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**Mental Health Disparities Among
Children and Adolescents
of Immigrant Origin in Finland**

**Risks and Psychosocial Resources
in Proximal Socioecological Contexts**

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DOCTORAL DISSERTATION

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Abstract

Immigrant-origin minors may face challenges that are burdensome to their mental health. This dissertation investigates whether there is a mental health disparity between immigrant-origin and the majority population non-immigrant minors in Finland, with an aim to identify key risk factors and psychosocial resources linked with mental health among this population. The population-based School Health Promotion Studies (2017–2023) and the Youth Future Report 2023 were the data investigated in the five part-studies of this dissertation.

The first study found that over a fourth of first-generation immigrant adolescents reported depressive symptoms above the critical level, and almost a fourth reported moderate to severe generalized anxiety. Second-generation immigrant-origin adolescents (18 % and 16.5 %) and the majority population adolescents (13 % and 11 %) reported these symptoms less frequently. Perceived discrimination was a key risk factor, particularly for first-generation immigrants, while good parental relations were a key psychosocial resource.

The second study highlighted that an overall sense of belonging was a key psychosocial resource linked with mental health, especially among first-generation forced migrant adolescents. High belongingness also mitigated the negative link of discrimination on depressive and anxiety symptoms, acting as a protective factor.

The third study examined depressive symptoms and linked factors in the school environment among preadolescents in 4th and 5th grades of primary school. Sense of school belonging was the most important protective factor, while being bullied was the most significant risk factor, followed by literacy challenges. Positive school experiences were more strongly associated with lower levels of depressive symptoms among majority population children, whereas negative school experiences were more strongly associated with higher levels of depressive symptoms, particularly among children of immigrant origin.

The fourth study investigated the mental health disparity of middle school male and female adolescents, and the role of teachers' support and school belonging as psychosocial resources. The mental health disparity was found larger between immigrant-origin and majority population males than between immigrant-origin and majority population females. Teacher support was protective for all immigrant-origin adolescents, except second-generation females. Sense of school belonging acted as a protective factor among forced immigrants. While sense of school belonging was more important for the mental health of majority population youth, teacher support was more important among immigrant-origin youth.

In the fifth study, a short acculturation scale was developed and validated. Host acculturation orientation was linked with better self-esteem among established, and ethnic orientation among recent immigrant-origin youth. Most of the youth had an integrative acculturation strategy, linked with higher self-esteem, sense of belonging and less perceived discrimination.

To summarize, immigrant-origin children and youth are at risk of exhibiting mental health symptoms, specifically when they a) are discriminated/bullied, b) feel that they cannot discuss personal matters with their parents c) have low sense of belonging, and d) experience a lack of teacher support. To promote and protect their mental health, relationships in their microsystems should be at focus (parents, teachers, peers). Despite the risks mentioned, this dissertation also shows that most young people of immigrant origin are doing relatively well in Finland.

Tiivistelmä

Maahanmuuttajataustaiset lapset ja nuoret saattavat kohdata arjessaan haasteita, jotka kuormittavat heidän mielenterveyttään. Tämä väitöskirja tarkastelee mielenterveystilaa Suomessa asuvien maahanmuuttajataustaisten ja valtaväestöön kuuluvien lasten ja nuorten välillä, pyrkien tunnistamaan keskeisiä mielenterveystiloihin yhteydessä olevia riskitekijöitä ja psykososiaalisia resursseja. Tämän väitöskirjan osatutkimuksissa käytettiin aineistona Kouluterveyskyselyjä (2017–2023) sekä Nuorten tulevaisuusraporttia vuodelta 2023.

Ensimmäinen osatutkimus osoitti, että yli neljännes ensimmäisen sukupolven maahanmuuttajataustaisista nuorista raportoi masennusoireita yli kriittisen tason, ja lähes neljännes raportoi kohtalaista tai vakavaa yleistynyttä ahdistuneisuutta. Toisen sukupolven maahanmuuttajataustaisista nuorista 18 % raportoi masennusoireita ja 16,5 % ahdistuneisuusoireita, ja valtaväestön nuorista vastaavasti 13 % ja 11 %. Koettu syrjintä oli keskeinen riskitekijä, erityisesti ensimmäisen sukupolven maahanmuuttajille, kun taas hyvät suhteet vanhempiin oli keskeinen psykososiaalinen resurssi.

Toinen osatutkimus korosti yleisen yhteenkuuluvuuden tunteen olevan keskeinen psykososiaalinen mielenterveyteen yhteydessä oleva resurssi. Voimakkaimmin tämä oli yhteydessä masennus- ja ahdistuneisuusoireisiin ensimmäisen sukupolven maahanmuuttajanuorilla, jotka olivat lähtöisin maista, joista muutetaan Suomeen pääasiassa kansainvälisen suojelun perusteella. Korkea yhteenkuuluvuuden tunne lievensi syrjinnän ja mielenterveystiloihin välistä yhteyttä, toimien näin suojaavana tekijänä.

Kolmas osatutkimus tarkasteli masennusoireita alakoulun 4. ja 5. luokan oppilaiden keskuudessa. Yhteenkuuluvuuden tunne koulussa oli tärkein suojaava tekijä, kun taas kiusaamiskokemukset sekä haasteet luku- ja kirjoitustaidossa olivat merkittävien riskitekijä masennusoireilulle. Myönteiset koulukokemukset olivat voimakkaammin yhteydessä matalaan masennusoireiluun valtaväestön lasten keskuudessa, kun taas kielteiset koulukokemukset olivat voimakkaammin yhteydessä korkeampaan masennusoireiluun maahanmuuttajataustaisilla lapsilla.

Neljäs osatutkimus tarkasteli mielenterveystilaa yläasteikäisillä pojilla ja tytöillä, sekä opettajilta saadun tuen ja kouluyhteenkuuluvuuden tunteen roolia psykososiaalisina resursseina. Mielenterveystilat olivat suuremmat maahanmuuttajataustaisten ja valtaväestön poikien välillä kuin maahanmuuttajataustaisten ja valtaväestön tyttöjen välillä. Opettajilta saatu tuki oli mielenterveyttä suojaava tekijä kaikilla maahanmuuttajataustaisilla nuorilla, paitsi toisen sukupolven tytöillä, ja kouluyhteenkuuluvuus oli puolestaan suojaava tekijä pakolaistaustaisilla nuorilla. Kouluyhteenkuuluvuus oli keskeisempi tekijä mielenterveydelle valtaväestöön kuuluvilla nuorilla, kun taas opettajilta saatu tuki oli puolestaan keskeisempi tekijä maahanmuuttajataustaisilla nuorilla.

Viidennessä osatutkimuksessa kehitettiin ja validoitiin lyhyt akkulturaatiomittari. Valtakulttuuriin orientoituminen oli positiivisesti yhteydessä itsetuntoon Suomessa syntyneillä ja pitkään Suomessa asuneilla maahanmuuttajataustaisilla nuorilla, kun taas

etniseen kulttuuriin orientoituminen hiljattain Suomeen muuttaneilla. Useimmilla nuorista oli integroiva akkulturaatiostrategia, mikä oli yhteydessä korkeampaan itsetuntoon, kuulumisen tunteeseen sekä vähäisempiin syrjintäkokemuksiin.

Maahanmuuttajataustaisilla lapsilla ja nuorilla on Suomessa korostunut riski mielenterveysoireille erityisesti silloin, kun a) heitä syrjitään ja kiusataan, b) he kokevat, etteivät voi keskustella asioistaan vanhempiensa kanssa, c) heillä on heikko yhteenkuuluvuuden tunne, ja d) he kokevat jäävänsä vaille opettajien tukea. Mielenterveyden tukemiseksi ja suojelemiseksi tulisi keskittyä heidän lähisuhteisiinsa (vanhemmat, opettajat, ikätoverit). Edellä mainituista riskeistä huolimatta tämä väitöskirja osoittaa, että suurin osa maahanmuuttajataustaisista lapsista ja nuorista voi suhteellisen hyvin Suomessa.

