 - .90 across groups.

Two well-being measures were used as dependent variables. Life satisfaction was assessed by Cantril's ladder (Cantril 1965) which has been shown to be valid and reliable in adolescent samples (Levin & Currie, 2014). The questionnaire included a picture of a ladder with the instructions that the top of the ladder (10) represented the best possible life and the bottom (0) the worst possible life. Participants were asked to choose a number describing where they stood at the present time.

The second variable for well-being included symptoms of distress measured by an instrument developed by researchers in the HBSC team. It has been proven to be a valid measure of distress (Elgar et al. 2015) with good construct validity (Haugland & Wold, 2001). Participants indicated the frequency of complaints for eight items by answering the following question. "In the last six months how often have you had the following: headache, stomach-ache, backache, feeling low, irritability or bad temper, feeling nervous, difficulties in getting to sleep, and feeling dizzy." Each item was scored on a five-point scale of 0–4 with the higher number referring to higher frequency of complaints. A mean score was calculated for the first three items and the scores for the remaining five items were added to the mean score of the first three, to obtain a summary distress score ranging from 0–24. Cronbach's alpha for the distress measure was .84 for the whole sample and 0.90 across groups when tested for each ethnic origin group separately.

4.1.3 Analysis

Descriptive background statistics including frequencies, means and standard deviations were explored for each of the ethnic groups. Next, ANOVA statistics compared life satisfaction and distress across ethnic groups. Finally, a hierarchical multiple regression was conducted to test ethnic differences in life satisfaction and distress. The first step of the regression contained the four ethnic groups with the native respondents as a reference group. The second also included gender, age by grades, family structure, family affluence via FAS, and parental employment status. In the third step, support from parents, friends, and classmates support was added. In the last step, significant interactions between ethnic group and the support variables were included. The analysis was performed with IBM SPSS 20 statistics software. In order to prevent inflating the standard errors of coefficients, interval level variables involved in statistical interactions were mean-centered prior to analysis.

4.2 Ethnicity, well-being and the context of family, friends and neighborhoods

4.2.1 Participants

The second paper was based on a dataset from the 2013–2014 HBSC data collection in Iceland. The response rate in the survey was 84%, or 10,651 respondents out of 12,678 registered students (Arnarsson, Gisladottir, and Jonsson 2016). Males were 50% of the participants. Of the total participants, 32.4% were from the 6th grade, 35.4% from 8th grade and the remaining 32.2% from the 10th grade.

The statistical method of multilevel modeling used in this study requires that units at a second level reach a minimum number of participants. In accordance with guidelines of sufficient statistical power for multilevel modeling (McNeish and Stapleton 2016) schools in which less than five students answered the questionnaire were excluded. Five schools were excluded based on this criterium, resulting in a sample of 156 schools. The excluded schools were all located in the countryside around the country. The total number of participants was 9,535, of which 94.1% were of Icelandic origin.

4.2.2 Measures

In this paper the same well-being measures as in the first study were used as dependent variables; Cantril's life-satisfaction and the HBSC measure of distress. The same method was applied to create scores for distress (see page 38) and the life-satisfaction scale. Cronbach's alpha for the distress measure was .86.

4.2.2.1 Individual level variables

In line with the procedure in the first paper, a binary variable was created for gender (boy = 0, girl = 1), and two dummy variables for age (grades). Students from the 6th, 8th and 10th grades participated. The 6th grade students were a reference group in the analysis. A binary variable of ethnic origin was created with two parents born in Iceland coded as zero and two foreign-born parents as 1. The latter group included immigrant students born in Iceland (2nd generation immigrants) and abroad (1st generation immigrants) to foreign-born parents. Adolescents with mixed backgrounds (one parent born in Iceland and one abroad) were excluded from the analysis since the mixed group could also include a native parent born abroad. However, both native parents born abroad would be extremely rare.

The version of the FAS scale used in the second paper was comprised of six questions, the four used in the previous cycle and two additional questions, one about the number of bathrooms the other about and whether there was a dishwasher in the household (Elgar et al. 2016). A total FAS score for each participant was added creating a scale of 0–13, and a mean of 8.46 (SD = 1.6). A higher score indicated greater affluence.

Support from family and friends was measured by the Multidimensional Scale of Perceived Social Support (MSPSS) (Zimet et al. 1988). Four questions indicated family support. These are "[m]y family really tries to help me", "I get the emotional help and support I need from my family", "I can talk about my problems with my family", and "[m]y family is willing to help me make decisions." Similarly, four questions measure support from friends. "My friends really try to help me. I can count on my friends when things go wrong. I have friends with whom I can share my joys and sorrows, and I can talk about my problems with my friends." Respondents were asked to indicate how they felt about each statement on a seven-point Likert scale scored -3 to 3, and the items were added to create family and friend support scores from -12 to 12. The overall mean for family support was 4.24 (SD=9.5) and the mean for support from friends was 3.58 (SD= 8.6). Cronbach's alphas for the family and friend support questions were .98 and .96, respectively.

4.2.2.2 Neighborhood level variables

The role of the ethnic diversity of the school in the well-being of the youth was explored. Calculating a diversity score required two values. Thus, two ethnic groups were analyzed instead of multiple groups as was done in the previous paper. In order to continue with a clear contrast between groups, it was decided to use the birthplace of both parents to define the groups. Based on the size of foreign-origin national groups in Iceland and geographical areas, 12 groups of people with foreign origin were generated: Other Nordic, Polish, Thai, Filipino, other Asian, West-European, North-American, South-American, Latvian, Lithuanian and Estonian, other Eastern-European, and Other.

Family affluence and social support were both individual and neighborhood level predictors. Individual scores for each variable were aggregated to the neighborhood level by calculating the mean scores for each school. Ethnic diversity for each school was computed based on the Simpson index: $\mathrm{D}c = 1 - \sum_{i=1}^{g} pi^2$ (Simpson 1949). The diversity score (Dc) is a function of p_i which is the proportion of students in the school from each foreign-origin group. P_i is squared and summed across g groups in the school. Thus, each school received a diversity score on a 0–1 scale with higher values indicating more diversity, in which both the number of respondents with foreign-born parents and the

number of groups of different origin were considered. The mean diversity score was 0.22 (SD=0.17).

4.2.3 Analysis

Multivariate, multilevel analysis was performed with the IBM SPSS statistics 20 software. Variance for each dependent variable was first estimated with an unconditional random effects model where schools were treated as a random factor. Next, mixed models were estimated to test hypotheses of school variations (Norušis 2012) with fixed effects on each level. Three models were generated for each well-being outcome of life satisfaction and distress. In the first model, ethnic origin at the individual level was entered. In the second model, other individual- and neighborhood-level variables were included.

Significant interactions were finally added in the third model. The interactions included interactions between ethnic background and ethnic diversity with family affluence and social support at individual and neighborhood levels. Individual-level family affluence (FAS) and family and friend support scores were group-mean centered within each school to assess the variability of family affluence and support within neighborhoods. The aggregated family affluence and scores from support from family and friends at the neighborhood-level were grand mean centered.

4.3 Ethnicity and the perceived support of adolescent friends

4.3.1 Participants and pilot

For the third paper I collected data in compulsory schools in Iceland from February to May, 2018. Participants were 806 adolescents out of the 978 sampled in their three final years of compulsory schooling; 8th, 9th and 10th grade with ages ranging from 14 to 16. This was an 82% response rate. Heterogenous purposive sampling based on a complete list of all Icelandic compulsory schools was used. Schools were selected for participation based on characteristics deemed relevant to the aims of this study. These characteristics included geographical location, ethnic diversity, indications of family economic status, and school size. Among the nine compulsory schools selected to participate, five were located in the capital area and four in the countryside. They had varying percentages of students of foreign origin classified as a high, medium, or low ratio of foreign origin, lower and higher family affluence, and were middle sized and large.

The sample included 390 girls (48.5%) and 414 boys (51.5%). Of these, 281 (34.9%) were in 8th grade, 231 (28.7%) in 9th grade, and 293 (36.4%) in 10th

grade. Ethnic background was split between 1) adolescents with Icelandic-born parents (n=572, 71%), 2) adolescents with two foreign-born parents (n=137, 17%), and 3) adolescents with one parent foreign-born (n=97, 12%).

The questionnaire included previously translated and tested measures. It was piloted prior to the study with six students from the 8th, 9th and 10th grades in the capital region attending other schools than those participating in the study. The aim of piloting was to measure the time it took to answer the survey, identify words and phrases that were not understood or could be understood in more than one way, and get general feedback on the presentation of questions and the difficulty of the task. The pilot showed that the adolescents found the task clear and were positive about the questions. Following the pilot, a few words were replaced, and a few instructional sentences adjusted. It took the adolescents 19–40 minutes to complete the questionnaire.

4.3.2 Measures

As the sample included only 806 adolescents, adequate statistical power limited categorization by country of origin. Therefore, three ethnic groups were analyzed. The first group comprised adolescents of Icelandic-born parents (non-mixed native). The second group consisted of adolescents whose parents were both foreign-born (non-mixed foreign), and the third group was of mixed origin with one foreign-born parent (mixed foreign).

Two dummy variables were created for age by grades in the FRDS study. Participants were from 8th, 9th and 10th grade with 8th graders as a reference group in the analysis. Youth reported their own country of birth and how old they were when they moved to Iceland if they were born abroad, leading to a continuous variable of years lived in Iceland. Two separate questions asked how many friends the adolescents currently had. One was for friends that were from Iceland and the other for friends from another country. The question included a definition of friend that read “[a] friend is, for example, someone you can discuss personal matters with, give a call, chat with or drop by for a visit.” Two continuous variables were created indicating number of friends, one for Icelandic friends and one for friends of foreign origin.

Perceived social support from friends was a dependent variable in this study. Adolescents who reported having one or more friends from each source answered a question about perceived social support from those friends. Prior to analysis, participants who reported having no Icelandic friends were given the value of zero for social support from Icelandic friends, the same as those who reported not having any friends of foreign origin.

Table 2. Overall fit statistics for alternative models, based on the SEQ-C scale for perceived support from Icelandic origin friends

Model	χ^2	df	SRMR	RMSEA	GFI	CFI
One factor						
ES/IS/TS/MS	1531.7	54	0.083	0.19	0.75	0.79
Two factors						
ES, IS/TS/MS	1401.2	53	0.081	0.18	0.77	0.81
Two factors						
ES/IS, TS/MS	1473.7	53	0.08	0.19	0.76	0.80
Two factors						
ES/TS, IS/MS	1511.4	53	0.082	0.19	0.75	0.79
Three factors						
ES, IS, TS/MS	1324.4	51	0.077	0.18	0.78	0.82
Three factors						
ES/IS, TS, MS	691.1	51	0.079	0.13	0.86	0.91
Three factors						
ES/TS, IS, MS	668.7	51	0.076	0.13	0.87	0.91
Four factors						
ES, IS, TS, MS	520.4	48	0.073	0.11	0.90	0.93

NOTE: SRMR=Standardized Root Mean Square Residual (good fit threshold = ≤.08). RMSEA=Root Mean Square Error of Approximation (good fit threshold=≤.08), GFI=Goodness-of-Fit Index (good fit threshold = ≥.90), and CFI=Comparative fit index (good fit threshold = ≥.95). ES, IS, TS, and MS denote emotional, informational, task related, and material support items, respectively.

Social support was measured with 12 questions from the Support Exchange Questionnaire-Children Inventory (SEQ-C) (Heimisdottir et al., 2010), which included emotional, informational, task related, and material items. Respondents indicated how easy or difficult it would be for them to the get the support item from their friends on a four-point Likert scale from 1 meaning very difficult to get to 4 meaning very easy to get.

4.3.2.1 Perceived friend support: Confirmatory factor analysis

As already mentioned, the third paper defined perceived social support as potentially exchangeable resources, contributing to health and well-being by fulfilling needs for intimacy, material aid, practical assistance, and advice. The resources corresponding to these needs are love or affection, money or material goods, skilled or unskilled labor, and general or specific information. When these resources are exchanged or exchangeable, we talk about emotional support, material support, task support and informational support, respectively. This definition, then, assumes that four distinct social support

functions can be distinguished (Vilhjalmsson, 1993). The SEQ-C questionnaire of perceived friend support, administered in the third paper, is based on the above definition.

Confirmatory factor analysis was conducted in LISREL to assess the factorial structure of the SEQ-C questionnaire. The analysis distinguished between one, two, three, or four factor models of friend support from friends of Icelandic-origin and friends of foreign origin. In all models, correlations were allowed between factors. Each support item (indicator) is related to only one factor, and measurement errors are specified for all items.

Tables 2 and 3 show the chi-square and goodness-of-fit statistics for all the models (Baumgartner & Homburt, 1996; Hooper, Coughlan, & Mullen, 2008; Marsh & Hau, 1996). The models are nested, enabling assessment of whether one model significantly improves fit as compared to another (based on the difference in chi-square and df between the models).

Table 2 shows fit statistics for models of support from friends of Icelandic origin. As the table shows, all two factor models represent a significant improvement in fit as compared to the single factor model. For example, the two factor model ES, IS/TS/MS, which specifies an emotional support factor and a tangible support factor (IS/TS/MS) results in a reduction in chi-square of 130.5 (1531.7 minus 1401.2) with 1 df (54 minus 53) when compared to the single factor model. This is a significant reduction in chi-square and a significant improvement in fit. However, the overall fit is still insufficient based on the overall fit indices of SRMR, RMSEA, GFI and CFI. For explanation of thresholds for good fit, see the footnote to Table 2. Likewise, all three-factor models represent a significant improvement in fit as compared to the two-factor models. Nevertheless, three overall fit indices, RMSEA, GFI and CFI, show insufficient fit for all three-factor models. Finally, the four-factor model (ES, IS, TS, MS) results in significantly improved fit as compared to all three-factor models. Two overall fit indices, SRMS and GFI, indicate a good fit for the four-factor model. It is also very near the threshold of good fit based on the RMSEA and CFI indices.

Table 3. Overall fit statistics for alternative models, based on the SEQ-C scale for perceived support from friends of foreign-origin

Model	χ^2	df	SRMR	RMSEA	GFI	CFI
One factor (ES/IS/TS/MS)	1536.4	54	0.082	0.22	0.68	0.80
Two factors ES, IS/TS/MS	1329.4	53	0.081	0.20	0.72	0.83
Two factors ES/IS, TS/MS	1490.8	53	0.078	0.23	0.68	0.80
Two factors ES/TS, IS/MS	1492.7	53	0.081	0.22	0.69	0.80
Three factors ES, IS, TS/MS	1202.2	51	0.071	0.19	0.76	0.84
Three factors ES/IS, TS, MS	720.2	51	0.072	0.16	0.80	0.91
Three factors ES/TS, IS, MS	611.6	51	0.064	0.14	0.85	0.92
Four factors ES, IS, TS, MS	425.7	48	0.061	0.11	0.90	0.95

NOTE: SRMR=Standardized Root Mean Square Residual (good fit threshold = ≤.08). RMSEA=Root Mean Square Error of Approximation (good fit threshold=≤.08), (good fit threshold = ≥.95). ES, IS, TS, and MS denote emotional, informational, task related, and material support items, respectively.

Table 3 shows fit statistics for models of support from friends of foreign origin. As the table shows, all two-factor models represent a significant improvement in fit as compared to the single factor model when considering reduction in chi-square against reduction in df. Likewise, all three-factor models represent a significant improvement in fit as compared to the two-factor models. Nevertheless, two overall fit indices (GFI and CFI) show insufficient fit for all three factor models. Finally, the four-factor model (ES, IS, TS, MS) results in a significantly improved fit as compared to all three-factor models. All the overall fit indices except one of SRMS, GFI and CFI indicate a good fit for the four-factor model.

In summary, the confirmatory factor analysis generally supported a four-factor model of perceived friend support from friends of Icelandic origin and friends of foreign origin. Consequently, in the third paper, the three items pertaining to each support factor were added to create summary scores on a scale from 3–12 for emotional, informational, task related, and material

support for the two support networks. Cronbach's alphas for the support functions, four functions by two groups, ranged from .84 – .93.

4.3.3 Analysis

Zero-order correlations, means and standard deviations were computed for the social support functions and the continuous independent variables of number of friends and years of residence. Subsequently, two series of regression models assessed predictors of social support functions, one for support from Icelandic friends and the other for support from friends of foreign origin. Each series was run in steps to explore the relationships with friend network size and years of residence. In the first step, the outcome was regressed only on ethnic background, with age and gender as controls, in relation to the four functions of social support. In the second model, friend network size was added, and in the third model years of residence was added. The analysis was performed with IBM SPSS statistics 24 software.