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Index

Abstract	III
Tiivistelmä	V
Acknowledgements	VII
List of Original Publications	XIII
List of Abbreviations	XIV
1 Introduction	1
1.1 Potential Challenges Among Immigrant-Origin Minors.....	3
1.2 The Mental Health Disparity Between Immigrant and Non-Immigrant Minors	6
1.2.1 Defining Mental Health	6
1.2.2 Extant Research on the Mental Health Disparity.....	8
2 Risk and Resilience in Socioecological Contexts	10
2.1 Developmental Tasks in Childhood and Adolescence	13
2.2 Acculturative Challenge of Immigrant-Origin Minors.....	13
2.2.1 On Acculturation Theory and Psychological Acculturation	13
2.2.2 Acculturation and Positive Adaptation.....	15
2.2.3 Parent-Child Bonds and Acculturation Discrepancies	17
2.3 Longing for Belonging.....	19
2.4 Experiences of Discrimination and Racism	21
2.5 The Role of Teachers and the School.....	22
3 Aims and Research Questions	24
4 Method	27
4.1 Respondents and Procedure	27
4.2 Measures	29
4.2.1 Mental Health.....	29
4.2.2 Socioecological Risk and Protective Factors	31
4.2.3 Acculturation Orientations	33
4.3 Overview of Data Analyses	34
4.3.1 Psychometric Properties and Measurement Invariance	35
4.3.2 Treating Missing Values.....	37

4.3.3 Mean and Prevalence Comparisons.....	38
4.3.4 Linear Regression Models	39
4.3.5 Logistic Regression Models	39
4.3.6 Multigroup Structural Equation Modelling	40
4.3.7 Moderation Analysis	41
4.3.8 Mediation Analysis.....	41
4.3.9 Latent Profile Analysis.....	42
4.4 Research Ethics	43
5 Results.....	45
Study I: Anxiety and depression symptoms and their association with discrimination and a lack of social support among first- and second-generation immigrant adolescents.....	45
Study II: Sense of belongingness, discrimination, and mental health: Associations and buffering effects of sense of belonging on mental health among Finnish native and immigrant-origin youth.....	47
Study III: A Whole-Population Comparative Study of the School Experience and Its Association with Depressive Symptoms Among Immigrant Origin and Native Preadolescents.....	49
Study IV: Mental Health and School Adaptation Among Immigrant, Refugee, and Non-Immigrant Adolescents: A Nested Population-Based Risk and Resilience Study	51
Study V: Acculturation Orientations Among Immigrant Origin Youth: How is Acculturation Associated with Self-esteem, Sense of Belonging, and Discrimination?.....	53
6 Discussion.....	56
6.1 Main results – The Mental Health Disparity Unravelling?.....	56
6.1.1 Mental Health Disparities During Preadolescence and Adolescence	58
6.1.2 The Contradicting Results of Survey and Registry-Based Studies.....	60
6.2 Factors that Promote, Protect or Risk Immigrant Minors’ Mental Health.....	62
6.3 Methodological Reflections	68
6.4 Ethical Considerations	74
6.5 Societal and Educational Implications	75
6.6 The Way Forward	78
References.....	82

List of Original Publications

This thesis is based on the following publications:

- I** Abdulhamed, R., Lonka, K., Hietajärvi, L., Ikonen, R., & Klemetti, R. (2022). Anxiety and depressive symptoms and their association with discrimination and a lack of social support among first- and second-generation immigrant adolescents. *International Journal of Intercultural Relations*, *87*, 193–205. <https://doi.org/10.1016/j.ijintrel.2022.03.001>
- II** Abdulhamed, R., Hietajärvi, L., Skogberg, N., Klemetti, R., & Lonka, K. (2024). Sense of belongingness, discrimination, and mental health: Associations and buffering effects of sense of belonging on mental health among Finnish native and immigrant-origin youth. *International Journal of Intercultural Relations*, *103*, 102081. <https://doi.org/10.1016/j.ijintrel.2024.102081>
- III** Abdulhamed, R., Hietajärvi, L., Klemetti, R., & Lonka, K. (2025). A Whole-population comparative study of the school experience and its association with depressive symptoms among immigrant origin and native preadolescents. *Psychology in the Schools*, *62*, 1196–1216. <https://doi.org/10.1002/pits.23385>
- IV** Abdulhamed, R., Motti-Stefanidi, F., Hietajärvi, L., Salmela-Aro, K., Klemetti, R., & Lonka, K. (*in review*). Mental Health and School Adaptation Among Immigrant, Refugee, and Non-immigrant Adolescents: A Nested Population-based Risk and Resilience Study.
- V** Abdulhamed, R., & Lonka, K. (2024). Acculturation orientations among immigrant-origin youth: How is acculturation associated with self-esteem, sense of belonging, and discrimination? *Journal of International Migration and Integration*. <https://doi.org/10.1007/s12134-024-01194-1>

The publications are referred to in the text by their roman numerals.

List of Abbreviations

CAS	Compact Acculturation Scale
CFA	Confirmatory factor analysis
GAD-7	Generalized Anxiety Disorder Scale
MCFA	Multigroup confirmatory factor analysis
MENAP	Greater Middle East (Afghanistan, Iraq, Iran, Somalia, and Syria)
MgSEM	Multigroup structural equation modelling
OCO	Other countries of origin
PHQ-2	Patient Health Questionnaire-2, a depressive symptoms scale
SEM	Structural equation modelling
SHPS	School Health Promotion Study

1 Introduction

Children and adolescents of immigrant origin face unique challenges in addition to general age-salient developmental tasks (Abdi et al., 2023; Suárez-Orozco et al., 2018). These challenges are influenced by their migration histories and the social settings of their new home country. Some have relocated for voluntary reasons, such as their parents' employment, while others were forced to migrate in search of refuge. Some, in turn, were born in the country, where their parents once migrated to. These various circumstances introduce a range of challenges that may pose additional risks to their positive adaptation.

This dissertation investigates mental health disparities and related risk, protective or promotive psychosocial factors among children and adolescents of immigrant origin in Finland. Migration to Finland has remained relatively low compared to other European countries (OECD, 2017). By the end of 2023, only 10.2 per cent of the total population, and 12.4 per cent of minors were of immigrant origin of whom 42.8 per cent were first-generation immigrants (Statistics Finland, 2024). However, the number of immigrant origin minors have quadrupled in a period of twenty and doubled in a period of ten years¹. Finland is slowly diversifying, and we need to understand who among immigrant minors do well and why to inform stakeholders on how we can promote and protect their positive adaptation. The prosperity of all children and adolescents is vital for the society.

Previous research suggested that children and adolescents of immigrant origin were more susceptible to psychological stress and depressive symptoms than their non-immigrant majority population peers in Europe (e.g., Dimitrova et al., 2016). However, these previous studies have lacked population-based data. Therefore, previous research has not allowed for subgroup analyses to identify the between-

¹ By the end of 2001 2.5 per cent, 2011 4.98 per cent, and 2021 10.1 per cent of minors were from immigrant families (Statistics Finland, 2017, 2021; Statistics Finland 2023 [own calculations]).

group variation. For example, we lack knowledge on to whether the mental health burden continues from first generation to the next ones. Moreover, we have lacked research on whether the role that immigrant status has on the mental health of children and adolescents are similar for both males and females. We also lack population-based research on how children and youth with roots in refugee generating countries compare to those children and youth who migrate on a voluntary basis. To address such questions, large population-based data are needed to allow subgroup analyses and comparisons.

Moreover, extant research is limited on whether mental health disparities vary at different phases of development. Are the patterns among these groups similar in preadolescence as they are in adolescence? These developmental phases are linked with different kinds of age-salient developmental tasks, which are likely to interact with immigrant status and/or acculturation (Titzmann & Jugert, 2024). For example, (ethnic) identity development (Erikson, 1968; Phinney et al., 2006) and increasing autonomy during adolescence (Zimmer-Gembeck & Collins, 2006) could interact with the acculturative task (Suárez-Orozco et al., 2018). Such interactions may in turn be linked with increased/decreased challenges at different ages.

Key indicators of positive adaptation among immigrant-origin youth encompass their psychological well-being, mental health, and success in age-salient developmental and acculturative tasks (Motti-Stefanidi & Masten, 2017; Suárez-Orozco et al., 2018). To support these youth, we need to recognize the factors in their everyday lives and proximal relations that risk, promote or protect their positive adaptation. This dissertation aims to, first, study the mental health disparities between immigrant-origin and non-immigrant majority population children and adolescents, and second, to illuminate and unravel the reasons for – and factors associated with – mental health burdens and disparities among immigrant-origin children and youth. Conceptually, this dissertation aims to address the factors that promote, protect or risk the mental health of children and adolescents of immigrant origin. It examines and compares the varying experiences of first-generation immigrant minors who have migrated to Finland, and second-generation immigrant-origin minors, who were born in Finland to immigrant parents. Moreover, it considers their countries of origin to address the reasons for

migration: from some countries migration to Finland is predominantly forced (i.e., migrating as refugees or to seek asylum), while from other countries, it is voluntary (Immigration Department, 2019; Sutela & Larja, 2015). Children and youth who migrate as refugees or asylees (i.e., forced migrants) are especially at risk for mental health burdens due to often being exposed to traumatic events (Abdi et al., 2023; Fazel et al., 2012; Peltonen, 2024). Therefore, it is necessary to investigate mental health disparities and linked socioecological factors among immigrant minors based on whether they were forced to migrate, or whether their reasons were less pressing.