4.4 Assumptions of lineal regression

Studies show that variables of well-being are often not normally distributed. Life satisfaction has been found, for adults and adolescents, to be in the positive range (Proctor et al., 2009) and distress in the negative range (Tomitaka et al., 2017). This means that, on average, people rate their life satisfaction positively and are less likely to report high scores of distress. Similarly, perceived social support, which is an outcome variable in the third paper, is also commonly more positive than negative (Sherbourne, 1988).

Testing for normality with the Kolmogorov-Smirnov test in the first two studies revealed a significant deviation from the norm for the life satisfaction and distress variables. The negative skewness of the life satisfaction variable was -1.43 in the 2009–2010 HBSC data set and -1.08 in the 2013–2014 data set. Distress was positively skewed (0.97) in the 2009–2010 data and 0.83 in the 2013–2014 data. In both cases the sample included over 9,000 students. It was decided not to undertake data transformation measures since skewness and kurtosis over the limit of one are generally not problematic in large samples (Gujarati & Porter, 2009; Lumley, Diehr, Emerson, & Chen, 2002).

In the FRDS study, a Kolmogorov-Smirnov test revealed that all social support functions significantly deviated from the norm. For support from friends of Icelandic origin a negative skewness ranged from -1.62 to -0.70 across the four support functions and for support from friends of foreign origin it ranged from -0.76 to -0.28 across functions.

Lumley et al. (2002) tested the assumptions of normality in a large sample and found that in samples of 500 participants or more least-squares regression performed well despite the present of non-normal dependent variables. For this reason, and in order to preserve the original unit of analysis data transformations were not conducted.

Checking for outliers and homoscedasticity of the variance showed no outliers in any of the three studies and the same variance of the outcome variables for the ethnic groups in the studies.

4.5 Causal inference and the validity of the study

All three studies rely on cross-sectional research design. Accordingly, the analysis is based on testing associations between factors. The studies do not provide definite causal evidence as the time sequence of social relationships cannot be fully accounted for. The factors being tested are embedded differently by time, e.g., gender and age as opposed to social support. Furthermore, causal relationships may take place within different time frames (Wunsch, Russo, & Mouchart, 2010).

Many of the predictors and control variables are fixed or predetermined social categories, such as ethnic group, gender, and age. Thus, the principle of temporal priority applies to associations found when these predictors are involved. The first two studies further include the predictor family affluence, something that the participants do not control and cannot choose. Other such variables in the first paper were family structure and parental employment status. In these cases, there is no speculation of reciprocal relationships; the predetermined categories are prioritized in terms of time which enhances causality claims.

In the case of social support, there is a theoretical possibility of reciprocal relations; less life satisfaction or more distress will lead to less perception of social support from parents, friends, and classmates. Moreover, there are possible reciprocal relationships for number of friends and social support. Experiences, for instance negative experiences, of support from certain types of friends could impact establishing future relationships with such friends. In the third paper, a predictor of residence included a predetermined social category which implies a priority of time.

In social science, exploring complex social phenomena such as well-being invariably includes unmeasured confounds. In this study, unmeasured confounds impacting the well-being of the participants may have included recent life changing events or threats to the well-being of the family, short- or long-term mental or physical illnesses, recent accidents or physical injuries,

bullying or other peer-related harassment, and academic or school-related problems. Similarly, positive events in the adolescents' family life or peer relations could also be accountable for more positive reports of well-being. Numerous factors in individuals' lives can explain well-being. In this study, the theory and previous studies guided us towards including family affluence, family structure, parental employment status, social support from parents, a best friend, and classmates. Further, gender and age were controlled.

While being mindful of the limitations of the research design employed, the possibility of reciprocal relationships between social support and well-being, and unmeasured confounds, this study has several strengths. They include that predictors were introduced into the analytical models in steps, thus distinguishing between variables that had a different role in explaining the outcomes. In addressing an understudied topic, this study lays the foundation for other research. In future studies, research designs that allow stronger claims of causal inferences should be employed.

4.6 Ethical considerations

Principles of ethics in studying human subjects include respect for individuals, ensuring their welfare and safety in relation to participation in research, exercising fairness and honorability (The University Council for the University of Iceland, 2014). The anonymity of the participants in this study was ensured by not including any questions that could be traced to individuals. In accordance with the Act on the Protection of Privacy as Regards the Processing of Personal Data No. 77/2000, such studies are reported to the Data Protection Authority in Iceland, which was done. Thus, the studies comply with regulations and requirements pertaining to human subject's research as laid out by the Data Protection Authority in Iceland (*Personuvernd*).

Further, the FRDS research design was reviewed by the University of Iceland Science Ethics Committee. After receiving answers from queries about how the study would be presented to the adolescents and how anonymity would be ensured, the University of Iceland Research Ethics Committee returned a positive review.

All survey administrations took place in schools. Permissions were obtained by relevant municipality, school authorities and school principals. Information letters were sent to parents through their children's schools and guidance provided on how to refuse participation in the research. Adolescents were clearly informed of their right to refuse to participate or to skip questions they did not want to answer.

Apart from protecting children who take part in research, the ethics code also emphasizes that a research should to try to foresee consequences such as unwanted or unfair attention, or other circumstances that may become harmful to the participants. It is my experience that findings from studies focusing on immigrant youth attract media attention. Further, comparing averages between groups is delicate and can be misunderstood and misreported, and even establish or manifest stereotyping of certain groups instead of pointing out the diversity within groups (Gillespie, Howarth, & Cornish, 2012). As the current study carries important messages, it may be especially productive to direct the results to relevant stakeholders and policy bodies who can facilitate positive actions to better support immigrant youth.

5 Results

In this chapter I will provide an overview of the main results of the study. Results are discussed for each paper.

5.1 Ethnic differences in youth well-being

In the first paper, "Ethnic Differences in Youth Well-Being: The Role of Sociodemographic Background and Social Support", life satisfaction and distress were compared across five ethnic groups: non-mixed natives, non-mixed Polish, mixed Polish, non-mixed Asian, and mixed Asian.

The results showed that the non-mixed native group was significantly more satisfied with life than the mixed Polish, mixed Asian, and the non-mixed Asian group and reported less distress than mixed Polish and mixed Asian youth (Table 4). Youth of mixed Polish origin were less satisfied than non-mixed Polish youth, and the latter group, in turn, reported more life satisfaction than mixed Asian youth.

Table 4. Mean (SD) by ethnic background

	Non-mixed Icelandic	Non-mixed Polish	Mixed Polish	Non-mixed Asian	Mixed Asian
Life satisfaction	8.01 (n=9662)	7.54 (n=116)	6.49** (n=49)	7.31** (n=72)	6.79** (n=131)
	(1.76)	(2.13)	(3.00)	(2.29)	(2.88)
Distress	6.53 (n=9261)	6.54 (n=98)	9.03** (n=48)	7.86 (n=63)	8.34** (n=122)
	(5.09)	(5.81)	(6.79)	(6.57)	(6.65)

** Ethnic group differs significantly from natives at p<0.01

Mean values of family affluence and perceived social support further showed that, in all non-native groups, family affluence was lower than in the native group and they were more likely to find it more difficult to seek support from parents and classmates than native youth (Table 5). A higher proportion of non-native youth lived in non-intact families as compared to native youth and were more likely to have non-employed parents, fathers of non-mixed Polish origin and both parents in mixed Asian families (Table 5).

Table 5. Demographic characteristics by ethnic background

	Total sample	Non-mixed Icelandic	Non-mixed Polish	Mixed Polish	Non-mixed Asian	Mixed Asian
	(n=11561)	(n=9838)	(n=124)	(n=51)	(n=78)	(n=143)
	% (n)	% (n)	% (n)	% (n)	% (n)	% (n)
Gender						
Boys	50.5 (5778)	50.6 (4966)	51.6 (64)	51.0 (26)	48.7 (38)	50.4 (71)
Girls	49.5 (5657)	49.4 (4843)	48.4 (60)	49.0 (25)	51.3 (40)	49.6 (70)
Grade						
6	32.8 (3746)	32.5 (3188)	33.1 (41)	35.3 (18)	28.6 (22)	27.0 (38)
8	33.9 (3871)	33.9 (3322)	32.3 (40)	31.4 (16)	31.2 (24)	39.7 (56)
10	33.2 (3792)	33.5 (3284)	34.7 (43)	33.3 (17)	40.3 (31)	33.3 (47)
Family structure						
Both biological parents	69.4 (8044)	71.4 (7029)	58.1** (72)	47.1** (24)	41.0** (32)	56.6**(81)
Single parent	15.0 (1690)	13.7 (1347)	11.3 (14)	23.5* (12)	26.9** (21)	12.6 (18)
Stepparent	13.1 (1514)	12.7 (1246)	17.7 (22)	17.6 (9)	19.2 (15)	21.7** (31)
Other arrangement	1.6 (179)	1.3 (125)	5.6** (7)	3.9 (2)	2.6 (2)	4.2** (6)
Parental employment						
Mother not employed	14.5 (1605)	13.9 (1312)	16.5 (19)	15.9 (7)	10.1 (7)	20.2* (26)
Father not employed	5.2 (579)	4.5 (431)	10.3** (11)	4.9 (2)	7.4 (5)	18.3** (22)
	M (SD)	M (SD)	M (SD)	M (SD)	M (SD)	M (SD)
Family affluence	7.10 (1.57)	7.20 (1.50)	5.84 (1.61)**	5.79 (2.24)**	5.67 (2.13)**	5.83 (2.38)**
Social support						
Parent	3.49 (0.75)	3.50 (0.72)	3.32 (1.00)	2.80 (1.21)**	3.16 (1.0)**	3.15 (1.11)**
Friend	3.23 (0.98)	3.24 (0.97)	3.19 (1.02)	3.04 (1.13)	2.97 (1.2)	2.93 (1.35)*
Classmates	3.08 (2.25)	3.16 (2.18)	2.17 (2.59)**	1.98 (3.32)**	2.34 (2.9)**	2.29 (3.12)**

** Ethnic group differs significantly from natives at p<0.01

* Ethnic group differs significantly from natives at p<0.05

A hierarchical regression predicting life satisfaction showed that all four non-native groups reported less life satisfaction than the non-mixed native youth (Table 6, Step 1). When the sociodemographic background variables of gender, age, family affluence, family structure, and parental employment status were controlled, ethnic differences in life satisfaction were markedly reduced. Non-mixed Polish and non-mixed Asian youth no longer differed from non-mixed native youth, although life satisfaction remained lower in the mixed

ethnic groups (Table 6, Step 2). Further analysis revealed that family affluence is the most important of the sociodemographic background variables in explaining ethnic differences in life-satisfaction. Parental employment status is the second most important, but only for mixed-Polish and mixed-Asian youth. Thirdly, family structure is somewhat important for all foreign-origin groups. When adding parental, best friend, and classmate support ethnic differences were substantially reduced, and now only mixed Asian youth reported less life satisfaction than non-mixed native youth (Table 6, Step 3).

Table 6. Hierarchical OLS multiple regression predicting life satisfaction

	Step 1		Step 2		Step 3		Step 4	
	ß	Beta	ß	Beta	ß	Beta	ß	Beta
(Constant)	8.01	-	7.43	-	7.69	-	7.69	-
Mixed Polish	-1.32**	-0.05	-0.69*	-0.02	-0.31	-0.01	-0.13	-0.01
Non-mixed Polish	-0.47**	-0.03	-0.18	-0.01	-0.06	0.00	-0.06	0.00
Mixed Asian	-1.25**	-0.08	-0.61**	-0.04	-0.52**	-0.03	-0.36*	0.02
Non-mixed Asian	-0.71**	-0.03	-0.39	-0.02	-0.19	-0.01	-0.29	-0.01
Girl			-0.08*	-0.02	-0.04	-0.01	-0.03	-0.01
Thirteen			-0.33**	-0.09	-0.20**	-0.05	-0.21**	-0.06
Fifteen			-0.79**	-0.20	-0.56**	-0.15	-0.57**	-0.16
Family affluence			0.16**	0.14	0.11**	0.09	0.10**	0.09
Father unemployed			-0.31**	-0.04	-0.26**	-0.03	-0.32**	-0.04
Mother unemployed			-0.23**	-0.05	-0.19**	-0.04	-0.21**	-0.04
Living with single parent			-0.43**	-0.08	-0.35**	-0.07	-0.31**	-0.06
Living with step parent			-0.37**	-0.07	-0.33**	-0.06	-0.31**	-0.06
Other home arrangement			-0.68**	-0.04	-0.68**	-0.04	-0.52**	-0.03
Parental support					0.50**	0.20	0.49**	0.20
Best friend support					0.07**	0.04	0.07**	0.04
Classmate support					0.23**	0.29	0.23**	0.28
Par.supp.*Mixed Polish							0.27	0.01
Par. supp. *Non-mixed Pol.							0.20	0.01
Par. supp. *Mixed Asian							0.34	0.02
Par.supp*Non-mixed Asian							-0.63*	-0.02
Classm. supp. *Mixed Polish							0.05	0.006
Classm. supp. *Non-mixed Polish							-0.01	0
Classm. supp.*Mixed Asian							0.17**	0.032
Classm. supp. * Non-mixed Asian							0.13	0.015
R^2	0.012		0.081		0.23		0.23	

** $p < 0.01$, * $p < 0.05$

An example of significant interactions is depicted in Figure 2. Interactions revealed that classmate support was more important for youth of mixed Asian background than non-mixed natives. Differences in life satisfaction between low and high support groups were significantly greater among the mixed Asian group than for the non-mixed natives (Figure 2). In addition, parental support was less important for life satisfaction among non-mixed Asians than non-

mixed natives (Table 6, Step 4). In other words, for non-mixed Asians life satisfaction was very similar for the groups reporting low- and high-support from parents. Among non-mixed natives, there was a significant difference in life satisfaction depending on levels of parental support.

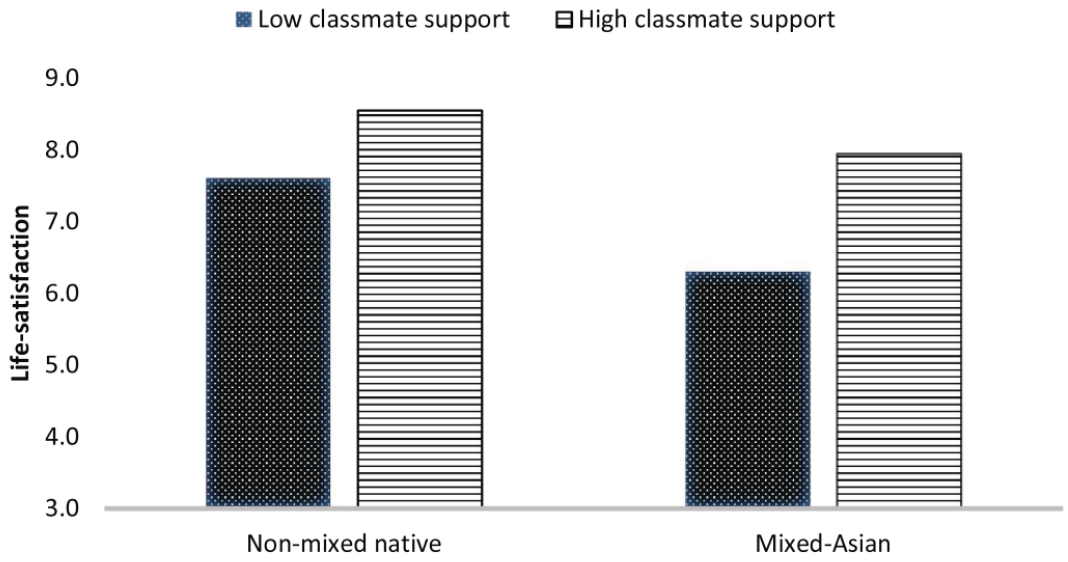


Figure 2. Life satisfaction by perceived classmate support and ethnic origin

Youth of mixed ethnic background, both Asian and Polish, reported more distress than the natives (Table 7, Step 1). When controlling for the sociodemographic background variables of gender, age, family affluence, family structure, and parental employment status, ethnic differences in distress were no longer significant (see Table 7, Step 2). Further analysis show that parental employment was the most important factor for the mixed Polish and mixed Asian youth (the groups reporting more distress that non-mixed natives), and second most important were family affluence and finally family structure.