1.1 Potential Challenges Among Immigrant-Origin Minors

Childhood and adolescence as an immigrant or descendant of immigrant parents often comes with additional challenges. These children and adolescents are faced with the complex issues of belonging, identification, rejection, and discrimination. They need to learn a new language, study in this second language, as well as purposefully juggle varying cultural values, behaviours, and expectations. Along with developmental objectives shared among all minors, children and adolescents of immigrant-origin have the extra challenge of acculturative tasks they need to resolve and adjust to (Suárez-Orozco et al., 2018). These include, for example, adjustment between culturally varying values, morals, beliefs, social norms and customs. They also need to resolve how to identify with the cultures around them, that is, develop their ethnic/intercultural identity (Phinney et al., 2006). Lastly, their developmental task of language learning is challenged by a different spoken language(s) in and outside of home. While the majority population minors share the same language at home and at school, immigrant-origin youth are less likely to benefit from this asset, which is in turn reflected in a more challenging developmental task of success in academic achievement (Pulkkinen et al., 2024). Acculturation, altogether, is a challenging and stressful process (Berry, 2005; Sam & Berry, 2009).

Childhood and adolescence are critical periods in the life course. Positive adaptation and resilient coping with risk factors during childhood and adolescence are associated with their future wellbeing (Wright et al., 2013). Unmet material and

socioemotional needs, lack of emotional and instrumental support, difficulties in coping with risk factors, such as low economic status and discrimination, along with issues in social and emotional adjustment during this period, can have cascading negative consequences in their developmental trajectories (Masten, 2014; Motti-Stefanidi, 2018).

Immigrant-origin minors may often need to balance cultural diversity without an assembly of support, as their parents may not be familiar with the customs of the receiving country, nor may their teachers be familiar with the cultural norms of their families. As immigrant-origin children and adolescents may be more in contact with the majority population, for example, due to attending a prominent socialization environment, namely, the school (Motti-Stefanidi et al., 2023), they are often acculturating at a faster phase than their parents. This creates acculturation discrepancies (Schwartz et al., 2016) and acculturation gaps (Telzer, 2011) between parents and children.

Thus, these minors bear the task of adjusting accordingly and purposefully in varying cultural contexts. This might sometimes be a burdening task if social norms and emotional display rules between cultures vary largely (Sam & Berry, 2009). For instance, in some cultures children who are being disciplined are expected to lower their gaze (Safadi & Valentine, 1990), which may cause confusion if eye contact is culturally expected in such social exchanges, especially as avoiding eye contact is the most common stereotype of cues of lying (The Global Deception Research Team, 2006). The child needs to become aware of these culturally varying expectations of social conduct and act accordingly. In practice, this could be at times an elusive and confusing task for developing children and adolescents in navigating their everyday lives, predisposing for stress-induced mental strains. Indeed, children and youth of immigrant-origin may at times feel that they are not understood in either their school or home environments. Bouakaz (2007) described this phenomenon as *'double-loneliness'* among the immigrant-origin minors he studied in Malmö, Sweden.

These minors may in turn find comfort in shared experiences of challenges among peers with similar backgrounds. Moreover, their possibilities to have control over stressful events, such as discrimination and racism is important. Coping with

ethnic discrimination in a classroom or school with fewer immigrant-origin students could be more stressful compared to when your non-native identity is shared with other students. Indeed, in a study conducted in the United States, having same-ethnic peers in school was associated with less emotional and behavioural problems, contributing to a higher sense of belonging (Georgiades et al., 2013). Moreover, in Greece, immigrant-origin students were less likely to be rejected in classrooms with a larger composition of immigrants (Asendorpf & Motti-Stefanidi, 2017).

Coping With the Challenges

Acculturation is considered a stressful process (Berry, 2006), during which positive adaptation is contingent on individuals' psychosocial resources, resilience and coping strategies (e.g., Masten, 2014; Masten et al., 2021; Motti-Stefanidi & Masten, 2017). Whether acculturative stressors, such as discrimination and racism, risk the mental health of immigrant youth, is contingent on a) the individual's cognitive appraisal of the factor as threatening, b) on their psychosocial resources and coping, and c) the frequency and recurrence of the risk factor (Berjot & Gillet, 2011; Folkman & Lazarus, 1991; Lazarus & Folkman, 1984).

In the transactional model of coping, Lazarus and Folkman divide coping strategies to problem-focused and emotional-focused coping. This framework is central in understand coping with (acculturative) stress linked to perceived discrimination, racism, othering, exclusion. It illuminates the mechanisms underlying either resilient coping or faltering (see also Berjot & Gillet, 2011).

First, problem-focused coping can be distinguished to individuals' adaptive, or maladaptive action. Adaptive action includes, for example, actively avoiding situations where they anticipate being discriminated against, leaving the situation, asking for help from others, and reporting of the experiences to teachers or other school personnel. In contrast, maladaptive problem-focused action may include verbal or physical attacks against the assumed discriminator. Emotional-focused coping may include, for example, cognitive reappraisal and seeking emotional support. Cognitive reappraisal may constitute of, for example, giving less valence to the perpetrator (e.g., *that person does not have the power to demean me or my*

ingroup, and thus they are not worth to worry about). Emotional support, on the other hand, can be received by turning to friends, school personnel, or parents.

In schools and classrooms with larger composition of immigrant-origin peers, emotional support may be more readily available. In the case of experiencing discrimination and racism within school contexts, avoiding situations, or changing environments as problem-focused coping mechanism, may be neither possible nor adaptive. Rather, they may become maladaptive coping mechanisms by, for example, getting left behind due to skipping school. Indeed, first-generation immigrant adolescents in Finland have reported both more bullying, and more skipping school due to feeling unsafe compared to second-generation immigrants and non-immigrant majority population adolescents (Pulkkinen et al., 2024), reflecting problem focused maladaptive coping.

The daily lives of children and adolescents of immigrant-origin are complex in terms of their manifold social encounters and their readiness to cope with various stressors. Some of these complexities were highlighted above with the transactional model of stress and coping. This dissertation, guided by the integrative risk and resilience model for adaptation of immigrant-origin youth (Suárez-Orozco et al., 2018), focuses on investigating the links between mental health burdens and socioecological factors, illuminating key issues for immigrant youths' coping and positive adjustment.

1.2 The Mental Health Disparity Between Immigrant and Non-Immigrant Minors

1.2.1 Defining Mental Health

Good mental health can be defined as a state where an individual is able to cope with the normal stresses of life and perform effectively in their daily activities (Fusar-Poli et al., 2020). While researchers agree that the mere absence of mental disorders does not define good mental health, defining mental health in general is a continuing debate (Fusar-Poli et al., 2020; Galderisi, 2024). Some definitions stress the importance of good adjustment and lack of anxiety and other disabling

symptoms. Other definitions consider hedonic well-being, which includes positive emotions, and eudemonic well-being which encompasses meaningfulness and purpose, as essential parts of good mental health too (Galderisi, 2024). Nevertheless, disabling mental health disorders, such as depression and generalized anxiety, are not only risking good mental health, but also health in general (Prince et al., 2007). In fact, the World Health Organization considers depression as the dominant factor for global disability (World Health Organization, 2017).

In the present dissertation, I investigate mental health disparities by comparing symptom prevalence and the extent of depressive and generalized anxiety symptoms, namely, mental health disorders (Studies I–IV). These internalizing symptoms are disabling in nature, and indicators of the lack of good mental health as defined by the American Psychological Association (Galderisi, 2024). Depressive and anxiety symptoms often co-occur (Cummings et al., 2014; van Loo et al., 2016). Children and adolescents' depressive symptoms are manifested in sad and empty moods, low threshold in tolerating frustration, and getting easily agitated or irritated (Powell et al., 2017). In turn, generalized anxiety is characterized by distressing and impairing worry that is excessive and uncontrollable (McLellan & Hudson, 2017). Moreover, Study II additionally investigates positive mental well-being (Tennant et al., 2007), delving into the hedonic and eudemonic facets, to understand the relation of sense of belonging to both mental health disabling symptoms, and indicators of good mental health. Finally, Study V focuses on self-esteem, a crucial foundation of mental well-being, which predicts fewer internalizing symptoms (Sowislo & Orth, 2013), and in turn, is a key factor in the quality of life among patients with mental health disorders (Barbalat et al., 2022).

Adolescence is a turbulent phase, marked with increasing autonomy and rapid physical, cognitive, and social development (Crone & Dahl, 2012; Forbes & Dahl, 2010; Gowers, 2005). This period in life is also critical for coping with stresses, which some falter, indicated by a peak in onset of depressive and anxiety disorders at age 15.5 (Solmi et al., 2022). Thus, it is necessary to highlight that immigrant adolescents face a double jeopardy: The stresses related with both immigrant status and adolescence (Sam & Berry, 2009). With investigating both preadolescents and

adolescents in this dissertation, I aimed at illuminating how mental health disparities are manifested among immigrant-origin and non-immigrant minors at different phases of development.

1.2.2 Extant Research on the Mental Health Disparity

The well-being outcomes among immigrant-origin populations have puzzled researchers globally. Particularly in the USA, a phenomenon known as the *immigrant paradox* or *immigrant health-effect* has been emergent in studies (Coll & Marks, 2012), where immigrants of first generation have shown better overall well-being and adaptation compared to second generation and in some domains even to the majority population. However, the results have been inconsistent across domains, countries, immigrant-groups, genders, and ages. A more recent meta-analysis from the USA shows that among first-generation immigrant adolescents, internalizing symptoms (e.g., depression) were more frequent, whereas among second-generation immigrant adolescents externalizing symptoms (e.g., problem-behaviours) were more frequent (Tilley et al., 2021).

Within the European context, a meta-analysis showed that internalizing and externalizing symptoms as well as worse academic outcomes were more frequent among immigrant-origin youth in comparison to the majority non-immigrant population (Dimitrova et al., 2016). However, comparative studies of mental health and well-being between forced (i.e., refugees and asylum seekers) and voluntary (i.e., migrants who relocated for example by a work or study permit) migrant youth remain scarce. In a study by Spaas and colleagues (2022), this issue was addressed with samples gathered from five European countries. They investigated post-traumatic stress symptoms (PTSS) and mental health symptoms (inquired by the Strengths and Difficulties Questionnaire, SDQ) among immigrant and refugee youth. They found that refugee youth scored higher than non-refugee immigrant youth on the PTSS scale but, surprisingly, did not show higher scores on internalizing symptoms.

In Finland, the population registries contain rich data on, for instance, how and why people have used health services. Two studies utilising longitudinal registry-based cohort datasets demonstrated an immigrant-paradox effect concerning

mental health in the immigrant-origin adolescent population of Finland (Kääriälä et al., 2020; Loi et al., 2021). In these studies, using different longitudinal cohort-samples, it was found that second- and 2.5-generation adolescents (i.e., one migrant and one majority population non-immigrant parent) had psychopathological disorders diagnoses more often compared to first generation (Loi et al., 2021), and youth in ‘*exogamous*’ families more often than the second-generation (Kääriälä et al., 2020; Loi et al., 2021). In both studies, this pattern was true independently of their countries of origin. In contrast, studies using self-report survey data have demonstrated a contradictory outcome: mental health symptoms were more prevalent among first-generation than second-generation immigrant-origin adolescents (Matikka et al., 2024; Matikka et al., 2014; Sam, 2006; Turjanmaa & Jasinskaja-Lahti, 2020; Wikström et al., 2014).

This dissertation addresses the mental health disparities of immigrant-origin children and adolescents living in Finland, contributing to the knowledge of mental health burdens among this population. It aims to illuminate the prevalence of mental health burdens among first- and second-generation, forced and voluntary, immigrant-origin children and youth in comparison to the majority population non-immigrant minors. Moreover, it aims to identify factors that either risk, and psychosocial resources that promote or protect their positive adaptation.

2 Risk and Resilience in Socioecological Contexts

Our proximal socioecological contexts, such as school, family, and neighbourhoods, have tremendous impact on our adaptation, welfare, and mental health. Adversity in these contexts can risk, whereas positive psychosocial resources such as supportive social bonds, a sense of belonging, and positive views of self and the ingroup(s), can promote resilience, contributing to positive adaptation and mental health (Masten et al., 2021; Ungar & Theron, 2020).

Development of human beings occurs in socioecological contexts where reciprocity of interactions gets gradually more complex (Bronfenbrenner & Morris, 2006). Bronfenbrenner's (1979) nested multilevel model for human development spans from proximal, immediate environment (microsystem) to more distal systems where microsystems are nested in, which both directly and indirectly affect individuals' life trajectories and development. Macrosystem is the outmost layer of Bronfenbrenner's model, which concerns e.g., cultural, social, and political systems. Later, Bronfenbrenner wanted to emphasise individual level psychological processes, their reciprocity and agency, and renamed this multilevel system as the bioecological model for human development (Bronfenbrenner & Morris, 2006). The present study focuses on experiences at the level of the microsystems. It views immigrant status as a possible risk factor for poor mental health and examines whether and how psychosocial resources in their microsystems promote their resilient coping (Motti-Stefanidi & Masten, 2017), specifically in terms of protecting or promoting their mental health.

The integrative model on the risk and resilience of immigrant-origin children and youth (Suárez-Orozco et al., 2018) aims at orienting the research on this population by taking a multilevel bioecological (Bronfenbrenner & Morris, 2006)

approach. This model adapts Masten's (2014) conceptualization of resilience, where resilience is understood as positive adaptation despite of risk and adversity. Among immigrant-origin youth, indicators of positive adaptation are their psychological well-being and mental health, and their success in age-salient developmental and acculturative tasks (Motti-Stefanidi & Masten, 2017; Suárez-Orozco et al., 2018).

Suárez-Orozco and colleagues (2018) integrated theoretical models that illuminate the developmental processes and key developmental competencies (Coll et al., 1996), development in socioecological contexts (Bronfenbrenner & Morris, 2006), and risk and resilience in the developmental paths of immigrant-origin children and youth (Motti-Stefanidi et al., 2012; Motti-Stefanidi & Masten, 2017).

In their integrative risk and resilience model (Suárez-Orozco et al., 2018) immigrant-origin children and adolescents are considered to share the same key developmental tasks with their non-immigrant counterparts. However, immigrant-origin children and adolescents have the additional developmental challenge of acculturation-specific tasks such as language acquisition, adaptation between cultures, ethnic identity development, and coping with discrimination, racism and othering. Moreover, acculturation discrepancies in the family presents an additional challenge for their development (Schwartz et al., 2016), as they juggle orienting to the host culture and to the cultural identification(s) and expectations set by their parents and extended family members. Helping their parents in several tasks, including translating documents, acting as an interpreter in various formal and non-formal social encounters is also an immigrant/acculturation specific challenge (Titzmann, 2012). Due to all these challenges, and many more, immigrant status or immigrant background is considered as a risk factor that challenges the positive adaptation and development of children and youth.

Through, and already before their lifespan, ecosystems of different levels affect the life trajectories of individuals and families. For example, global forces and major historical events at the macrolevel (Suárez-Orozco et al., 2018), such as conflicts, wars, and natural disasters could have irreversible impact on the circumstances and foundations in one's life. Then, those who were forced to migrate, or those who migrated voluntarily (due to e.g., employment, studies, or love) face the circumstances of receptiveness of the receiving country. The policies concerning

inclusion, integration, and resettlement of immigrants are crucial for settling in a new country and opening a new chapter in their lives (Berry, 2005). These policies also shape the microsystems, where proximal reciprocal interactions take place, such as schools and neighbourhoods. Thus, policies which create mixed rather than segregated neighbourhoods are important in promoting flourishing societies.

However, extant research investigating whether mere diversity can promote intergroup relations are mixed. In Netherlands, classroom diversity did not promote intergroup relations (Thijs & Verkuyten, 2014), while in Sweden classroom diversity predicted less anti-immigrant attitudes and more cross-ethnic friendships, even after transitioning to new schools (Bohman & Miklikowska, 2021). Nevertheless, it is likely that in supporting intergroup relations and reducing prejudices, promoting positive intercultural attitudes, inclusive social norms, and community and teacher-led interventions play a key role (e.g., Mäkinen et al., 2024; Tropp et al., 2022; Verkuyten & Yogeewaran, 2020).