Lower distress corresponded to reports of higher support from parents and classmates. Interestingly, now non-mixed Polish youth report significantly less distress as compared to non-mixed (Table 7, Step 3). The analysis of interaction effects yielded no significant results.

Table 7. Hierarchical OLS multiple regression predicting distress

	Step 1		Step 2		Step 3	
	ß	Beta	ß	Beta	ß	Beta
(Constant)	6.53	-	5.90	-	5.38	-
Mixed Polish	2.23**	0.03	1.03	0.12	0.08	0.00
Non-mixed Polish	-0.01	0.00	-0.50	-0.01	-1.20*	-0.02
Mixed Asian	1.94**	0.04	0.77	0.02	0.56	0.01
Non-mixed Asian	1.33*	0.02	0.91	0.01	0.06	0.00
Girl			1.37**	0.13	1.20**	0.12
Thirteen			1.02**	0.09	0.73**	0.07
Fifteen			1.90**	0.18	1.36**	0.13
Family affluence			-0.21**	-0.06	-0.06	-0.02
Father unemployed			0.70*	0.03	0.50*	0.02
Mother unemployed			0.53**	0.04	0.41**	0.03
Living with single parent			1.00**	0.07	0.89**	0.06
Living with step parent			0.97**	0.06	0.89**	0.06
Other home arrangement			2.52**	0.05	1.82**	0.04
Parental support					-1.13**	-0.16
Best friend support					0.04	0.07
Classmate support					-0.62**	-0.27
R^2	0.00		0.06		0.17	

*p < 0.05; ** p < 0.01

5.2 Ethnicity, well-being and the context of family, friends and neighborhoods

In the second paper, "Ethnicity and Adolescent Well-Being in the Context of Families, Friends and Neighborhoods", life satisfaction and distress were explored in two ethnic groups, adolescents with foreign-born parents versus those with native parents, focusing on both individual and neighborhood predictors. An unconditional random-effects model showed significant variability between neighborhoods in life satisfaction and distress, indicating that 1.5% of the variance in life satisfaction and 2.0% of the variance in distress were due to neighborhood differences. The numbers were low, but in line with similar studies in Iceland (Vilhjalmsdottir et al. 2016) and New Zealand (Aminzadeh et al. 2013).

Random-intercept models for life satisfaction and distress showed that less distress was found in adolescents of foreign origin compared to adolescents born to Icelandic parents, but no statistical difference was found in life satisfaction (Table 8, Model 1). Family affluence and social support were related to greater life-satisfaction and less distress at the individual level, neighborhood family affluence was likewise related to greater life-satisfaction and less distress, and neighborhood friend support to less distress (Table 8, Model 2).

Table 8. Multilevel random intercept model for life satisfaction and distress (standard errors in parentheses).

	Life-satisfaction			Distress		
	Model 1	Model 2	Model 3	Model 1	Model 2	Model 3
Fixed effects						
Intercept	7.8 (0.03)**	8.3 (0.05)**	8.3 (0.05)**	7.1 (0.10)**	5.2 (0.17)**	5.2 (0.17)**
Individual (student) level						
Parents foreign-born	-0.14 (0.08)	-0.11 (0.09)	-0.19 (0.10)*	-0.56 (0.26)*	-0.63 (0.28)*	-0.40 (0.30)
Female		-0.41 (0.05)**	-0.41 (0.04) **		2.02 (0.12)**	2.02 (0.12)**
8th grade (13-year-olds)		-0.41 (0.05)**	-0.42 (0.05) **		0.87 (0.15)**	0.87 (0.15)**
10th grade (15-year-olds)		-0.63 (0.05) **	-0.64 (0.05)**		1.84 (0.15)**	1.86 (0.15)**
Family affluence		0.12 (0.01)**	0.12 (0.01)**		-0.17 (0.04)**	-0.17 (0.04)**
Family support		0.01 (0.00)*	0.00 (0.00)		-0.02 (0.01)**	-0.02 (0.01)**
Friend support		0.02 (0.00)**	0.02 (0.00)**		-0.04 (0.01)**	-0.04 (0.01)**
Neighborhood (school) level						
Ethnic diversity		0.32 (0.25)	0.19 (0.25)		-0.68 (0.88)	-0.29 (0.90)
Affluence		0.32 (0.06)**	0.34 (0.06)**		-0.73 (0.21)**	-0.79 (0.20)**
Family support		0.03 (0.02)	0.01 (0.02)		-0.07 (0.08)	-0.07 (0.08)
Friend support		0.02 (0.02)	0.02 (0.02)		-0.17 (0.08)*	-0.17 (0.08)*
Individual-level interaction						
Parents foreign-born*family support			0.02 (0.00)**			-0.07 (0.03)*
Cross-level interaction						
Neighborhood family affluence*parents foreign-born			-0.51 (0.22)*			1.50 (0.68)*
Random effects						
Between school variance	0.05 (0.01)**	0.02 (0.01)*	0.02 (0.01)*	0.71 (0.17)**	0.52 (0.14)**	0.51 (0.14)**
Within-school variance	3.21 (0.05)**	2.98 (0.05)**	2.97 (0.05)**	29.87 (0.45)**	27.48 (0.44)**	27.45 (0.44)**

*p<0.05, **p<0.01,

Significant individual-level interactions between ethnic origin, family affluence and social support demonstrated that family support interacted with ethnic origin, indicating more benefits from family support for adolescents of foreign origin than for adolescents of native origin on both well-being indicators.

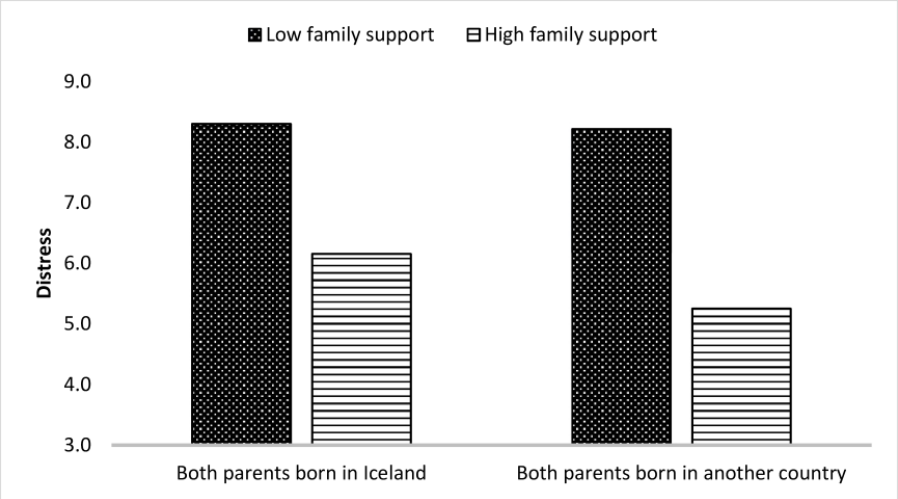


Figure 3. Distress by family support and ethnic background

Figure 3 depicts the interaction for distress and shows less distress among foreign-origin adolescents who perceive higher family support. Native origin adolescents enjoying higher levels of family support also report less distress than those who enjoy less support but the difference between these groups less pronounced than for the adolescents of foreign origin.

Further, cross-level interactions of ethnic diversity, family affluence and social support revealed that ethnic origin interacted with neighborhood affluence indicating differential benefits from neighborhood affluence by ethnic background. Thus, students who had parents born in Iceland benefitted more from higher affluence neighborhoods than students whose parents were foreign-born. Figure 4 depicts the interaction for distress. Adolescents of foreign origin living in higher affluence neighborhoods report more distress than adolescents of foreign origin in lower affluence neighborhoods, but for native adolescents less distress is reported in higher affluence neighborhoods than in lower affluence neighborhoods.

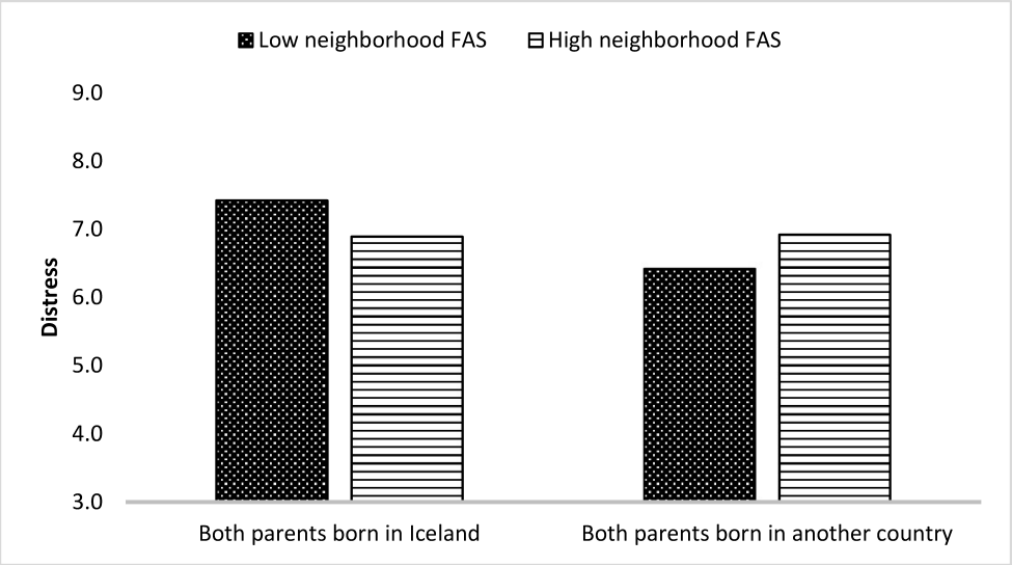


Figure 4. Distress by neighborhood family affluence and ethnic background

5.3 Ethnicity and the perceived support of adolescent friends

In the third paper, "Ethnicity and the Perceived Support of Adolescent Friends in a Society with Rising Immigration", two regression models estimated perceived social support from friends based on the four-factor model of support previously reported.

Non-mixed foreign adolescents perceived less social support for all four factors from Icelandic friends in comparison to non-mixed native adolescents. The mixed-origin group perceived less emotional and task support from Icelandic friends than non-mixed native adolescents (Table 9, Step 1).

Table 9. Hierarchical regression for social support from Icelandic friends (unstandardized coefficients)

	Step 1				Step 2				Step 3			
	ES	IS	TS	MS	ES	IS	TS	MS	ES	IS	TS	MS
(Constant)	9.51	9.18	9.37	8.12	7.52	7.21	7.44	5.91	6.38	6.20	5.93	5.02
Ethnic background[1]												
Non-mixed foreign	-1.68**	-1.20**	-1.24**	-1.06**	-1.22**	-0.70**	-0.71**	-0.68*	-0.93**	-0.45	-0.34	-0.47
Mixed foreign	-0.72**	-0.47	-0.80**	-0.57	-0.43	-0.16	-0.48	-0.30	-0.29	-0.07	-0.30	-0.16
Girls	0.76**	0.48**	0.58**	1.00**	0.97**	0.66**	0.76**	1.24**	1.00**	0.68**	0.78**	1.25**
Grades (age)[2]												
9th grade (15-year-olds)	-0.02	-0.23	-0.10	-0.09	0.02	-0.17	-0.05	-0.03	-0.09	-0.27	-0.18	-0.10
10th grade (16-year-olds)	0.41*	0.23	0.22	0.43	0.42*	0.27	0.25	0.47*	0.25	0.11	0.04	0.35
Number of friends												
Icelandic					0.22**	0.23**	0.23**	0.24**	0.21**	0.22**	0.21**	0.23**
Foreign origin					-0.03	-0.04	-0.05*	-0.01	-0.02	0.03	-0.04	0.00
Years of residence									0.09**	0.08*	0.11**	0.07
R^2	0.11	0.05	0.06	0.06	0.25	0.19	0.19	0.18	0.25	0.19	0.20	0.18

$p < 0.05$, ** $p < 0.01$

[1] Non-mixed native adolescents are a reference group

[2] 8th grade (14-year-olds) is a reference group

Note: ES= Emotional support; IS = Informational support; TS = Task support; MS = Material support.

The number of friends is positively correlated to social support from Icelandic friends. Moreover, differences in perceived social support from Icelandic friends is substantially explained by the number of friends (Table 9, Step 1 and Step 2). The difference in perceived social support from Icelandic friends between non-mixed foreign and non-mixed native adolescents remains significantly different but is now reduced, yet non-mixed adolescents of foreign origin enjoy less support from their Icelandic friends than do non-mixed native adolescents.

Non-mixed adolescents of foreign origin enjoy increasing informational, task, and material support from Icelandic friends as they have lived longer in Iceland. However, the non-mixed foreign-origin group still finds it more difficult to access emotional support from Icelandic friends (Table 9, Step 3).

Table 10. Hierarchical regression for social support from friends of foreign origin (unstandardized coefficients)

	Step 1				Step 2				Step 3			
	ES	IS	TS	MS	ES	IS	TS	MS	ES	IS	TS	MS
(Constant)	6.36	6.14	6.24	5.03	4.39	4.29	4.29	2.8	2.92	3.19	2.83	1.77
Ethnic background[1]												
Non-mixed foreign	1.58**	1.73**	1.79**	2.04**	-0.34	0.04	0.06	0.52	0.07	0.32	0.44	0.78
Mixed foreign	1.42**	1.17*	1.13*	1.58**	0.41	0.26	0.21	0.80*	0.54	0.36	0.38*	0.93
Girls	0.46	0.16	0.28	0.45	0.88**	0.56*	0.68*	0.87**	0.89**	0.54*	0.68*	0.89**
Grades (age)[2]												
9th grade (15-year-olds)	0.22	-0.10	0.14	0.25	0.15	-0.16	0.09	0.21	0.09	-0.20	0.03	0.15
10th grade (16-year-olds)	0.55	0.33	0.31	0.70*	0.42	0.22	0.21	0.61*	0.29	0.12	0.09	0.50
Number of friends												
Icelandic					0.03	0.04	0.04	0.09**	0.03	0.04	0.04	0.08*
Foreign origin					0.54**	0.48**	0.50**	0.46**	0.55**	0.49**	0.51**	0.47**
Years of residence									0.10	0.08	0.10	0.07
R^2	0.03	0.03	0.03	0.00	0.24	0.21	0.22	0.24	0.24	0.21	0.22	0.24

$p < 0.05$, ** $p < 0.01$

[1] Non-mixed native adolescents are a reference group.

[2] 8th grade (14-year-olds) is a reference group

Note: ES= Emotional support; IS = Informational support; TS = Task support; MS = Material support.

Hierarchical regression of the four functions of social support from friends of foreign origin shows that non-mixed and mixed foreign adolescents report having greater access to support from friends of foreign origin as compared to non-mixed native adolescents (Table 10, Step 1). Again, this indicates that friendship relations are more supportive within, as opposed to across, ethnic groups. When controlling for the number of Icelandic friends and friends of foreign origin, none of the associations between groups were significant except for mixed foreign adolescents and material support from friends of foreign

origin (Table 10, Step 2). Mixed adolescents of foreign origin perceived more material support from their friends of foreign origin as compared to non-mixed natives.

Years of residence in Iceland played a different role for the two friend networks. Social support from Icelandic friends increased with more time lived in Iceland, but time in Iceland was not associated with support from friends of foreign origin (Table 11). As the regression of social support from friends of foreign origin indicates, time in the country appeared to be of little consequence (Table 10, Step 3).