Finland has relatively favourable policies regarding migration and integration of migrants (Solano & Huddleston, 2020). The Finnish constitution asserts everybody the right to maintain and develop their cultural identities. In the school context this is realized by supporting minority identities by providing minority language classes and minority religious studies. In principle, in a welfare state like Finland, everybody is provided with equal level of services: Both public healthcare and public education. In contrast to the United States – where the vast majority of acculturation and immigrant-adolescent research has been conducted – the Finnish context should in principle provide good opportunities for immigrant-origin children and youth. Nevertheless, as immigrant-origin minors seem to be more burdened in Finland as well (Matikka et al., 2024; Matikka et al., 2014), it is likely that risk and resilience among immigrant-origin youth concerns specifically their experiences in proximal reciprocal interactions.

2.1 Developmental Tasks in Childhood and Adolescence

Key developmental tasks (Havighurst, 1948) through childhood and adolescence include, for example, establishing and maintaining peer relationships, academic achievement (Masten et al., 2005), learning purposeful and intentional emotional and self-regulation (e.g., goal directed regulation; Gestsdottir & Lerner, 2008). Specific tasks to the developmental phase of adolescence include becoming increasingly more independent and autonomous from parents (e.g., Zimmer-Gembeck & Collins, 2006), and developing a coherent identity in the process of figuring out who they are and what they wish to become (Branje et al., 2021; Crocetti et al., 2008; Erikson, 1968).

Learning social and emotional skills (Jones et al., 2019) help in acquiring these developmental milestones, as they can help to bond appropriately with their family and peers, and with other significant people, such as their teachers. Acquiring friendships for example, is an important developmental task, which requires the individual to have socioemotional skills sufficient for positive reciprocal interactions, and for overcoming and resolving challenges in these relationships. Meeting these developmental tasks are a prerequisite for positive adaptation and shared among all children and adolescents. Conversely, issues in key developmental tasks are linked with mental health burdens (e.g., Masten et al., 2005; Masten & Tellegen, 2012; Prinstein & Giletta, 2020; Roach, 2018). On the top of all this, immigrant-origin children and youth also face the developmental challenge of acculturation (Berry, 2006; Berry et al., 2006), which will be the focus of the following chapter.

2.2 Acculturative Challenge of Immigrant-Origin Minors

2.2.1 On Acculturation Theory and Psychological Acculturation

Acculturation refers to the process of changes at individual, group, and societal levels when people of different cultures come into contact, originally defined in the field of anthropology (see Redfield et al., 1936). Later, Graves (1967) defined

psychological acculturation as a process which occurs when the dominant and minority groups come in contact, with a focus on the possible distinctive world views these groups have. Contemporary theory of psychological acculturation was largely founded by John Berry (1970; Berry, 1990), who proposed the bidimensional model of acculturation orientations (Berry, 1992; 1997). Acculturation (i.e., cultural adjustment and learning) is a dynamic and reciprocal developmental process concerning behavioural, cognitive, and affective adaptation (Ward & Geeraert, 2016; Ward & Szabó, 2019).

In acculturation psychology, researchers have been interested in who among immigrants show positive psychological and sociocultural adaptation, and why (e.g., Berry, 1997; Berry et al., 2006; Motti-Stefanidi, 2018; Rudmin, 2009; Sam, 2024; Sam et al., 2022). The key questions in Berry's bidimensional model of acculturation (Berry, 1997) are, first, how willing individuals are to maintain their heritage culture on one hand, and on the other, how willing they are to adapt to and adopt the culture of their new home country (Schwartz et al., 2010). Second, it considers how willing immigrants are to maintain social relations with ingroup members on one hand, and how willing they are to interact and build relationships with majority members on the other.

Orienting to these key questions are manifested in four acculturation strategies: Integration, assimilation, separation, and marginalization. First, the integration strategy is characterized by willingness to both maintain their heritage culture and adopt destination majority culture(s). This strategy is also referred to as biculturalism (see Nguyen & Benet-Martínez, 2013). Of the four strategies, integration is linked with most positive adaptation and wellbeing outcomes (Grigoryev et al., 2023; Nguyen & Benet-Martínez, 2013; Schwartz et al., 2017). Second, the assimilation strategy is characterized by willingness to adopt and identify with the receiving culture and not maintaining heritage culture. Moreover, those who assimilate are likely to prefer majority member relationships more than ingroup relationships. Third, the separation strategy is manifested by not engaging with the receiving culture and its majority members, and rather, maintaining heritage culture and preferring ingroup relationships. Finally, marginalization is not a strategy per se, but rather, a rare maladaptive outcome (Rudmin, 2003),

where an individual reports that they are not willing to maintain their heritage culture, adopt the host culture, nor interact neither with the majority population nor with their ingroup peers. Extant literature has indicated that integration strategy is the most common acculturation strategy among immigrant adolescents (Baumert et al., 2024; Phinney et al., 2006; Sam et al., 2022). Study V explores how these four strategies were represented among youth in the Finnish context and how they were related with self-esteem, belonging, and perceived discrimination.

Contemporary psychological acculturation theory (Ward & Szabó, 2019) is informed by and rooted on stress and coping theories (e.g., Lazarus & Folkman, 1984), cultural learning, by for example, observation and modelling (e.g., Bandura, 1978), social identification theories (e.g., Tajfel, 1974), and theories on developmental processes (e.g., Erikson, 1968). In contemporary acculturation psychology, acculturation orientations are considered domain specific, malleable, and dynamic in nature (Bornstein, 2017; Vietze et al., 2020; Ward & Geeraert, 2016; Ward et al., 2024). This means that individuals are likely to adjust their culturally relevant behaviours according to the cultural context they are, at each time, embedded in. For example, culturally competent adolescents, aware of cultural expectations, may act differently when among majority population adults, and in turn, differently when they are among adults of their ethnic ingroup.

In an interconnected world and diverse societies, acculturation does not only concern migrants. Acculturation is considered a reciprocal process, and thus, the majority population in diverse societies may also learn from and adopt minority cultural elements (Berry et al., 2022; Kunst et al., 2021; Kunst & Mesoudi, 2024). In fact, most youth consider acculturation a mutual process instead of considering the effort belonging only to migrants (Sidler et al., 2022).

2.2.2 Acculturation and Positive Adaptation

During the acculturation process, individuals display various forms and levels of adaptation. Among immigrant-origin youth, indicators of positive adaptation include their psychological well-being and mental health, success in age-salient tasks, and success in the acculturative task (Motti-Stefanidi & Masten, 2017; Suárez-Orozco et al., 2018). Correspondingly, Berry and Sam (2006) categorize

adaptation outcomes of acculturation into three types: psychological adaptation (*feeling well*), sociocultural adaptation (*doing well*), and intercultural adaptation, which refers to positive and harmonious intercultural relations. Challenges in acculturation can jeopardize positive adaptation, potentially leading to difficulties in any of these domains. Therefore, investigating factors linked with mental health symptoms is crucial for understanding challenges for positive adaptation among immigrant youth in the context of acculturation psychology.

Culturally competent individuals may adjust their behaviours according to the expectations of different cultural contexts. However, cultural adjustment is a cognitively demanding learning process (Sam, 2006), which children and adolescents may need to navigate independently. Previous research suggests that possessing psychosocial resources (e.g., good mental health and adaptive social skills) is a key for integrative acculturation strategy among young adults (Doucerain et al., 2023). Indeed, as internalizing symptoms negatively impact learning and cognitive function (McDermott & Ebmeier, 2009; Owens et al., 2012), it is likely that these burdens also risk the cultural and language learning processes.

Migration is considered a stressful process (e.g., Berry, 2005). Migrating individuals and families move away from their roots, leave behind culture(s), socioecological contexts, institutions they were familiar with, along with friends, and relatives, to emigrate to an unfamiliar environment with the intention to build life anew. Individual, group, and societal level psychosocial resources are all important in determining how well these individuals can cope with the stressors intertwined with migration (Berry, 2005; Suárez-Orozco et al., 2018). Their readiness and affordances for learning the new culture and the language(s) of the destination country – to navigate daily life and to interact with majority members – determine their life trajectories. Moreover, in this new sociocultural context, immigrants need to consider how they identify with the new culture and relate with majority population members. This task is reciprocal: it is contingent on how the receiving nation, and its members, expect newcomers to adapt, and whether they create an atmosphere of acceptance, inclusion and belonging (e.g., Berry, 2005). Moreover, newcomer's chances to interact with majority group members is

important for their cultural adjustment. These factors structure the framework for adaptation that guide immigrants in navigating cultural streams and identities.