Table 11. Zero-order correlations

	1. YR	2. NIF	3. NFOF	4. ES	5. IS	6. TS	7. MS	8. ES	9. IS	10. TS	11. MS
1. Years of residency		0.16**	-0.21**	0.27**	0.21**	0.24**	0.18**	-0.03	-0.05	-0.05	-0.06
2. No. of Icelandic friends			0.18**	0.39**	0.38**	0.38**	0.34**	0.10**	0.10**	0.10**	0.14**
3. No. of friends of foreign origin				-0.07*	-0.05	-0.07	-0.01	0.47**	0.45**	0.46**	0.46**
Support from Icelandic friends											
4. Emotional					0.81**	0.84**	0.70**	0.23**	0.21**	0.20**	0.22**
5. Informational						0.89**	0.65**	020**	0.25**	0.22**	0.21**
6. Task							0.70**	0.17**	0.18**	0.18**	0.32**
7. Material											
Support from friends of foreign origin											
8. Emotional									0.94**	0.95**	0.88**
9. Informational										0.97**	0.87**
10. Task											0.89**
Means	14.08	8.32	3.72	9.64	9.16	9.38	8.48	7.28	6.75	6.97	6.12
(SD)	(2.82)	(4.21)	(3.81)	(2.41)	(2.49)	(2.48)	(2.83)	(4.25)	(4.14)	(4.15)	(4.00)

*p<0.05, **p<0.01

6 Discussion

Supportive relationships are vital for adolescents facing the tasks and challenges associated with migration. This study focused on foreign- and native-origin adolescents' primary social networks, their perceptions of social support from parents and friends in relation to mental well-being, and the role of sociodemographic background.

Compared to native youth, the findings of this study generally indicate less life satisfaction and more distress in youth of foreign origin living in Iceland. A key finding was that this group is, on average, at a disadvantage in terms of family affluence and the likelihood of belonging to non-intact families. Furthermore, youth of foreign origin perceived less social support from family, friends, and classmates as compared to native youth. The way in which these disadvantages are associated with adolescents' well-being vary by ethnicity. This is discussed in the first section and the association with adolescents' perceived social support in the second section.

It is argued in this that friends are an undervalued supportive resource for migrant youth. Adolescence is an important period for exploring and developing intimacy in social relationships. Friends are essential in this journey. Migrating at this vulnerable time in one's life is challenging, as friendships are developing and taking on added importance. A major finding of this study is that social support from friends differs by the origin of the friends. Adolescents of foreign origin perceive more social support, particularly emotional support, from other friends of foreign origin than from native friends. The last section of the discussion is devoted to friends.

6.1 Ethnic differences in youth well-being: Sociodemographic background

The findings of the first and second paper regarding ethnic differences in youth well-being appear to be at odds with each other. In the first paper, Polish and Asian youth reported less life satisfaction when compared to native youth. Also, mixed Polish and mixed Asian youth report somewhat more distress than native youth. In the second paper, however, the foreign-origin group reported somewhat less distress and similar life satisfaction than the native youth.

There are at least three possible explanations for these different findings. First, ethnicity was defined differently in the two studies. In the first paper,

Polish and Asian youth, the largest groups of adolescents of foreign origin in Iceland, were compared to native youth. The second paper considered the effects of having a both parents being foreign born. This suggests that Polish and Asian youth may experience less well-being than youth of foreign origin in Iceland in general. This, higher well-being in youth from other countries may have pulled results in a more positive direction in the second paper.

Second, it should be noted that the first paper revealed less life satisfaction and more distress in the mixed than the non-mixed youth of foreign origin. In the second paper, mixed youth of foreign origin were excluded, which may explain the more positive findings for adolescents of foreign origin in that paper. Third, the data in the second paper was collected four years after the first paper. There may have been positive developments during this period for immigrant youth in Iceland that could partly account for the differing results. Such positive developments may be related to Governmental policy put forward in 2007 encouraging actions in schools and other institutions to increase support to immigrant youth and their families (Ministry of Social Affairs, 2007). In addition, during the period of 2006–2014 there was an increase in number of first- and second-generation immigrants. This development may have increased the access of foreign-origin youth to support from peers with similar background.

In previous studies contrasting results are reported when comparing well-being between immigrant and native youth (Berry et al., 2006; Jaeger et al., 2012; Molcho et al., 2009; Moreno et al., 2008; Ullman & Tatar, 2001; Vieno et al., 2009). Comparing findings across countries and studies is problematic as different definitions of immigrants are applied and different ethnic groups involved. While in some studies, the respondents' places of birth are used to define immigrants (Vieno et al., 2009), parental place of birth is used in in others when there are one or two parents of foreign origin (Lien et al., 2005). Still other studies categorize parental place of birth separately (Carlerby et al., 2011). The composition of the immigrant population varies by countries in regard to country of origin and immigrant status (first, second, or subsequent generations). In this study the vast majority of adolescents of foreign origin in Iceland were first-generation immigrant youth, who according to other studies, tend to experience less distress and greater life satisfaction than second-generation youth (Harker, 2001). These contrasting patterns advise further investigation of various factors that may impact well-being among immigrant youth.

The role of sociodemographic background in immigrant youth's well-being was explored in the first paper. In line with previous studies (Beiser et al., 2002;

Currie et al., 2008; Elgar et al., 2015; Von Rueden et al., 2006) the findings clearly demonstrate relationship between family affluence and adolescent well-being. Polish and Asian youth were more likely to belong to non-intact and less well-off families and have unemployed parents than were youth of native origin. This pattern is further depicted in official numbers that indicate lower incomes and higher levels of dept among adult immigrants in Iceland (Statistics Iceland, 2019c). It is also depicted in previous findings showing that immigrants are more likely to work in the lower-paid sectors such as the fisheries, in construction and in caring for the elderly (Skaptadottir, 2010). It is telling that the initial ethnic differences in the adolescents' life satisfaction and distress disappeared or were substantially reduced when controlling for family affluence, parental employment and family structure. Adolescents in less affluent and poor families tend to experience more financial strain and less stable family relationships and arrangements (Repetti, Taylor, and Seeman 2002, Brooks-Gunn, Duncan, and Maritato 1997). They may have less access to material goods, and feel disadvantaged compared to their peers, all of which can undermine their mental well-being.

Also, the findings of the second paper indicated that family affluence at the neighborhood level matters although neighborhood variation in SES was within 2%. Belonging to a neighborhood that had higher average family affluence benefitted adolescents more than simply belonging to a family with higher affluence. In these neighborhoods, adolescents reported more life satisfaction and less distress than in neighborhoods with lower average family affluence. Similar findings have been reported in other studies (Mair et al., 2008). There may be several reasons for these findings. For example, better-off neighborhoods may be more residentially stable and secure. They may have more developed extended networks, and institutions such as schools may have more resources and fewer problems to deal with in these neighborhoods (Cutrona, Wallace, & Wesner, 2006; Diez Roux & Mair, 2010).

The findings show that, while higher affluence in neighborhoods relates to greater adolescent well-being, this effect benefits adolescents of foreign origin less. In other words, adolescents of foreign origin in higher affluence areas did not report their well-being as positively as did their native peers. This suggests that neighborhood resources may be less readily available for this group. Another explanation may be related to social comparison and the effect ascribed to the frog pond perspective (Espenshade et al., 2005). Thus, it can be argued that adolescents of foreign origin face negative repercussions for belonging to a minority group even while living in a well-off neighborhood.

In the segmented assimilation theory (Portes & Zhou, 1993), it is argued that children in low-status immigrant families are more at risk for adverse outcomes because they are more likely to live in neighborhoods with lower socio-economic status. I did not find an association between neighborhood ethnic diversity and well-being. I also did not find an association between family affluence and ethnic diversity at the neighborhood level. Thus, support for the segmented assimilation theory was not found in this study. However, the benefits of belonging to a well-off family applied equally to neighborhoods with varying ratios of people of foreign origin. The theory of segmented assimilation is based on the US context which differs from the context of this study in important ways. First, although there are signs of increasing ethnic residential segregation in Iceland, it is not at the level described in the theory. Second, the Icelandic school system is a public system and structured according to neighborhoods with very few private schools. Consequently, it can be argued that the opportunities and experiences available to children and adolescents in Iceland are more equal across school areas compared to countries which rely on different institutional structures.

The findings indicate the importance of considering sociodemographic background, both in the family and in the neighborhood, when addressing the mental well-being of youth of foreign origin. The supportive resources available to young people in their social networks are also important.

6.2 Youth well-being in relation to social support from family and friends

There is ample evidence of a positive effect of parental emotional support on health outcomes (see e.g. Stice, Ragan, and Randall 2004, Viner et al. 2012). Although the importance of support from friends in relation to adolescent well-being is less well documented, support from friends increases in importance during adolescence (Bokhorst, Sumter, and Westenberg 2010, Berndt 2004). In general, the study showed that support from family, friends, and classmates are related to greater life satisfaction and less distress, but the study also revealed ethnic differences in perceived support.

In the first paper, perceived parental support was measured by the adolescents reporting how easy it was to discuss their worries and concerns with their parents. Adolescents of two Polish-born parents reported similar parental support as their native peers, but they reported more support than their mixed Polish counterparts. Asian youth seemed to have less access to parental support than non-mixed natives.

The findings suggest that the importance of support from parents may differ by ethnic groups. While parental support somewhat explained the differences in life satisfaction between mixed Polish and non-mixed native youth, it appeared to have less importance for Asian youth when compared to native youth. In the latter case, sociodemographic background was more effective in explaining the initial difference in well-being between non-mixed Asian youth and native youth. Findings from Finland (Liebkind & Jasinskaja-Lahti, 2000) and Norway (Oppedal et al., 2004) demonstrate the benefit of parental support for the well-being of youth of foreign origins, but other studies are inconclusive about the role of social support for youth of foreign origin.

In the first and second papers, there were different findings related to the importance of parental support for immigrant youths' well-being. In the second paper, support from family was more important for the well-being of the adolescents of foreign origin than for native-born adolescents. However, in the first paper, we found that non-mixed Asians benefitted less from parental support than did native youth. A possible explanation is the previously explained difference in the definition of ethnic groups between the two studies.

Asian youth may also have different kinds of relationships with their parents or rely more on other sources for social support as compared to youth with other ethnicities. Moreover, social support is measured differently in the two papers. In the first paper, one question is a proxy of support from parents. While in the second, the social support measure has a wider scope including explicit accounts of emotional support and task support from family members. The latter support scale may be better suited to tapping into the needs for and perception of social support, providing more accurate accounts of the association between support and well-being.

In general, belonging to a family in which both parents are foreign born seems to be more conducive to well-being and support than having a mixed ethnic background. This finding does not accord with the notion that having at least one native parent helps integration and acculturation, thus lowering stress related to migration (Weathers et al., 2008). On the other hand, the results may indicate that there are challenges associated with mixed ethnic parenting, such as a tendency towards cultural conflicts (Caballero, Edwards, & Puthussery, 2008) or differences in acculturation levels between parents and children (Glick, 2010). The results also raise questions about the importance of social support for well-being and how they may vary for different ethnic groups.

Mixed Asian youth were less likely to approach friends for help and perceived the class climate more negatively as compared to native youth. More importantly, mixed Asian youth reported less life satisfaction than non-mixed

natives through all analytic steps. Worse outcomes for this group may indicate a weaker relation to the host culture and a conflict between the culture of origin and the host culture. The results may further reflect a status difference in Icelandic society between groups of different origin in favor of those coming from countries closer to Iceland culturally. This would be in line with the culture distance hypothesis (Ward et al., 2001). In the culture distance hypothesis, it is maintained that, as the distance between the cultures, (reflected in differences in values and customs), of participants grows, the more challenges harmonious interaction may entail. The more negative perception of friends and peers by the Asian group may reflect lower status in the peer society – in addition to cultural differences hampering or slowing the formation of peer relationships. In fact, Icelanders' attitudes towards immigrants reveal a hierarchical structure whereas more positive attitudes are reported the closer geographically or culturally the country of origin was perceived to be (Bogadottir, 2015).

Furthermore, I found less perceived classroom support in all non-native groups as compared to native youth in line with previous results in Iceland (Bjarnason, 2006). Similarly, there are reports of less sense of school belonging (OECD, 2015). These findings may signify relative isolation from the community and school. Entering a new school and a new class that may have had many years to form alliances and bonds may be a challenge for immigrant children. School authorities and teachers should be fully aware that immigrant youth are more likely than natives to become marginalized. They may have a greater need for support from teachers and classmates than do their native peers, due to the lack of support elsewhere. It has been argued that the current school policy of inclusive schools and equitable practices is not properly implemented in Iceland and requires more attention (Hardardottir & Magnusdottir, 2018; Ragnarsdottir & Tran, 2016)

In the second paper, I found that support from friends was associated with less distress at the neighborhood level. This suggests that, in addition to having supportive friends, belonging to neighborhoods rich in such relationships could also be also beneficial. I am not aware of any studies that have shown this latter association, although numerous studies address support at the individual level (Wight, Botticello, and Aneshensel 2006). The findings support theories on the importance of both strong and weak ties in an individual's life and contribute to our understanding of the importance of communities and neighborhoods developing sympathetic relations (Folland 2008, Katz et al. 2004, Granovetter 1973). Neighborhoods differ in overall supportiveness with consequences for those living in them.

I did not find a relationship between living in an ethnically diverse neighborhood and support from friends or family. The protective effect of social support at the individual level seems to apply equally to neighborhoods despite differences in the ration of people of foreign origin living there. However, previous findings indicate a protective effect for ethnic minorities attending ethnically diverse schools (Georgiades et al., 2013; Juvonen et al., 2006). It is possible that the protective effects of ethnic diversity are more readily observed in social contexts where the proportion of different ethnic groups is more even than in my study, where the vast majority belonged to the native group.

In the first two paper, findings show how important supportive relationships with parents, friends, and classmates are for the well-being of youth of foreign origin. These papers were not focused on the nature of the relationships with different members of the social network. In the third paper, the nature of friendships was addressed by exploring social support from friends.

6.3 Friend networks and social support

Social support from friends was differently measured in the three papers. Discussions with a best friend about worries and concerns represented support from a friend in the first paper. In the second paper, four questions measured emotional and task related support from friends. In the third paper, the perceptions of four functions of social support: emotional, informational, task, and material, of social support were explored in two friend networks, Icelandic friends and friends of foreign origin. Neither of the previous studies distinguished between the origin of friends. Consequently, the perspective in the third paper was fundamentally different.

One key finding in the third paper is that adolescents who had a foreign background, especially those with both parents born abroad, were more likely to perceive general support from friends of foreign origin than from native friends. Likewise, those who had a native background were more likely to perceive support from native friends than from friends of foreign origin. Mixed adolescents of foreign origin enjoyed similar informational and task support from their native friends, and the initial difference in perceived emotional and task support disappeared when taking the number of friends into account.

At first glance, these findings may appear to contrast with the results of mixed Asian youth reporting less access to support from friends compared to native youth from the first paper. The difference in the operationalization of support from friends in the two papers makes this comparison difficult. While

the first paper addresses friendships in general, the third one distinguishes between the origin of the friends.

Another finding in the paper indicates that both native adolescents and adolescents of foreign origin who reported a greater number of friends perceived more social support from friends. This finding corroborates pervious research (Flynn et al., 2017). There could be at least two explanations for this finding. First, friends may not always be available or accessible when needed. In larger networks, someone is more likely to be available for support at any given time. Second, being surrounded by many friends, as opposed to few friends, may bolster perceptions of available support, whether or not such support is received.

Although non-mixed adolescents of foreign origin had equally large friend networks as non-mixed native adolescents, the former enjoyed less emotional, informational, task, and material support from their Icelandic friends. This, therefore, suggests that friendships with Icelandic adolescents were generally not as supportive for youth of foreign origin as compared to native adolescents.

Supportive peer networks change over time. Some ties dissolve while others develop. Such changes may be especially true for adolescents of foreign origin. My results indicate that the longer an adolescent of foreign origin has lived in Iceland the more extensive his or her support from Icelandic friends tends to be. In fact, when years of residence are taken into account in addition to the number of friends, there is no difference in informational, task, and material support from Icelandic friends between non-mixed adolescents of foreign origin and non-mixed native adolescents. This suggests that, over time, adolescents of foreign origin extend their friend networks and support across ethnic lines. A well-known quote from the famous Greek philosopher Socrates goes: “Be slow to fall into friendship; but when thou art in, continue firm and constant.” It may take a while for a child or adolescent with a foreign origin to adjust to a new life, to establish relations with peers, and to make new friends. However, the relationships slowly take on meaning and become more supportive.

In general, time has not generally been addressed in studies of immigrant friendships. However, my findings support results from Titzmann and Silbereisen (2009) that indicate a similar tendency towards larger cross-ethnic friend network over time. Also, Oppedal and Idsoe (2015) found an increase in social support from native friends over time in a study of asylum seekers in Norway, which is consistent with my findings. If the aim is to increase cross-ethnic relations, findings of this sort may be relevant for school systems relying on tracking students by academic ability. Such systems may interrupt vulnerable peer relationships in the early stages of development. The fact that

tracking is not part of the education system in Iceland, and that most students attend schools in their neighborhoods of residence, may have positive effects on the development of cross-ethnic friendships over time. A possible threat to this process is the tendency of immigrants to reside in Iceland for a short period of time (Statistics Iceland, 2019c).

There is one exception to our findings about increased native support to adolescents of foreign origin over time. Emotional support from Icelandic friends remains higher among the non-mixed natives, even when the number of friends and years of residence are taken into account. This result corroborates previous findings indicating that adolescents of foreign origin prefer friendships and support within their own ethnic groups (Kim et al., 2012; Suárez-Orozco et al., 2009; Tran, 2015). Thus, non-mixed adolescents of foreign origin do not fully catch up with non-mixed native adolescents when it comes to experiencing emotional support from Icelandic friends. Some unexplained barrier remains. This finding, however, is in line with previous results demonstrating how migrants tend to seek informational and task support from people in the host society, but emotional support to family and friends in their country of origin (Ong & Ward, 2005).

Of the four functions of social support which we explored, emotional support differs from informational, task, and material support by being more subjective than the other three. Warmth, affection, and encouragement require a deeper level of understanding and closeness than the other functions. Our finding can be viewed in relation to previous studies indicating that same-ethnicity friendships may serve other functions than cross-ethnic friendships as they are more intimate and disclosing (Aboud et al., 2003; Kao & Joyner, 2004; Kim et al., 2012; Rude & Herda, 2010; Schneider et al., 2007). This also emphasizes the importance of similar others (Thoits, 2011). Friends who share experiences of being from a different origin than the majority may be more suited to provide social support, especially emotional support.

6.4 Summary

This study focuses on two main issues: the well-being of youth of foreign origin and the social support available to them in their immediate and more distant environments. It shows that the well-being of youth of foreign origin is dependent on the sociodemographic background and differs by ethnic groups. It also demonstrates vulnerabilities as social support seems to be less available to youth of foreign origin compared to native youth. However, this depends on the provider of support, for instance they are more likely to enjoy support from friends of foreign origin than native friends.

An overall message is that factors in the immediate environment (individual level) are more important to the well-being of immigrant youth than more distant characteristics portrayed by neighborhoods in this study. Neighborhood characteristics had less room to explain their well-being than individual factors such as family affluence, family structure, and support from family and friends.

The findings further underline the complexities involved in exploring the adaptation of immigrant youth. In a new model by Suarez-Orozco, Motti-Stefanidi, Marks, and Katsiaficas, (2018) such complexities are explored. The authors maintain that positive adaptation of immigrant origin children and youth need to be investigated in terms of their developmental tasks, psychological adjustment, and acculturative tasks in the context of global, social, political, microsystem and individiual levels. In short, influences from different levels of the immigrant youths' ecological system are important to understand how adjustment, acculturation, and development intersect. In this study, it is for example important to view the findings in light of the fact that the majority of immigrants in Iceland have lived there for five years or less, originate in Eastern Europe and are more likely hold lower-paid jobs than native Icelanders (Statistics Iceland, 2019c).

6.5 Strengths and limitations of the study

This study has several strengths, such as its large sample sizes (especially in the first two papers), high response rates and anonymous questionnaires which should limit social desirability response or non-response due to sensitive items (Tourangeau & Yan, 2007). Furthermore, measurement instruments of all three papers were standardized and previously tested in adolescent samples.

In the first two studies/papers both positive and negative aspects of well-being are included, thus providing a broader spectrum for measuring well-being. Moreover, support measures included general support from family, friends, and classmates against well-beings. The third study also included a measure that considered both sources and functions simultaneously. This is rare in research.

The study contributes to the literature by focusing on adolescents of foreign origin's contexts and relationships in a country with a relatively short history of immigration, but where immigration is rising. Accordingly, most immigrant adolescents share similar experiences and a similar status in the society as first-generation newcomers. These settings are unique for studying conditions and relationships within and across ethnic line. Thus the findings yield important insights for other communities facing similar circumstances.

The study also has several limitations. It is based on self-reports that are limited to the adolescent's understanding of his or her context and relationships. Further, all questionnaires were administered in Icelandic, which may have excluded students of foreign origin with poor Icelandic language skills. The respondents with foreign origins may have been better off culturally and socially than those who were unable to understand and respond to the questionnaire. This also means that the findings do not apply to a group of immigrant youth who either had very recently moved to Iceland (and therefore do not have the Icelandic language skills) or for some other reasons do not have enough skills to answer such questionnaires. A different research setup is needed to ensure inclusion of this group.

As previously discussed, ethnic background was differently defined in the three papers. This is a limitation in the sense that it prevents direct comparison between the papers. However, the papers provide different perspectives, highlighting implications of different categorization of groups. These different perspectives also underscore the complexities of studying immigrant groups as findings may turn out differently depending on the groups and categories observed. Moreover, the different measures of social support used in each paper also limit comparisons across the three papers. I explored ethnicity and social support from the perspective of perceptions of social support but am aware of that other ways of investigating social support might have yielded different insights into adolescent social relationships. For example, investigating reciprocal friendships by using friend nominations provides different insights into intimacy and support in friendships (Graham, Munniksma, & Juvonen, 2014; McGill et al., 2012).

Cross-sectional research designs are limited in the way they can be used to assess relationships between factors. While testing associations, interpreting these as causality is not justified. This limitation was previously discussed in Chapter 4.6. The associations found here should be further explored in a longitudinal design which could provide stronger evidence for the interrelations of social support and well-being. In the study of neighborhood characteristics, only a small part of the variation in adolescent well-being was due to neighborhoods. Such effects should, therefore, be interpreted with the proper caution.

6.6 Novelties and implications

This dissertation presents the first overview in Iceland of conditions and relationships in relation to youth of foreign-origins' well-being. Consequently, the study offers important insight into these conditions and relationships and

could be of value to policy and practices concerning children and adolescents of foreign origin in Iceland at societal and educational levels. The study also highlights vulnerabilities in the lives of recently migrated youth and could be valuable to other countries facing a similar profile of new and rising immigration.

The key finding that non-native adolescents more often live in challenging social and economic circumstances and experience less social support than their native peers which largely explains poorer outcomes is important. These circumstances have not been systematically addressed in governmental policies in Iceland (Ministry of Social Affairs, 2007; Thingskjal no. 1285/2015-2016). Reconsideration of governmental policies relating to family support and taxation on low-income households could benefit immigrant families and even positively affect the well-being of immigrant children.

Furthermore, health and social services, including school health and counseling services, need to be mindful of non-native youth's disproportionate service needs to promote health and respond to early signs of decreasing well-being. It should be kept in mind that migration means that previous connections to health and social service professionals in the country of origin are dissolved and need to be successfully reestablished in a new country. Without these connections, immigrant families may have to rely too largely on their own limited resources.

Internationally, scholars are increasingly addressing the importance of neighborhood characteristics connection to the well-being of the residents. The findings of this study add the perspective of supportive relationships within neighborhoods, in addition to support within families, which has not been simultaneously explored before. Furthermore, the finding that youth of foreign origin benefit less from higher family affluence within neighborhoods suggests that more attention should be paid to which resources in the environment of adolescents of foreign origin are useful and approachable. This should be addressed in future research. The developmental project of assigning a supportive native family to an immigrant family, as carried out in a primary school in Reykjavik (Jonsdottir, 2011), is an interesting example of a way to assist immigrant families in creating supportive relationships within neighborhoods. Studies of the benefits of such resources for immigrant youths' well-being are scarce, and their importance is not properly valued and promoted at the policy level.

This study is the first in which sources and functions of social support are simultaneously investigated in adolescents. The finding that perceptions of support from friends vary by different support functions and different origin

underscores the importance of distinguishing between those aspects in studies of cross-ethnic friendships. Previously, the common practice in studies was to separate sources but not functions (Malecki & Demaray, 2002; Zimet et al., 1988). The importance of studying social support by functions is further highlighted in the finding that adolescents of foreign origin enjoying more intimate relations and emotional support from friends of foreign origin than from native friends. Intimacy, care, and support become central in adolescent relationships. It is important to respect and value preferences for friendships within ethnic groups because such friendships are well suited to provide these central resources.

Encouragingly, the findings of this study indicate that friend networks seem to become more diverse the longer the stay in the new country. That diversification is important for two reasons. First, as the literature suggests, cross-ethnic ties are important for decreasing prejudice and increasing empathy towards people of different backgrounds (Pettigrew & Tropp, 2008). Second, immigrant adolescents usually have access to smaller social networks than do their native peers. Increasing their social network towards cross-ethnic relations not only increases the volume of social support available but also other resources and aid. Although friendships are based on reciprocal, voluntary relationships and thus cannot be forced, the way in which an adolescent's environment and activities are organized can promote or limit associations across ethnic lines. Aiming towards a cohesive and emphatic society, policy makers and practitioners should be mindful of such processes.

This study raises important questions to be addressed in future research. First, although suggesting that ethnicity plays a role in shaping well-being along with sociodemographic background and social support, further evidence for ethnic differences are needed. In order to disentangle the role of ethnicity, migration, and socioeconomic disadvantages, and to verify how background and social support impact well-being, longitudinal studies are needed.

Second, the study indicates the importance of neighborhood characteristics for well-being. Although ethnic diversity was not associated with well-being, the findings raise questions about whether youth of foreign origin have access to resources within the neighborhood. Parallel to rising immigration in Iceland, ethnic residential segregation is increasing (Audardottir & Magnusdottir, 2018). Exploring neighborhood characteristics in a longitudinal design by focusing more closely on the direct and indirect ways that supportive neighborhoods benefit adolescent mental and physical health is important. Such research should also focus on establishing clear and precise indicators for health and

well-being, academic and employment trajectories, and other welfare that can successfully instruct policy at any given time.

Third, this study is focused on friendships and the positive side of friendship relations. The assumption of the study is that supportive friendships are complementary to other relations in the primary support system of youth of foreign origin, and that their influence is always positive. Support from friends, however, may also entail negative influences, for example when an adolescent adheres to a negative lifestyle promoted within his group of friends. This may be particularly true in cases where support from friends is substituted for family support rather than complementing it and thus becomes an exclusive reference and resource for the individual. These effects should be addressed further in research.

As other studies indicate, there are various other forces than time and the size of friend networks that organize friend relations and promote or limit relationship formation. Factors such as classroom and school diversity, discrimination, and skills in the majority language have been addressed in previous studies that indicate a complex combination of contextual and individual factors explaining cross- and same-ethnicity friendships (Chan & Birman, 2009; Smith, McFarland, Tubergen, & Maas, 2016; Titzmann et al., 2012). The fact that many school areas in Iceland have very low ratios of immigrants is likely to encourage cross-ethnic friendships (Howe, 2009), but this needs to be investigated further. Furthermore, friendships within and across ethnic groups may develop differently depending on the ethnic group in question (Bagci, Kumashiro, Smith, Blumberg, & Rutland, 2014). Lastly, online friendship relations of immigrant youth can be an important source of support (Spies Shapiro & Margolin, 2014) and should be studied further. Studies that address social support, intimacy and stability of friendship relations by ethnicity over time are needed.

In conclusion, the findings presented in this dissertation call for actions that will increase the economic and social resources of immigrant families and strengthen the youth of foreign origins' support systems. Iceland appears to keep attracting immigrants, refugees, and asylum seekers. Properly welcoming new residents requires careful and respectful preparation at all levels of society.

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Paper I

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ORIGINAL ARTICLE

Ethnic differences in youth well-being: The role of sociodemographic background and social support

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Abstract

Aims. The aim of this study is to explore the psychological well-being of Polish and Asian immigrant youth in Iceland in comparison with their native peers, and the role of sociodemographic background and social support in explaining ethnic differences. *Method.* The study is based on a dataset from the research network Health Behavior in School-Aged Children (HBSC), collected in the school year 2009–2010. A total of 11,561 students aged 11, 13, and 15 years participated in the study. Immigrant status was determined by parents' birthplace dividing the two non-native groups into four: non-mixed Polish, mixed-Polish (one parent born in Poland), non-mixed Asian, and mixed-Asian (one parent born in Asia). Data were analyzed by means of hierarchical multiple regression. *Results.* Less life-satisfaction and more distress was reported in all non-native groups compared with natives. The outcomes were more negative for youth of mixed ethnic origin. Initial ethnic differences in life-satisfaction and distress disappeared or were substantially reduced when sociodemographic background and social support were controlled. A key finding is that non-native youth more often live in challenging socioeconomic circumstances and experience less access to social support than their native peers. ***Conclusions.*** **Emphasis should be placed on actions that aim to create better sociodemographic conditions and supportive environments for immigrant families. In particular, special effort to foster a supportive school environment for immigrant youth is suggested.**

Key Words: *Immigrant youth, children, adolescents, ethnic differences, social support, sociodemographic background, school environment, life-satisfaction, distress*

Introduction

Health and well-being of immigrants are an ongoing concern [1]. Migration has been considered a stressful transition that can result in worsening mental and physical health [2]. However, the research evidence is mixed as some studies indicate worse health among immigrants and their offspring than among natives while others do not [1]. It is commonly acknowledged that migration entails challenges for children and adolescents, but the degree to which it will affect their health and other adaptation outcomes depends on various protective and risk factors in their lives. Studies indicate that socioeconomic status [3], parental support and monitoring [4], and peer support [5] can be of importance as protecting factors in the process.

Well-being and health of immigrant youth

Contrasting results have been reported in studies that compare well-being of immigrant and native youth. Some studies indicate poorer mental health in the immigrant group [6,7], and others find the opposite [1]. Different results have led researchers to explore the issues of immigrant generations [8], ethnic background [9,10], occupational background

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[3], and social support [11,12] in order to better understand what may explain observed differences.

In Ireland, first-generation immigrant youth reported higher life-satisfaction than natives while taking into account family affluence, gender, and age [13]. Other studies have found no difference in psychological adaptation between natives and immigrants [14], and still others have reported lower life-satisfaction for immigrant youth [6,7].

Studies of mixed and non-mixed ethnic background as factors in mental health also report different results. Carlerby and Viitasara [9] found girls with a foreign background reporting more distress than other groups (mixed and native background). Weathers et al. [15] also found that non-mixed foreign background was associated with worse health than mixed background while Abu-Rayya [10] found higher prevalence of depression and anxiety in mixed background youth than in those with a non-mixed foreign background.

Social support from parents, friends, and classmates

Evidence suggests a positive impact of social ties and social support on health and well-being [16,17]. In particular, perceived social support has been found to positively relate to physical and psychological well-being [16]. The transition from childhood to adulthood involves many challenges, and while parent–child relationships change during adolescence, parental emotional support remains of vital importance [18]. Perceived parental and friend or classmate support are positively related to students' life-satisfaction [19] and self-assessed physical health [20].

A Finnish study showed that parental support may reduce stress related to migration and increase life-satisfaction [11], and increases in family and classmate support positively affected mental health in immigrant children in Norway [12]. However, these studies did not compare native and immigrant youth. Another Norwegian study considered different effects of social support by ethnicity but did not produce conclusive results [5].

The current study

The aim of this study is to explore psychological well-being of immigrant youth in Iceland in comparison with their native peers, and the role of sociodemographic background and perceived social support in their well-being. There are four non-native groups: non-mixed Polish, non-mixed Asian, mixed-Polish (one parent born in Poland), and mixed-Asian (one parent born in an Asian country). The mixed-ethnic groups had one Icelandic parent in 69% of the cases for the mixed-Polish group and in 75% of the cases for the mixed-Asian group. In Iceland, second-generation or subsequent-generation immigrants are extremely rare with only 1% of the total population [21]. Consequently, our data only include a limited number of second-generation immigrants. Our analysis is therefore based on comparing natives and immigrants who are predominantly of the first generation.

In view of previous research, we ask whether immigrant youth in Iceland report less life-satisfaction and more distress than their native peers, and whether youth of mixed background fare worse than youth of non-mixed foreign and native background. We also ask whether sociodemographic background explains ethnic differences in psychological well-being. Finally, we ask if ethnic differences in perceived parental, peer, and classmate support explain ethnic differences in psychological well-being, and if the support affects well-being differently depending on ethnicity (interaction).