Adolescents are yet in the process of making sense of who they are and developing a coherent identity (Branje, 2022; Erikson, 1968), a central issue in acculturation theory (Ward & Szabó, 2023). Compared to migrating adults, who have already enculturated to their primary culture, acculturation among minors is a very different process. While adults are mostly free to consider whether they want to maintain their heritage cultures and adopt the mainstream culture of the receiving country, children and adolescents are likely to face acculturative demands from both parents, teachers, and peers. Navigating these demands concerning cultural practices, values and identifications, can also be ambiguous, if they are not guided and helped to understand where the demands stem from, and whether and how they should follow varying expectations and do cultural frame switching in varying contexts (Schwartz et al., 2017). Moreover, acculturative discrepancies and conflicts may vary at different phases of development. Pubertal changes in adolescence may bring forward, for instance, cultural expectations of chastity, as well as constraining cross-gender friendships (Kretschmer, 2024). Larger acculturation discrepancies are likely to introduce more parent-child conflicts (Wang-Schweig & Miller, 2021), and adolescence as a period of becoming more autonomous has potent in widening conflicting views of cultural maintenance and adaptation.

2.2.3 Parent-Child Bonds and Acculturation Discrepancies

Immigrant parents and their offspring are oftentimes acculturating at a different pace (Schwartz et al., 2016). Children and adolescents of immigrant-origin are socialized to the culture of the receiving nation in the school context (Motti-Stefanidi et al., 2023), where they spend a vast majority of their daily lives (Eccles & Roeser, 2011). However, the influence of the receiving culture may have a weaker impact on their parents. First, they have passed their sensitive period for sociocultural learning and acculturation (Blakemore & Mills, 2014; Cheung et al., 2011), and are thus less susceptible for adopting new cultural values, norms, and behaviours. Moreover, they are less susceptible for peer pressure in conforming to

host cultural customs (e.g., Steinberg & Monahan, 2007). Also, parents of some immigrants may be less likely exposed to the majority population culture (Birman, 2006), This is especially true among unemployed immigrants and stay-at-home mothers.

Therefore, children and adolescents adopt and adapt to the culture of the receiving nation at a faster pace than their parents do, which creates an acculturation discrepancy within the family (Schwartz et al., 2016). This can lead to conflicts if parents would like their offspring to follow their heritage cultural values, and behaviours. In fact, extant research indicates that many immigrant parents do expect their children to primarily socialize to their heritage culture (e.g., Phinney et al., 2000). Such discrepancies may be linked with deteriorated parent-child relations, which may manifest in, for example, not disclosing or discussing personal matters with their parents.

The acculturation discrepancies and parents' unfamiliarity with the receiving culture has consequences beyond the possible familial cultural conflicts. For example, immigrant parents who are not familiar with the national education system, service system, recreational activities and social/hobby clubs for minors may find it hard to help their children to navigate everyday lives (e.g., Birman, 2006). Moreover, language barriers add to their challenges in seeking for information to support their children's educational paths (Antony-Newman, 2019). At the same time, immigrant parents may have high hopes and expectations for their children's academic achievement (Yamamoto & Holloway, 2010), but children may lack their instrumental support in academic tasks due to language barriers and unfamiliarity of the educational system.

Children and adolescents of immigrant-origin may not turn to their parents in issues that concern their lives outside of home, as they may believe that their parents are unfamiliar with the culture and institutions (Birman, 2006). Therefore, they might rather try to navigate and cope with various challenges without the support that their native peers may acquire from their parents. In turn, children and adolescents of immigrant origin may conversely be assisting their parents in various tasks, such as reading and filling out official documents, creating a role-reversal (i.e., parentification) between parents and their offspring (e.g., Titzmann,

2012). Instrumental parentification has positive effects while emotional parentification has negative effects on immigrant children and adolescents (Titzmann, 2012). Instrumental parentification, such as participating in family's decision and problem solving is positively linked with self-efficacy. In turn, emotional parentification such as consolidating stressed parents or feeling of the need to take care of the family is linked with exhaustion.

Immigrant youth who do language brokering to their immigrant parents, get exhausted and even depressed (Buriel et al., 2006; Titzmann, 2012). Language brokering among immigrant youth has been linked negatively with family relationships, socioemotional outcomes, and increasing acculturation stress among them (Shen et al., 2022). Language brokering may negatively affect family functions as a form parentification, with children taking care of their parents by doing language brokering and helping them navigate the host-majority culture (Titzmann, 2012). Minors involved in this practice may be exposed to such stresses of their parents, which usually would not be disclosed and shared with them. Thus, immigrant minors may bear the burdens of their parents. Offspring of burdened parents, in turn, may not want to disclose their worries with them, to avoid further stressing them out (van Parys & Rober, 2013).

Positive parent-child bonds are important for the positive development of all children and adolescents (Collins et al., 2022; Ranson & Urichuk, 2008). However, acculturation discrepancies, cultural conflicts, and role-reversals due to acculturation gaps and language brokering may hinder the promotive and protective role that parents have in the positive development of immigrant-origin children and youth. In Study I, I investigate whether immigrant status is linked with deteriorated parent-child relations, and whether this in turn was linked to the mental health discrepancy.

2.3 Longing for Belonging

The need to feel accepted and avoid getting rejected or ostracised are at the core of human motivations (Baumeister & Leary, 1995; Leary, 2010). We have an innate relational need to belong, a need to feel that we are a valued and wanted member of

a group, and that we fit in (Hagerty et al., 1992). As adolescents are striving to make sense of who they are, they reflect how important various group memberships are for them and whether they feel they belong to these groups. Achieving a sense of belonging in adolescence is a key developmental task (Baumeister et al., 2007; Faircloth, 2009).

A sense of belonging is an essential factor for overall psychosocial well-being across cultures (Chen et al., 2015; Hagerty et al., 1992; Rejaän et al., 2022). It can buffer from developing depressive symptoms (Sargent et al., 2002), and is linked with both less depressive symptoms and more positive self-efficacy beliefs among refugees (Kia-Keating & Ellis, 2007). There are various of memberships where one factually belongs to, such as to the school student body or family. There are also such groups to which one longs to belong, such as a group of friends or the classroom community. These memberships and the memberships one long for, are key factors in the process of identity development (Branje, 2022; Branje et al., 2021). As school is a prominent developmental context (Eccles & Roeser, 2011), where attendance is compulsory, a sense of belonging to school is essential for their positive adaptation (Allen et al., 2018; Goodenow & Grady, 1993). A sense of school belonging is positively linked with higher academic motivation, psychological well-being, mental health, and negatively linked with absenteeism and externalization (Allen et al., 2024; Allen et al., 2018).

Immigrant-origin youth however, relative to their majority population peers, may struggle with achieving a sense of belonging in host national contexts. For instance, first-generation immigrant youth reported lower school belonging in Europe and OECD countries (Abdulhamed & Beattie, 2024; Chiu et al., 2016). They risk being ostracised for being foreign (Plenty & Jonsson, 2017), and they may continuously experience their belonging to the host country and to the national identity being contested and rejected by majority population members (Chiu et al., 2016; Osman et al., 2020; Rodriguez, 2023). In fact, belonging has been at the core of both nation-states and immigration policies (Yuval-Davis, 2006). The politics of belonging (Yuval-Davis, 2006) concern producing, reproducing and maintaining the status-quo of social boundaries. Boundary maintenance, and the boundaries per

se, are a key factor for the hardships for immigrant youth to achieve a sense of belonging to the host nation (Song et al., 2022).

Due to the role of sense of belonging as a core human need, and the issues related to migration in achieving a sense of belonging, it may serve as a key factor in explaining mental health disparities and burden. Therefore, Study II examines the role that a sense of belonging to multiple social groups and contexts plays in mental health, and whether it explains the mental health discrepancy.

2.4 Experiences of Discrimination and Racism

“Experiences of discrimination introduce the migrant to her or his role as a minority group member and to the reality that her or his ethnic group is regarded as unwanted, inferior, or unfairly stereotyped in the receiving society. Migrants of color therefore face the task of integrating themselves into a society that may never fully accept them (or their children).” – Seth Schwartz et al. 2010.

A sense of belonging and the positive development of immigrant-origin youth can be endangered by discrimination and racism. These youth are more likely to be ostracised and discriminated against due to their foreignness (Plenty & Jonsson, 2017). Moreover, immigrants of colour in particular are more likely than others to be discriminated and bullied in Finland (Matikka et al., 2014). Perceiving discrimination and racism are impactful stressors, deteriorating and burdening immigrant youths’ mental health (Brown & Bigler, 2005; Brown et al., 2000; Straiton et al., 2019).