The study took place in Iceland, a country of roughly 320,000 inhabitants recently experiencing influx of immigrants, who in 2014 accounted for 8.4% (27,447) of the population compared to 2.0% in 1996 [21]. Polish immigrants are the largest immigrant group, constituting 36.9% of the immigrant population (10,141 1 January 2014), Lithuanians are the second largest group (5.2%), and Filipinos are in third place (5.2%) [21]. With low unemployment rates and a stable welfare society, Iceland has in recent years attracted migrants from Asian and Eastern European countries searching for a better life. The majority of the work available to immigrants is in occupations without special educational or prior training requirements, such as in construction, care work, and other services [22]. In this study we compare the well-being of two immigrant youth groups, Poles and Asians (Filipino, Vietnamese, and Thai), to native youth. Other foreign origin subgroups were not large enough to enable statistical analysis.

Method

Participants

The study uses an Icelandic dataset from the WHO collaborative network Health Behavior in School-Aged Children (HBSC) established in 1982 [13]. In 2009/2010 a standardized anonymous questionnaire was administered in Iceland to all 6th, 8th, and 10th grade students (11, 13, and 15 year olds) present in school at the day of administration (schooling is obligatory for all children through the 10th grade).

The survey complied with regulations and requirements concerning human subjects research, as laid out by the Data Protection Authority in Iceland (Personuvernd), and was approved by the relevant school authorities. The students were informed that participation was voluntary, and that if they accepted to participate, they could skip questions that they did not want to answer. A total of 11,561 students, from 161 schools, participated in the study, yielding an 87% response rate [23].

Males were 50.5% of the respondents, 32.5% were 6th graders (11 year olds), 33.9% 8th graders (13 year olds), and 33.2% 10th graders (15 year olds). Responses to the question of country of birth yielded 8.7% foreign born, and 8.4% reported to have mothers and 7.8% to have fathers born in a foreign country. Icelandic citizens born to Icelandic parents abroad are included in those numbers. In order to minimize classification error arising from this, we restricted non-mixed native background to having both parents born in Iceland (84.9% of the sample).

Measures

Ethnic variables

Immigrant status was determined by parents' birthplace. Five groups were created: non-mixed Icelandic background (84.9%), non-mixed Polish background (1.1%), mixed-Polish background (0.4%), non-mixed Asian background (0.7%: Filipino, Vietnamese, and Thai), and mixed-Asian background (1.2%). Dummy variables were created for the five groups with the non-mixed Icelandic group as a reference.

Sociodemographic and support variables

A dummy variable was created for gender (boy = 0, girl = 1), two dummy variables for age (6th grade as a reference group), two for parental employment status (working father and mother as a reference), and three for family structure (single-parent household, living with a step-parent in addition to a biological parent, and other arrangement), with both biological parents living in the home as a reference group. The HBSC study uses the Family Affluence Scale (FAS) as an indicator of youths' socioeconomic status [24]. The FAS scale comprises four questions about car and computer ownership in the household, family holidays, and if the child has his/her own bedroom. Each item gets a score and the four items are added to create a total FAS score for each participant on a scale of 0 to 9.

To assess perceived support, participants were asked to answer the question "How easy is it for you to talk to the following persons about things that really bother you?" In this study we use the answers for mother, father, and best friend: responses were rated on a five-point scale (0 = Do not have or see this person to 4 = Very easy). A score for perceived parental support was created by using the higher support value, whether it was from a mother or a father. Classmate support [25] was assessed by three items: "The students in my class(es) enjoy being together"; "Most of the students in my class(es) are friendly"; "The students in my class accept me as I am." Responses were rated on a five-point scale (2 = Strongly agree to (2 = Strongly disagree). The scores for the three items were added (Cronbach's alpha = .79).

Dependent variables

Two well-being measures were used. One is life-satisfaction measured by Cantril's ladder [26]. The questionnaire included a picture of a ladder with the instructions that the top of the ladder (10) represented the best possible life and the bottom (0) the worst possible life. Participants were asked to choose a number describing where they stood at the present time. The second well-being measure, distress, was assessed by eight items: In the last 6 months how often have you had the following (headache, stomach-ache, backache, feeling low, irritability or bad temper, feeling nervous, difficulties in getting to sleep, feeling dizzy)? Responses were rated on a five-point scale (1 = About every day to 5 = Rarely or never). A mean score was calculated for the first three items (headaches, stomach-aches and backaches) and the scores for the remaining five items were added to the mean score of the first three, to obtain a summary distress score (Cronbach's alpha = .84).

Analysis

First, descriptive background statistics (frequencies, means, and standard deviations) were explored for each of the ethnic groups. Next, ANOVA statistics compared life-satisfaction and distress across ethnic groups. Finally, a hierarchical multiple regression was conducted to test ethnic differences in life-satisfaction and distress. The first step of the regression contained the four ethnic groups (with the native respondents as a reference group), the second step also included gender, age, family structure, FAS, and parental employment status. In the third step, parental, friend, and classmate support were added, and in the last step, significant interactions between ethnic group and the support variables were included.

In order to reduce standard errors of coefficients, interval level variables involved in statistical interactions were centered prior to analysis.

Table I. Demographic characteristics by ethnic background.

	Total sample % (n)	Non-mixed Icelandic % (n)	Non-mixed Polish % (n)	Mixed-Polish % (n)	Non-mixed Asian % (n)	Mixed-Asian % (n)
Gender						
Boys	50.5 (5778)	50.6 (4966)	51.6 (64)	51 (26)	48.7 (38)	50.4 (71)
Girls	49.5 (5657)	49.4 (4843)	48.4 (60)	49 (25)	51.3 (40)	49.6 (70)
Grade						
6	32.8 (3746)	32.5 (3188)	33.1 (41)	35.3 (18)	28.6 (22)	27.0 (38)
8	33.9 (3871)	33.9 (3322)	32.3 (40)	31.4 (16)	31.2 (24)	39.7 (56)
10	33.2 (3792)	33.5 (3284)	34.7 (43)	33.3 (17)	40.3 (31)	33.3 (47)
Family structure						
Both biological parents	69.4 (8044)	71.4 (7029)	58.1** (72)	47.1** (24)	41.0** (32)	56.6**(81)
Single parent	15.0 (1690)	13.7 (1347)	11.3 (14)	23.5* (12)	26.9** (21)	12.6 (18)
Step-parent	13.1 (1514)	12.7 (1246)	17.7 (22)	17.6 (9)	19.2 (15)	21.7** (31)
Other arrangement	1.6 (179)	1.3 (125)	5.6** (7)	3.9 (2)	2.6 (2)	4.2** (6)
Parental employment						
Mother not employed	14.5 (1605)	13.9 (1312)	16.5 (19)	15.9 (7)	10.1 (7)	20.2* (26)
Father not employed	5.2 (579)	4.5 (431)	10.3** (11)	4.9 (2)	7.4 (5)	18.3** (22)
	M (SD)	M (SD)	M (SD)	M (SD)	M (SD)	M (SD)
Family affluence	7.10 (1.57)	7.20 (1.50)	5.84 (1.61)**	5.79 (2.24)**	5.67 (2.13)**	5.83 (2.38)**
Social support						
Parent	3.49 (0.75)	3.50 (0.72)	3.32 (1.00)	2.8 (1.21)**	3.16 (1.0)**	3.15 (1.11)**
Friend	3.23 (0.98)	3.24 (0.97)	3.19 (1.02)	3.04 (1.13)	2.97 (1.2)	2.93 (1.35)*
Classmates	3.08 (2.25)	3.16 (2.18)	2.17 (2.59)**	1.98 (3.32)**	2.34 (2.9)**	2.32 (2.91)**

**Ethnic group differs significantly from non-mixed Icelanders at $p<0.01$.
*Ethnic group differs significantly from non-mixed Icelanders at $p<0.05$.

Table II. Mean levels of well-being by ethnic background (standard deviations SD in parentheses).

	Non-mixed Icelandic	Non-mixed Polish	Mixed-Polish	Non-mixed Asian	Mixed-Asian
Life-satisfaction	8.01 (1.76) (n=9662)	7.54 (2.13) (n=116)	6.49** (3.00) (n=49)	7.31** (2.29) (n=72)	6.79** (2.88) (n=131)
Distress	6.53 (5.09) (n=9261)	6.54 (5.81) (n=98)	9.03** (6.79) (n=48)	7.86 (6.57) (n=63)	8.34** (6.65) (n=122)

**Ethnic group differs significantly from non-mixed Icelanders at $p<0.01$.

Results

Table I presents frequencies for background variables by ethnicity. It shows that a higher proportion of non-native youth than non-mixed Icelandic youth live in non-intact families and are more likely to have non-employed parents (fathers of non-mixed polish origin and both parents in mixed-Asian families).

Mean values of FAS and perceived support are also lower for non-native youth. The Bonferroni-corrected post hoc test yielded significantly higher FAS for non-mixed Icelandic youth than the other ethnic groups ($p<0.01$). Non-mixed native youth reported more parental support than mixed-Polish ($p<0.01$), mixed-Asian ($p<0.01$), and non-mixed Asian youth ($p<0.01$). Non-mixed polish youth reported more parental support than mixed-Polish youth ($p<0.01$) and, finally, mixed Asian youth reported more support than mixed-Polish youth ($p<0.05$). Support from a friend was significantly lower among mixed-Asian youth than non-mixed native youth ($p<0.05$). Finally, non-mixed native youth perceived more support from their classmates than all the other ethnic groups ($p<0.05$).

In Table II means and standard deviations for life-satisfaction and distress are presented for the five ethnic groups.

The non-mixed native group was significantly more satisfied with life than the mixed-Polish, mixed-Asian, and the non-mixed Asian group ($p<0.01$). Youth of mixed-Polish origin were less satisfied than non-mixed Polish youth ($p<0.01$) and the latter group, in turn, reported more life-satisfaction than

Table III. Hierarchical Ordinary least squares (OLS) multiple regression predicting life-satisfaction.

	Step 1		Step 2		Step 3		Step 4	
	b	Beta	b	Beta	b	Beta	b	Beta
(Constant)	8.01	–	7.43	–	7.69	–	7.69	–
Mixed-Polish	−1.32**	−0.05	−0.69*	−0.02	−0.34	−0.01	−0.13	−0.005
Non-mixed Polish	−0.47**	−0.03	−0.18	−0.01	−0.08	−0.003	−0.06	−0.003
Mixed-Asian	−1.25**	−0.08	−0.61**	−0.04	−0.053**	−0.03	−0.36*	0.02
Non-mixed Asian	−0.71**	−0.03	−0.39	−0.02	−0.22	−0.01	−0.29	−0.01
Girl			−0.08*	−0.02	−0.03	−0.01	−0.03	−0.01
Thirteen			−0.33**	−0.09	−0.2**	−0.05	−0.21**	−0.06
Fifteen			−0.79**	−0.2	−0.56**	−0.15	−0.57**	−0.16
Family affluence			0.16**	0.14	0.1**	0.09	0.1**	0.09
Father unemployed			−0.31**	−0.04	−0.31**	−0.03	−0.32**	−0.04
Mother unemployed			−0.23**	−0.05	−0.21**	−0.04	−0.21**	−0.04
Living with single parent			−0.43**	−0.08	−0.31**	−0.07	−0.31**	−0.06
Living with step parent			−0.37**	−0.07	−0.31**	−0.06	−0.31**	−0.06
Other home arrangement			−0.68**	−0.04	−0.56**	−0.03	−0.52**	−0.03
Parental support					0.5**	0.2	0.49**	0.2
Best friend support					0.07**	0.04	0.06**	0.04
Classmate support					0.23**	0.29	0.23**	0.28
Par.supp. *Mixed-Polish							0.27	0.01
Par. supp. *Non-mixed Pol.							0.2	0.01
Par. supp. *Mixed-Asian							0.34	0.02
Par. supp *Non-mixed Asian							−0.63*	−0.02
Classm. supp. *Mixed-Polish							0.05	0.006
Classm. supp. *Non-mixed Polish							−0.01	−0.001
Classm. supp. *Mixed-Asian							0.17**	0.032
Classm. supp. *Non-mixed Asian							0.13	0.015
R^2	0.012		0.081		0.23		0.23	

**$p < 0.01$, *$p < 0.05$.

mixed-Asian youth ($p<0.05$). Furthermore, significantly less distress was reported in the non-mixed native group than in the mixed-Polish ($p<0.01$) and mixed-Asian youth ($p<0.01$).

Table III shows a hierarchical regression predicting life-satisfaction. At the first step, the non-mixed native group (reference category) was compared with non-mixed and mixed Polish and Asian youth. All four mixed and non-native groups reported less life-satisfaction than the non-mixed native youth, and this was especially the case with the mixed ethnic groups. In step two, sociodemographic background variables were introduced. Older respondents, girls, the less affluent, those living in non-intact families and having non-employed parents, reported less life-satisfaction. With the addition of these variables, ethnic differences were markedly reduced, and non-mixed Polish and non-mixed Asian youth no longer differed from non-mixed native youth, although life-satisfaction remained lower in the mixed ethnic groups.

In the third step, parental, best friend, and classmate support were added to the model, all of which were related to higher life-satisfaction. Again, ethnic differences were substantially reduced and now only mixed-Asian youth reported less life-satisfaction than non-mixed native youth.

In the fourth and final step, significant interaction effects between the support variables and ethnicity were added to the model. Parental support and classmate support significantly interacted with ethnicity. More specifically, classmate support was more important for youth of mixed-Asian background than non-mixed natives. In addition, parental support was less important for life-satisfaction among non-mixed Asians than non-mixed natives.

Table IV presents hierarchical regression predicting distress. Youth of mixed-ethnic background, both Asian and Polish, reported more distress than the natives. In the second step sociodemographic background variables were added showing more distress among older respondents, girls, the less affluent, those living in non-intact families, and those having non-employed parents. With the addition of these variables, ethnic differences in distress were no longer significant. The third step included support from parents, best friend, and classmates, showing lower distress among those reporting higher support from parents and classmates. Interestingly, now non-mixed Polish youth report significantly less distress than

Table IV. Hierarchical Ordinary least squares (OLS) multiple regression predicting distress.

	Step 1		Step 2		Step 3	
	b	Beta	b	Beta	b	Beta
(Constant)	6.53	–	5.9	–	5.38	–
Mixed-Polish	2.23**	0.03	1.03	0.12	0.08	−0.00
Non-mixed Polish	0.01	0.00	−0.5	−0.01	−1.2*	−0.02
Mixed-Asian	1.94**	0.04	0.77	0.02	0.56	0.01
Non-mixed Asian	1.33*	0.02	0.91	0.013	0.06	0.001
Girl			1.37**	0.13	1.2**	0.12
Thirteen			1.02**	0.09	0.73**	0.07
Fifteen			1.9**	0.18	1.36**	0.13
Family affluence			−0.21**	−0.06	−0.06	−0.02
Father unemployed			0.7*	0.03	0.5*	0.02
Mother unemployed			0.53**	0.04	0.41**	0.03
Living with single parent			1.00**	0.07	0.89**	0.06
Living with step parent			0.97**	0.06	0.89**	0.06
Other home arrangement			2.52**	0.05	1.82**	0.04
Parental support					−1.13**	−0.16
Best friend support					0.04	0.07
Classmate support					−0.62**	−0.27
R^2	0.003		0.061		0.168	

*$p < 0.05$;** $p < 0.01$.

non-mixed natives. Analysis of interaction effects yielded no significant results.

Discussion

This study was aimed at exploring the well-being of Polish and Asian immigrant youth in Iceland in comparison with their native peers and whether sociodemographic background and social support from parents, best friend, and classmates could account for ethnic differences in well-being. Our results reveal less life-satisfaction in all mixed and non-native groups than in non-mixed natives. Furthermore, the mixed-Asian and mixed-Polish youth reported less life-satisfaction than the non-mixed Polish and non-mixed Asian youth. Similarly, mixed-Asian and mixed-Polish youth reported more distress than their non-mixed native peers. The findings of less well-being in the mixed background groups are in line with findings from Abu-Rayya [10] but other studies show more positive results for mixed ethnic groups than for those with an entirely foreign background [9,16]. Different definitions of ethnic groups make comparison problematic. While some studies use respondents' place of birth (see e.g. [6]), others use parental place of birth in which one or two parents are foreign-born (see e.g. [27]), and still others categorize parental place of birth separately, similar to what is done here [9].

The fact that initial ethnic differences in life-satisfaction and distress disappear or are substantially reduced when background is controlled for, indicates a vulnerable situation among mixed and non-native youth in Iceland, which is in line with other research [6,9]. More specifically, we find that non-mixed native youth more often belong to intact and well-off families, and have employed parents, all of which partly explain their advantage.