Discrimination and racism based on ethnic background or immigrant status is a form of rejection, intertwined with a characteristic one can hardly neglect (Richman & Leary, 2009). Immigrant youth risk internalizing the negative racist ideas about themselves and/or their ingroup (Speight, 2007), which in turn increases their risk for internalizing symptoms such as depression and anxiety (Seaton et al., 2022). Thus, the role of perceived discrimination is likely a key factor in explaining the mental health disparities, which Study I focuses on.

Beyond impacting individuals, racism and discrimination affect social dynamics and group identification. If outgroup members reject and discriminate minorities,

minority members are more likely to identify and socialize with their ingroup rather than with the majority group (Branscombe et al., 1999; Ramos et al., 2012). They are also less likely to identify and feel that they belong to the host nation (Jasinskaja-Lahti et al., 2009). In fact, a strong ethnic identity and ethnic peers are important in buffering the negative impact that discrimination has on the individual (Ikram et al., 2016). Thus, discrimination does not only risk individuals' mental health, but their identification with the mainstream society. Therefore, Study V investigates the link between acculturation and experienced discrimination.

2.5 The Role of Teachers and the School

Children and adolescents spend a major part of their day in school (Eccles & Roeser, 2011). Thus, schools are prominent developmental socio-ecological contexts where they learn to socialize with peers and adults, and strive to meet the key developmental tasks, including academic achievement. Schools are also central in acculturation of immigrant-origin youth, as they are exposed to the national culture and the language (Motti-Stefanidi et al., 2023). It is also in schools where children and adolescents most often grow a sense of belonging, which among immigrant students relates to their sense of belonging to the host nation (van Vemde et al., 2021). Regrettably, it is also the context where they learn whether they are accepted or discriminated against, be it by peers or teachers, intentionally or unintentionally. Their school experiences are therefore important for their overall adaptation, and likely closely linked with their psychosocial adaptation and mental health.

What role do teachers play in supporting the positive adaptation and mental health of immigrant-origin youth? Previous literature has mostly indicated that teachers have a crucial role in supporting immigrant students. However, evidence is somewhat mixed (e.g., Delaruelle et al., 2021; Polat & Kröner, 2023). For example, in several studies, teacher support has been consistently regarded as a promotive or protective factor for immigrant students' mental health and school adaptation (e.g., Butler et al., 2022; García-Moya et al., 2015; Makarova et al., 2019; Salter et al., 2024). However, a cross-national study (Delaruelle et al., 2021) – investigating data from 29 European countries (including Finland) and 121,751

children – found that teacher support was more beneficial for the mental health of majority population non-immigrant children than those of immigrant origin.

Teachers have an important role in promoting a sense of belonging among immigrant students (Abdulhamed & Beattie, 2024). However, students of immigrant origin may feel alienated from the school if they feel that their teachers do not understand them. Majority population non-immigrant teachers may be unable to relate to the lived experiences of immigrant-origin students (Kumi-Yeboah et al., 2021; van Praag et al., 2016). In fact, previous studies have indicated that an ethnic match or mismatch has an impact on several factors. For example, a mismatch is linked to worse behavioural assessments by teachers (Bates & Glick, 2013). A match in turn is linked with better behavioural assessments, better school achievement, less dropouts, and an aim to continue to higher education (Bates & Glick, 2013; Gershenson et al., 2017; Sharp & Aston, 2024; Zirkel, 2002). It has been argued that representation matters; that is, it is important to have role models you can identify with (Zirkel, 2002). Moreover, teachers sharing the same ethnic and cultural background with students are more likely to understand them, including their non-normative behaviours in the cultural context of the host nation.

While it is important for the society and schools to consider representativeness in the teaching profession, training majority population teachers to be culturally responsive could also help them support their immigrant-origin students. Having culturally responsive teachers and a school climate that cherishes cultural diversity are linked with better psychological and school adjustment (Ialuna et al., 2024). Due to the key role that schools likely play in promoting, protecting or risking the mental health of immigrant-origin youth, Study III focuses on the link between school experiences and mental health with a focus on preadolescents, and Study IV with a focus on adolescents.

3 Aims and Research Questions

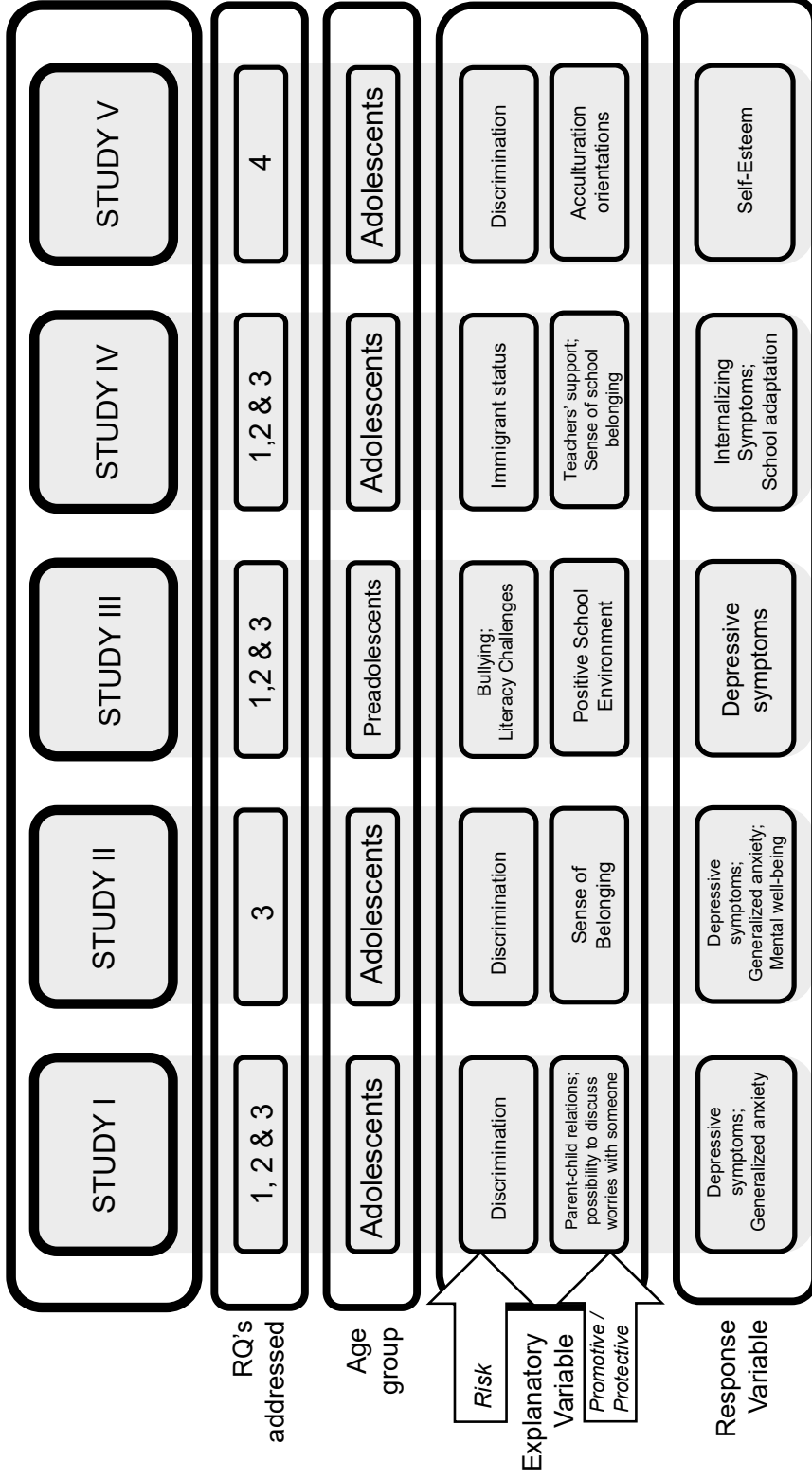
The extant research indicates that there are mental health disparities between immigrant-origin and non-immigrant majority population children and adolescents in the European context. This dissertation aimed first at illuminating the mental health disparities between immigrant-origin and non-immigrant majority population preadolescent children and adolescents with considering the role of generation and their countries of origin. Investigating both preadolescents and adolescents is important in unravelling whether the patterns of mental health disparities are shared in the developmental phases of preadolescence and adolescence. The respondents were stratified by their generation to first- and second-generation immigrant-origin youth. Furthermore, they were stratified by their countries of origin, distinguishing between those migrating from countries where migration to Finland has been predominantly based on seeking international protection (i.e., Afghanistan, Iraq, Iran, Somalia, and Syria, later *MENAP*) and those migrating from other countries, later referred to as *OCO* (Immigration Department, 2019; Sutela & Larja, 2015).