Social support accounted for differences in well-being between ethnic groups, in addition to sociodemographic background. In fact, ethnic differences in life-satisfaction and distress were almost fully accounted for when sociodemographic background and social support were controlled. When compared to non-mixed natives, we found less parental support in the mixed-ethnic groups and the non-mixed Asian group, less friend support in the mixed-Asian group, and less classroom support in all the mixed and non-native groups, which partly accounts for their disadvantage. Interestingly, youth of two Polish-born parents reported similar parental support as their native peers, and more support than the mixed-Polish counterparts. Moreover, when support was added to the regression model, the difference in life satisfaction between mixed-Polish and non-mixed native youth disappeared, and non-mixed Polish youth now reported the lowest distress. Mixed-Asians reported less life-satisfaction than non-mixed natives through all steps of the regression analysis. Worse outcome for the mixed-Asian youth may indicate weaker relations to the host culture, and a conflict between culture of origin and the host culture. It may also reflect a socioeconomic situation affecting relationship formation in these families. In general, belonging to a family in

which both parents are foreign-born appears to be more closely related to well-being and perceived support than having mixed-ethnic background. This finding does not support the notion that having at least one native parent helps integration and acculturation leading to reduced stress related to migration [15]. On the other hand, the results may indicate a tendency towards cultural conflicts in mixed-ethnic families. The results also present evidence that the importance of social support for well-being may vary for different ethnic groups.

A key finding is that non-native adolescents more often live in challenging social and economic circumstances and experience less social support than their native peers. This largely explains poorer outcomes among the non-natives and reflects their less-intact family structures and their parents' more precarious and lower-level occupations. Governmental policies have not systematically addressed these circumstances of immigrants in Iceland [28]. Reconsideration of governmental policies relating to family support and taxation on low-income households could benefit immigrant families and even positively affect the well-being of immigrant children. Furthermore, health and social services, including school health and counseling services, need to be mindful of non-native youth's disproportionate service needs to promote health and respond to early signs of decreasing well-being. It should be kept in mind that migration means that previous connections to health and social service professionals in the country of origin are dissolved and need to be established successfully in a new country. Without these connections immigrant families may have to rely too largely on their own limited resources. Less social support among immigrant youth, especially classmate support, may signify isolation from the community and school. Entering a new school, and a new class which has had years of forming alliances and bonds, is a challenge for the immigrant child. School authorities and teachers should be fully aware that immigrant youth are more likely than natives to become marginalized and may have greater need for support from teachers and classmates than their native peers, due to lack of support elsewhere. Developmental projects such as assigning supportive native families to immigrant families as carried out in a primary school in Reykjavik [29] is an interesting example of a way to assist immigrant families to adapt to new circumstances.

The strengths of this study include a large representative national sample, a high response rate, and a standardized questionnaire. The questionnaire was anonymous, which should have minimized social desirability response bias or non-response due to sensitive items [30]. This study only took into account perceived emotional support. Although a key support dimension, other types of support impacting on well-being could be addressed. The cross-sectional design employed here does not allow for interpretation of causality, a strength of longitudinal designs that could yield further insights. Additionally, future research should address the family context of mixed and non-mixed immigrant families, and the relationships, resources, stresses, and strains that may help explain different outcomes of children and youth in these families. Finally, the context of migration should be addressed, such as the length of residency in the new country, the reasons for emigration, and how migrational factors affect the well-being of immigrant children.

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Conflict of interests

None declared.

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Paper II

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Ethnicity and adolescent well-being in the context of families, friends, and neighborhoods

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Ethnicity and adolescent well-being in the context of families, friends, and neighborhoods

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ABSTRACT

Adolescent mental well-being may be affected in various ways by the experience of migration. Socioeconomic resources and social support affect adolescent well-being, but little is known about the importance of such resources among ethnic groups in immediate versus more distant environments. The aim of this study is to explore ethnic differences in well-being by family affluence, social support and ethnic diversity at both individual and neighborhood levels. This study is a population-based cross-sectional survey and is a part of the international research network Health Behavior in School-Aged Children (HBSC). Participants were 11-, 13- and 15-year-old Icelandic students present in their school at the day of administration ($N = 9565$, 50% males) in 156 compulsory schools. The results show that while family and friend support is associated with greater adolescent well-being, foreign-origin adolescents benefit more from supportive parents than native-origin adolescents. The study shows that belonging to an affluent family benefits well-being, as well as belonging to an affluent neighborhood. Closer inspection shows that this neighborhood effect benefits adolescents of foreign-origin less. More attention should be paid to useful and approachable resources in the environment of native and foreign-origin adolescents and ways to better mobilize the resources within families and neighborhoods.

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Ethnic background; ethnic diversity; family affluence; social support; adolescent well-being

Introduction

Immigrant adolescents face various challenges deriving from leaving their native society and having to adapt to a new one. Stresses and strains associated with the immigration experience may negatively affect their mental well-being (Perreira and Ornelas 2011). Previous studies emphasize the importance of socioeconomic resources and social support for adolescent well-being in general (Cohen 1988; Currie et al. 2008; Thoits 2011), and also when comparing foreign-origin adolescents with native adolescents (Davies and McKelvey 1998; Beiser et al. 2002; Runarsdottir and Vilhjalmsson 2015). It is not clear from the literature to what extent lower well-being by foreign-origin adolescents can be attributed to proximal factors in the immediate environment, as opposed to more distal contextual factors pertaining to schools and neighborhoods.

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Neighborhood social capital and socioeconomic standing may affect minority groups such as immigrant families differently than native families. Portes and Zhou (1993) argue that lower paid immigrant workers are more likely to reside in less affluent neighborhoods which may negatively affect immigrant youths' psychological and behavioral adjustment. At the same time studies indicate more social satisfaction and well-being for ethnic minority adolescents attending ethnically diverse schools (Benner and Crosnoe 2011; Georgiades, Boyle, and Fife 2013).

In this population-based study, we focus on mental well-being of Icelandic adolescents of different ethnic background, ranging in age between 11 and 15. We explore ethnic differences in well-being in relation to family affluence, social support, and ethnic context, at both individual and neighborhood levels. We ask if ethnic variations in well-being are due to differences in the levels or effects of social support, family affluence or ethnic context. To our knowledge, no study has previously investigated these explanatory factors jointly at the individual and neighborhood levels.

Ethnic background and adolescent well-being

For adolescents, circumstances during migration and the process of adaptation to a new society can become stressful and result in harmful stress response. U.S. studies indicate physical health advantage for first generation immigrant youth when compared to natives but also that integration into the mainstream poses a threat to the mental health of immigrant youth, particularly increased risk of anxiety and depression (Perreira and Ornelas 2011). Less life-satisfaction has been reported in immigrant adolescent samples compared to their native peers in Italy (Vieno et al. 2009) and Israel (Ullman and Tatar 2001). However, mixed findings of distress by ethnic background were reported in the U.K. (Khatib, Bhui, and Stansfeld 2013), and a large international study conducted in thirteen countries revealed similar well-being levels for immigrant and national youth (Berry et al. 2006).

An Icelandic study found less life-satisfaction and more distress in Polish and Asian youth compared to native youth, a difference that was largely explained by family affluence, family structure and social support from parents and friends, indicating a more vulnerable sociodemographic status of immigrant youth (Runarsdottir and Vilhjalmsson 2015). Similar findings have been reported in Australia (Davies and McKelvey 1998) and Canada (Beiser et al. 2002). Findings of protective effects of social support for immigrant adolescent mental well-being are inconsistent (Oppedal and Røysamb 2004) and need further exploration.

The association of social relationships and mental well-being is generally well documented (Cohen, Gottlieb, and Underwood 2000; Thoits 2011). Emotional support from parents remains of vital importance through adolescence, although support from friends and peers plays an increasingly important role (Berndt 2004; Bokhorst, Sumter, and Michiel Westenberg 2010). It is the perception of available support from others that is of particular importance (Stice, Ragan, and Randall 2004; Viner et al. 2012). However, there is little knowledge about whether or not the effects of support on adolescent well-being differ by ethnicity or ethnic context.

Family income is also related to adolescent well-being (Von Rueden et al. 2006; Currie et al. 2008; Elgar et al. 2015). Adolescents who grow up in low income or poor families tend

to experience more financial strain and more disruptive family relationships (Brooks-Gunn, Duncan, and Maritato 1997; Repetti, Taylor, and Seeman 2002). They have less access to generally accepted material goods and may feel disadvantaged compared to their peers. Low-income parents may experience relatively low level of well-being, affecting parenting skills, parent–child relationships and, subsequently also, adolescent well-being (Evans 2004).

The everyday life of most adolescents takes place close to their homes (Carlson et al. 2016); at their local school and after-school locations. This indicates that they are affected by the attributes of their neighborhood. This particularly applies to adolescents in Iceland, where the educational system is organized so that students can attend schools close to their homes (Antikainen 2006; Bernburg, Thorlindsson, and Sigfusdottir 2009). Thus, neighborhood characteristics in terms of family affluence, social capital, and ethnic diversity can be of importance for explaining ethnic variations in adolescent well-being.

Neighborhood affluence, social support, and ethnic diversity

One of the key concepts of social capital is social support (Coleman 1988), represented by strong ties (family, friends) and weak ties from acquaintances like parents of friends, neighbors, or friends of friends. Neighborhood social support has been associated with life-satisfaction in early adolescence (Oberle, Schonert-Reichl, and Zumbo 2011), and various mental well-being indicators across countries (Mathieson and Koller 2008). While this applies in general, the question remains whether neighborhood social support benefits all adolescents similarly. The adolescent study by Wight, Botticello, and Aneshensel (2006) found that perceived social support was associated with better mental health, but more benefits were found for adolescents living in advantaged areas. Their study however did not take area level social support into account. This also begs the question if immigrant adolescents can access and benefit from neighborhood social support to a greater or lesser extent than native youth.

A growing literature on features of neighborhoods that may affect developments of positive and negative mental health suggests that socioeconomic position or structural characteristics of neighborhoods are associated with depressive symptoms (Mair, Diez Roux, and Galea 2008). In the theory of Segmented Assimilation, Portes and Zhou (1993) maintain that experiences of immigrants and their children depend on which segment of the society they belong to. Thus, lower paid immigrant workers have less possibilities of starting a home in more affluent neighborhoods, creating challenges for their children which may affect their children's psychological and behavioral adjustment (Portes and Fernández-Kelly 2008). Following this work, researchers ask whether immigrant youth is more or less affected by contextual factors than native youth (Xie and Greenman 2011), which is one of the questions of the current paper.

A social comparison 'frog pond' perspective is useful in how it illuminates relative evaluations in comparison to others in a specific context. These evaluations do not necessarily relate to how this context ranks in the real world (Espenshade, Hale, and Chung 2005; Crosnoe 2009). An example of how the frog pond perspective could apply is how immigrant adolescents may be vulnerable to stigmatization in a low-diversity neighborhood or even face a double disadvantage by belonging to a low-SES family in a high-SES low-

diversity neighborhood. The analogy suggests the frog may be better off in a small pond with a relatively high ranking among peers, rather than facing tougher comparison and competition in a large pond.

In the above discussion, the focus has been on individual ethnic origin and immigrant mental well-being in relation to socioeconomic status and social support in the context of neighborhoods, but the ethnic combination of neighborhoods may also be of importance. Ethnic diversity is by some believed to negatively affect social cohesion (Putnam 2007) and studies have found such links (Mavridis 2015), supporting Putnam's arguments. Others point out factors such as low socioeconomic status (Letki 2008), and the interaction of segregation and diversity as well as poverty, deprivation and inequality that may explain what seems to be a negative link between diversity and social capital (Portes and Vickstrom 2011).

Studies of ethnic diversity of schoolchildren draw a different picture with evidence of students experiencing more safety and more social satisfaction in ethnically diverse classrooms and schools than in more homogenous ones (Juvonen, Nishina, and Graham 2006), and more risk for ethnic minority students of being victimized in schools with lower ethnic minority concentration (Agirdag et al. 2011). Protective effect of immigrant congruence on mental health outcomes of immigrant adolescents has also been reported (Georgiades, Boyle, and Fife 2013). Being surrounded by yours alike seems likely to promote the sense of belonging, security and safety (Benner and Crosnoe 2011).

We will address this discussion by exploring interactions of ethnic diversity in neighborhoods in relation to individual-level family affluence and social support, as well as the interaction of ethnic background and affluence and support in the neighborhood.

Adolescent well-being in Iceland: the current study

This study of individual and neighborhood predictors of adolescent well-being is inspired by findings indicating lower levels of well-being among foreign-origin youth in Iceland compared to native peers (Runarsdottir and Vilhjalmsson 2015). Internationally, scholars have increasingly addressed contextual variations in immigrant adaptation. Establishing new relations and belonging to a social network may be of vital importance for immigrants' well-being as they leave one network behind and enter another in a new country. Is the neighborhood an important context for foreign-origin adolescents' well-being and if so, could social cohesion and support be strengthened to accommodate their needs?

Exploring shared structural attributes and how they may affect adolescent well-being calls for nested multilevel data. The aim of this study is to explore family affluence, social support and ethnic diversity at both individual and neighborhood levels. We ask if affluence and social support (from family and friends) at the neighborhood level contributes to explaining well-being of foreign-origin and native adolescents, alongside or in combination with individual-level affluence and social support. Furthermore, we ask if ethnic diversity in the neighborhood affects adolescent well-being, either independently or in combination with social support and affluence.

Based on previous findings we expect to find an association between individual-level family affluence and adolescent well-being, with greater affluence corresponding to higher well-being (Elgar et al. 2015). Similarly, we expect individual-level family and

friend support to be associated with higher well-being (Berndt 2004). Since previous studies are inconclusive about the role of neighborhood social support and neighborhood affluence, their actual links to adolescent well-being are unclear. To our knowledge previous studies have not considered cross-level interactions of ethnic background and neighborhood affluence and support, nor have they considered cross-level interactions of neighborhood ethnic diversity and individual-level affluence and support when predicting adolescent well-being.

Method

Procedure and participants

This study uses data collected in 2014 by the Icelandic team participating in the World Health Organization (WHO) collaborative international research network Health Behavior in School-Aged Children (HBSC). In Iceland, the study is a population-based survey with a standardized questionnaire administered to all 6th, 8th, and 10th Grade children (11-, 13- and 15-year-olds) present in their school at the day of administration. (Schooling in Iceland is compulsory through the 10th grade). The questionnaire was in Icelandic. The survey was approved by the relevant school authorities and complied with regulations and requirements concerning human subject research, as laid out by the Data Protection Authority in Iceland (Personuvernd). The students were informed that participation was voluntary, and that if they accepted to participate, they could skip questions that they did not want to answer. The response rate in the survey was 84% (10,651 respondents out of 12,678 registered students) (Arnarsson, Gisladottir, and Jonsson 2016).

Neighborhood level variables were based on aggregated scores from each school participating in the study. In Iceland, compulsory schools serve students in their surrounding neighborhood and the vast majority of students attend their neighborhood school. In accordance with guidelines of sufficient statistical power for multilevel modeling (McNeish and Stapleton 2016), we excluded schools in which less than five students answered the questionnaire. Following these criteria, five schools were excluded leaving us with a sample of 156 schools. The excluded schools were all in the countryside but from different parts of the country. Ethnic origin (individual level) and ethnic diversity (neighborhood level) were based on reported parental place of birth. To enable a clear comparison between foreign-origin and native adolescents, we included adolescents reporting both parents born in Iceland, and adolescents reporting both parents born abroad. Adolescents with a mixed background (one parent born in Iceland and one abroad) were excluded from the analysis since the mixed group could also include a native parent born abroad (both native parents born abroad would however be extremely rare). The total number of participants was 9535, of which 94.1% were of Icelandic origin.

Dependent variables: life-satisfaction and distress

We use life-satisfaction and distress symptoms as indicators of well-being. Life-satisfaction refers to adolescents' overall judgment, feelings and attitudes toward their quality of life. Thus, the concept covers both cognitive and affective appraisals and refers to both contentment and enjoyment (Veenhoven 1996). Distress, a negative affect, refers to a non-

specific emotional or physiological response to something stressful or demanding, responses that can be harmful to the adolescent (Ridner 2004).

Life-satisfaction was assessed by Cantril's ladder (1965) which has shown good validity and reliability in adolescent samples (Levin and Currie 2014). A picture of a ladder was included in the questionnaire with the instructions that the top of the ladder (10) represented the best possible life and the bottom (0) the worst possible life. Participants were instructed to select a number describing where in the ladder they felt their life stood now. The second well-being variable included symptoms of distress measured by an instrument developed by researchers in the HBSC team. It has been proven a valid measure of distress (Elgar et al. 2015) with good internal and external construct validity (Haugland and Wold 2001). Participants indicated the frequency of complaints on an eight-item scale: In the last six months how often have you had the following (headache, stomach-ache, backache, feeling low, irritability or bad temper, feeling nervous, difficulties in getting to sleep, feeling dizzy) on a five-point scale (1 = About every day to 5 = Rarely or never). First, scores were reversed into a scale of 0–4 with the higher number referring to the higher frequency of complaints. A mean score was calculated for the three items describing aches (headaches, stomach-aches and backaches) and then the scores for the remaining five items were added to the mean score of the first three, to obtain a summary distress score ranging from 0–24 (Cronbach's alpha = .86).

Independent variables

Individual level

Ethnic origin, based on parental place of birth, was a dummy variable with both parents born in Iceland coded as zero and both parents foreign-born as 1. The latter group thus includes immigrant students born in Iceland (second generation immigrants) and abroad (first generation immigrants) to parents that are foreign-born. Second generation immigrants are only 1.3% of the total population in Iceland while 12% are immigrants of either first or second generation (Statistics Iceland 2017).

The HBSC study uses the Family Affluence Scale (FAS) as an indicator of family socioeconomic status (Boyce et al. 2006). The version of the FAS scale used in this study is comprised of six questions about car and computer ownership in the household, family holidays, if the child has his/her own bedroom, number of bathrooms, and if there is a dishwasher in the household (Elgar et al. 2016). Each item gets a score and the six items are added to create a total FAS score for each participant on a scale of 0–13. A higher score indicates greater affluence.

Family and friend support were measured by the Multidimensional Scale of Perceived Social Support (MSPSS) (Zimet et al. 1988). Four questions indicate family support: 'My family really tries to help me', 'I get the emotional help and support I need from my family', 'I can talk about my problems with my family', and 'My family is willing to help me make decisions.' Similarly, four questions measure friend support: 'My friends really try to help me', 'I can count on my friends when things go wrong', 'I have friends with whom I can share my joys and sorrows', and 'I can talk about my problems with my friends'. Respondents were asked to indicate how they felt about each statement on a seven-point Likert scale from 1 = Very strongly disagree to 7 = Very strongly agree. Scores for social support items were first recoded to a range of −3 to 3 and the items

added to create family and friend support scores on the scale of −12 to 12. Cronbach's Alphas for the family and friend support questions were .98 and .96, respectively.

Gender and age were individual covariates included in the analysis. A dummy variable was created for gender (boy = 0, girl = 1), and two dummy variables for age (6th grade as a reference group).

Neighborhood level

Family affluence and social support were both individual and neighborhood level predictors. Individual scores for each variable were aggregated to the neighborhood level by calculating the mean scores for each school. Ethnic diversity for each school was computed based on the Simpson index: $Dc = 1 - \sum_{i=1}^{g} pi^2$ (Simpson 1949). The diversity score (Dc) is a function of p_i which is the proportion of students in the school from each foreign-origin group. P_i is squared and summed across g groups in the school. Thus, each school received a diversity score on a 0–1 scale (higher value indicates more diversity), in which both number of respondents with foreign-born parents and number of groups of different origin were considered. Based on the size of foreign-origin national groups in Iceland and geographical areas, 12 foreign-origin groups were generated, i.e. Icelandic, other Nordic, Polish, Thai, Filipino (large immigrant groups in Iceland), other Asian, West-European, North-American, South-American, Latvian, Lithuanian and Estonian (the Baltic nations having relatively large immigrant groups in Iceland), other East-European, and Other. Table 1 shows descriptive sample statistics.

Analysis

In the multivariate, multilevel analysis, the variance of each dependent variable was first estimated with an unconditional random-effects model where schools were treated as a random factor. Next, mixed models were estimated to test hypotheses of school variations (Norušis 2012) with fixed effects on each level. Three models were generated for each well-

Table 1. Descriptive sample statistics.

	% (*n*)
Individual level (N = 9565)	
Girls	50 (4719)
Boys	50 (4723)
School Grade	
6th (11-year-olds)	32.4 (3060)
8th (13-year-olds)	35.4 (3340)
10th (15-year-olds)	32.2 (3036)
Ethnicity	
Parents born in Iceland	94.1 (8968)
Parents foreign-born	5.9 (567)
	Means (SD)
Family support	4.24 (9.5)
Friend support	3.58 (8.6)
Family affluence	8.46 (1.6)
Neighborhood (school) level (N = 156)	
Ethnic diversity score	0.22 (0.17)
Family affluence	8.35 (0.6)
Family support	4.22 (1.9)
Friend support	3.34 (1.8)

being outcome. In the first model, ethnic origin at the individual level was entered, and in the second model other individual and neighborhood level variables were included. Significant interactions were finally added in the third model. The interactions tested included interactions of ethnic background and ethnic diversity with family affluence and social support at individual and neighborhood levels. Individual-level family affluence (FAS) and family and friend support scores were group-mean centered within each school to assess the variability of family affluence and support within neighborhoods. The aggregated family affluence and family and friend support scores (neighborhood level) were grand mean centered.

Results

An unconditional random-effects model (not shown) showed significant variability between neighborhoods in life-satisfaction (Wald $Z = 3.75$, $p < .001$) and distress (Wald $Z = 4.13$, $p < .001$). Intraclass correlations indicated that 1.5% of the variance in life-satisfaction and 2.0% of the variance of distress were due to neighborhood differences. The numbers are low but in line with similar studies in Iceland (Vilhjalmsdottir et al. 2016) and New Zealand (Aminzadeh et al. 2013). Random-intercept models for life-satisfaction and distress were generated with the individual (student) level variables gender, age, ethnic origin, family affluence, family support, and friend support (all group-mean centered). The model also included the neighborhood level variables family affluence, family support and friend support (aggregated from each student's score), and finally ethnic diversity in the neighborhood. Lastly, the model included significant interactions.

Table 2 presents findings for each well-being outcome. In the first model, ethnic origin was entered. Less distress was found in foreign-origin adolescents compared to adolescents born to Icelandic parents, but no statistical difference was found in life-satisfaction. A second model included all individual and neighborhood level predictors. Girls and older students reported less life-satisfaction and more distress than boys and younger students. At the individual level, family affluence and social support were significantly related to well-being. Neighborhood family affluence (Level 2) was related to greater life-satisfaction and less distress, and neighborhood friend support to less distress.

In the third model, significant individual-level interactions of ethnic origin, family affluence and social support, and cross-level interactions of ethnic diversity, family affluence and social support were tested, and significant interactions entered into the model. Family support interacted with ethnic origin, indicating that foreign-origin adolescents benefitted more from family support than native-origin adolescents on both well-being indicators. In addition, ethnic origin interacted with neighborhood affluence indicating differential benefits of neighborhood affluence by ethnic background. Thus, students who had parents born in Iceland benefitted more from higher affluence neighborhoods than students whose parents were foreign-born.

Discussion

The aim of this study was to explore ethnic differences in adolescent well-being and the impact of affluence and social support at the individual and neighborhood levels.

Table 2. Multilevel random-intercept model for life-satisfaction and distress (standard errors in parentheses).

	Life-satisfaction			Distress		
	Model 1	Model 2	Model 3	Model 1	Model 2	Model 3
Fixed effects						
Intercept	7.8 (0.03)**	8.3 (0.05)**	8.3 (0.05)**	7.1 (0.1)**	5.2 (0.17)**	5.2 (0.17)**
Individual (student) level						
Parents foreign-born	−0.14 (0.08)	−0.11 (0.09)	−0.19 (0.1)*	−0.56 (0.26)*	−0.6 (0.28)*	−0.38 (0.29)
Female		−0.41 (0.04)**	−0.41 (0.04)**		2.02 (0.12)**	2.02 (0.12)**
8th Grade (13-year-olds)		−0.41 (0.05)**	−0.41 (0.05)**		0.87 (0.15)**	0.88 (0.15)**
10th Grade (15-year-olds)		−0.64 (0.05) **	−0.64 (0.05)**		1.84 (0.15)**	1.86 (0.15)**
Family affluence		0.12 (0.01)**	0.12 (0.01)**		−0.17 (0.04)**	−0.17 (0.04)**
Family support		0.01 (0.00)*	0.00 (0.00)		−0.02 (0.01)**	−0.02 (0.01)**
Friend support		0.02 (0.00)**	0.02 (0.00)**		−0.04 (0.01)**	−0.04 (0.01)**
Neighborhood (school) level						
Ethnic diversity		0.32 (0.25)	0.20 (0.25)		−0.68 (0.88)	−0.29 (0.89)
Affluence		0.32 (0.06)**	0.34 (0.06)**		−0.73 (0.21)**	−0.79 (0.21)**
Family support		0.03 (0.02)	0.03 (0.02)		−0.07 (0.08)	−0.07 (0.08)
Friend support		0.02 (0.02)	0.02 (0.02)		−0.17 (0.08)*	−0.17 (0.08)*
Individual-level interaction						
Parents foreign-born*family support			0.02 (0.00)**			−0.07 (0.03)*
Cross-level interaction						
Neighborhood family affluence*parents foreign-born			−0.51 (0.22)*			1.51 (0.68)*
Random effects						
Between school variance	0.05 (0.01)**	0.02 (0.01)*	0.03 (0.01)*	0.71 (0.17)**	0.52 (0.14)**	0.51 (0.14)**
Within-school variance	3.21 (0.05)**	2.98 (0.05)**	2.97 (0.05)**	29.87 (0.45)**	27.48 (0.44)**	27.45 (0.44)**

*$p < 0.05$, **$p < 0.01$.

As the first model indicates, we found slightly less distress for the foreign-origin group (Table 2, Model 1) which disappeared when taking interactions into account. At first glance, this finding may seem surprising as previous studies in Iceland (Runarsdottir and Vilhjalmsson 2015) and elsewhere (Perreira and Ornelas 2011) suggest a tendency towards less mental well-being among foreign-origin youth. However, it should be noted that the foreign-origin sample includes all adolescents with both parents foreign-born as opposed to a previous study of Polish and Asian youth of mixed-origin and foreign-origin (both parents foreign-born) (Runarsdottir and Vilhjalmsson 2015). Also, it is worth noting that the majority of adolescents of foreign origin were first generation immigrant youth, who, according to other studies, tend to experience less distress and greater life-satisfaction than second generation youth (Harker 2001).

The study found an association between individual-level family affluence and adolescent well-being in line with previous studies (Von Rueden et al. 2006; Currie et al. 2008; Elgar et al. 2015). Adolescents in less affluent and poor families sometimes may experience more financial strain and less stable family relationships and arrangements (Brooks-Gunn, Duncan, and Maritato 1997; Repetti, Taylor, and Seeman 2002), have less access to accepted material goods, and feel disadvantaged compared to their peers, all of which can undermine their mental well-being.

Similarly, family and friend support (individual level) corresponded to greater life-satisfaction and less distress. There is ample evidence of a positive effect of parental emotional support on health outcomes (Stice, Ragan, and Randall 2004; Viner et al. 2012) and although the importance of friend support in relation to adolescent well-being is less well documented, friend support increases in importance in adolescence (Berndt 2004; Bokhorst, Sumter, and Michiel Westenberg 2010). Additionally, interactions revealed that adolescents of foreign-origin benefitted more from supportive parents than did native-origin adolescents. Thus, although family support is important to all adolescents, it has even a stronger implication for foreign-origin adolescents. Previous studies are inconclusive about the role of social support for foreign-origin youth. Oppedal and Røysamb (2004) did not find a protective effect from family support for immigrant adolescents' mental health but found such effect of support from teachers for immigrant boys. The importance of parental support among foreign-origin adolescents is likely due to the fact that they are few in number, scattered around the country, and relatively isolated from other non-native peers. Linguistic and other cultural barriers may also restrict interaction and support from native peers, thus raising the importance of parental support.

In general, the findings demonstrate the effects of affluence, both in terms of the family and neighborhood. Belonging to a neighborhood that had higher average family affluence benefitted adolescents beyond belonging to a higher affluence family. Similar findings have been reported in other studies (Mair, Diez Roux, and Galea 2008). There may be several reasons for these findings. For example, better-off neighborhoods may be more residentially stable and secure, have more developed extended networks, and institutions (such as schools) in these neighborhoods may have more resources and fewer problems to deal with (Cutrona, Wallace, and Wesner 2006; Diez Roux and Mair 2010).

At the neighborhood level, we also found that friend support was associated with less distress. This suggests that in addition to having supportive friends, belonging to neighborhoods rich in such relationships is also beneficial. We are not aware of any studies that have shown this latter association although numerous studies address support at

the individual level (Wight, Botticello, and Aneshensel 2006). Our findings support theories of the importance of both strong and weak ties in individual lives and contribute to our understanding of the importance for communities and neighborhoods to develop sympathetic relations (Granovetter 1973; Katz et al. 2004; Folland 2008). Neighborhoods differ in overall supportiveness with consequences for those living in them. Longitudinal studies should focus more closely on the direct and indirect ways that supportive neighborhoods benefit adolescent mental and physical health.

We did not find that living in an ethnically diverse neighborhood interacted with friend or family support. This suggests that the protective effect of social support at the individual level applies equally to neighborhoods despite different foreign-origin ratios. This result appears to disagree with previous findings indicating a protective effect for ethnic minorities attending ethnically diverse schools (Juvonen, Nishina, and Graham 2006; Georgiades, Boyle, and Fife 2013). However, it is possible that protective effects of ethnic diversity are more readily observed in social contexts where the proportion of different ethnic groups is more even than in our study, where the vast majority belonged to the native group.

We did not find that family affluence interacted with ethnic diversity in the neighborhood. Thus, the benefits of belonging to a well-off family applied equally to neighborhoods with varying foreign-origin ratios. However, we found a cross-level interaction between ethnicity and neighborhood affluence. This indicates that foreign-origin adolescents in higher affluence areas did not report their well-being as positive as their native-origin peers. In the segmented assimilation theory, it is argued that children in low-status immigrant families are more at risk for adverse outcomes because they are more likely to live in lower socioeconomic status neighborhoods. The findings reported here show that higher affluence in neighborhoods relates to greater adolescent well-being, but this effect benefits adolescents of foreign-origin less. This suggests that neighborhood resources may be less readily available for this group. Another explanation may be related to social comparison and the effect ascribed to the frog pond perspective. Thus, it can be argued that adolescents of foreign-origin face negative evaluation belonging to a minority group while living in a well-off neighborhood. This result, along with the importance of family support at the individual level, suggests that more attention should be paid to which resources in the environment of foreign-origin adolescents are useful and approachable and what may be done to better mobilize support both within families and at the neighborhood level. It also suggests exploring neighborhood characteristics in a longitudinal design.

The study has several strengths. It includes a large representative national sample, a high response rate, and a standardized questionnaire. The questionnaire was anonymous, which should minimize social desirability response bias or non-response due to sensitive questionnaire items. The use of multilevel methods enabled us to assess the variability in adolescent well-being due to the individual as well as the neighborhood in which individual resides.

It should be noted though that only a small part of the variation in adolescent well-being was due to neighborhoods. Such effects should therefore be interpreted with the proper caution. The cross-sectional design employed does not allow for the interpretation of causality, a strength of longitudinal designs that could yield further insights. The study is based on self-reports of ethnic origin and family affluence – measures that are limited to

the adolescent's understanding of his or her origin and affluence. Finally, the questionnaire was administered in Icelandic which may have excluded foreign-origin students with poor Icelandic language skills. The foreign-origin respondents may therefore have been better off culturally and socially than those who were unable to understand and respond to the questionnaire.

Conclusion

In conclusion, the study supports previous findings of the importance of social support and family affluence for adolescent well-being and further suggests the role of neighborhood affluence and social support. Moreover, the findings indicate an added importance of family support for foreign-origin adolescents, and also show that neighborhood affluence does not benefit this group to the same extent as it does native-origin adolescents. Future research should address neighborhood characteristics and availability of resources to native- and foreign-origin adolescents.

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