The second aim of this dissertation was to investigate the role that psychosocial factors in their proximal relations (microsystems) played in their mental health. More specifically, I investigated whether they promote, protect, or risk their mental health. The third aim of this dissertation was to develop a short acculturation scale and investigate acculturation orientations and their relationship with a core mental health indicator, namely, self-esteem. An overview of the sub-studies is presented in Figure 1.

The overarching research questions for the studies in this dissertation were:

1. Does immigrant status place the mental health of children and youth at risk in Finland, and is the risk equal during preadolescence and adolescence?
2. How large are mental health disparities between immigrants and non-immigrants, first-generation and second-generation, and forced and voluntary immigrant-origin youth?
3. How are factors in their microsystems related with their mental health? What are the factors that risk their mental health? And what are the factors that promote or protect their mental health?
4. What role does acculturation play in youth positive adaptation?

Figure 1 Overview of the Aims of the Sub-studies



4 Method

4.1 Respondents and Procedure

This dissertation used multiple datasets to address the research questions. In Studies I, II, III, and IV the School Health Promotion Study (SHPS; *Kouluterveyskysely*) population-based surveys, and in Study V the Youth Future Report survey were assessed.

In Studies I and II, the SHPS collected in 2017 of 8th and 9th grade students in comprehensive school with different subsets (Study I, N = 73,690; Study II, N = 61 540) was investigated. In Study I, participants were grouped to majority population non-immigrant youth (adolescent and both parents born in Finland, N = 60,210; 51.9% female), 2.5 generation immigrant-origin youth (adolescent, and one of their parents born in Finland, N = 5,107; 53.2% female), second-generation immigrant-origin youth (adolescent born in Finland, parents migrated to Finland, N = 1,375; 53.2% female), and first-generation (adolescent and both parents migrated to Finland, N = 2,691; 40.9% female).

In Study II, participants were grouped further by their countries of origin to those originating from Afghanistan, Iraq, Iran, and Somalia (i.e., Greater Middle east, later *MENAP*) from where migration to Finland is predominantly based on seeking international protection (Immigration Department, 2019; Sutela & Larja, 2015), and to those originating from other countries (later *OCO*). In this study, those who did not report their birth country or that of their parents, and those who were 2.5-generation adolescents, were excluded. The final groups investigated were as follows: majority population non-immigrant youth (N = 57,969; 52.3% female), first-generation *MENAP* adolescents (N = 361; 34% female), second-generation *MENAP* adolescents (N = 236; 55% female), first-generation *OCO* adolescents (N = 1,634; 49 %), and second-generation *OCO*-adolescents (N = 1,009; 55% female).

In study III the SHPS data collected in 2017, 2019, and 2021 of 4th and 5th grade primary school students (N = 259,382) was investigated. With a combined larger dataset, I aimed at deriving more robust population estimates by group. The stratification of groups followed same procedures as in Study II, with additionally omitting those preadolescents who did not report their sex (0.49%). The groups were the following: majority population non-immigrants (N = 244,455; 50.4% female), first-generation MENAP (N = 1,215; 49.9%), second-generation MENAP (N = 1,447; 52.8%), first-generation OCO (N = 6,067; 51.6 % female), and second-generation OCO (N = 6,201; 52.2%).

In Study IV, the SHPS data collected in 2017, 2019, and 2023 (N = 207,873) of 8th and 9th grade comprehensive school students was used. This study followed the same stratification procedure as Studies II and III, with a slight modification. Here, no distinction was made between second-generation adolescents. Moreover, the survey from year 2023 included both Syria and Ukraine as birth countries. Those originating from Syria were included in the forced migrant group. However, those who reported Ukraine as their country of origin and reported migrating less than a year ago or 1–4 years ago in the 2023 survey were omitted from the data (N = 115). This was done due to the possibility of their post-migration experiences deviating from those migrating from the MENAP countries. Extant research has demonstrated that Europeans feel closer to them and consider Ukrainian refugees more deserving of their aid (De Coninck, 2023; Näre et al., 2022). The final groups in this study were thus majority population non-immigrant adolescents (N = 195,920; 52.2 % female), second-generation immigrant-origin adolescents (N = 4,786; 55 % female), first-generation immigrant adolescents (N = 5,780; 50.1 % female), and forced immigrant adolescents, termed *refugees* in this study (N = 1,387; 37.3 % female).

For Study V, we co-developed the Youth Future Report survey and used an immigrant-origin subset (N = 744) of the data collected in 2023 (N = 4,578). Immigrant-origin youth were grouped to first-generation (N = 269) and second- and 2.5-generation youth (N = 475). An overview of the aims, participants, instruments, and analyses is presented in Table 1.

4.2 Measures

4.2.1 Mental Health

Mental health was operationalized by instruments investigating depressive symptoms, generalized anxiety symptoms, positive mental health, and self-esteem. In Study I, II, and III, each scale was used as independent outcome. In turn, in Study IV, the depressive symptoms scale and generalized anxiety scales were used conjointly to derive an inverted score of these internalizing symptoms.

Depressive Symptoms in Adolescence

Depressive symptoms among adolescents were examined with the validated two-item depression screener, namely the Patient Health Questionnaire-2 (Kroenke et al., 2003) in Studies I, II, and IV. This instrument is a shortened version of the Patient Health Questionnaire-9 (Spitzer et al., 1999). Patient health questionnaire-2 (PHQ-2) inquires how often the respondent has experienced anhedonia (*“little interest or pleasure in doing things”*) and a depressed mood (*“feeling down, depressed or hopeless”*) during the past two weeks. The items are measured on a Likert scale ranging from 0 to 3, with composite scores ranging from 0 to 6. This scale has been validated among adolescents with good sensitivity and specificity as compared to the golden standard of Diagnostic Interview Schedule for Children depression modules (DISC-IV) for detecting major depression, using a cut-off score of 3 points (Richardson et al., 2010; Tiffin, 2010).

It is worth noting that some studies have indicated that a cut-off score of ≥ 2 yields higher sensitivity, thus lowering the risk of false negatives in clinical screening settings (Allgaier et al., 2012; Pitts et al., 2023). However, this cut-off score also lowers specificity, increasing the risk of false positives. Therefore, using the higher cut-off score (i.e., ≥ 3) for research purposes among the general population is expected to provide more reliable results.

Depressive Symptoms in Preadolescence

Depressive symptoms among preadolescents in Study III were examined with a different scale, namely, the Finnish Moods and Feelings Questionnaire (FsMFQ-6) developed specifically for the needs of the School Health Promotion study (Talja et al., 2022). This is a shortened 6-item version of the Short Moods and Feelings Questionnaire (SMFQ), which originally had thirteen items. These six statements were 1. *“I was desperate or unhappy,”* 2. *“I was not enjoying anything,”* 3. *“I was so tired that I just sat there doing nothing,”* 4. *“It was difficult to think properly or to concentrate,”* 5. *“I thought that nobody likes me,”* and 6. *“I thought I could never be as good as the other kids.”* Like the PHQ-2, this scale asks about the experience of these feelings during the past two weeks. The participants were given three response options for each item: *“True,”* *“Sometimes,”* and *“Not true.”* This scale, however, lacks clinical validations for depression screening. Previous research has indicated the inadequacy of both the SMFQ and MFQ in clinical screening (Jarbin et al., 2020). Consequently, this scale does not have any clear cut-off values. For the purposes of Study III, those who responded *“True”* to at least one of the items, or *“Sometimes”* to all items, were coded as having elevated depressive symptoms.

Generalized Anxiety

Generalized anxiety was investigated among adolescents in Studies I, II, and IV using the seven-item Generalized Anxiety Scale-7 (GAD-7). This scale is suitable for both clinical screening and research purposes, with validated cut-off points for moderate (10 points) and severe (15 points) anxiety (Spitzer et al., 2006). In Studies I and II, it was used as an independent outcome. In turn, in Study IV, it was used conjointly with the depressive symptoms scale (PHQ-2), constituting as a joint mental health indicator, reflecting that depressive symptoms and generalized anxiety often co-occur (Cummings et al., 2014; van Loo et al., 2016).

Positive Mental Well-Being

Positive mental well-being was examined using the Short Warwick-Edinburgh Mental Wellbeing Scale in Study II (McKay & Andretta, 2017; Stewart-Brown et al., 2009). This seven-item instrument delves into the hedonic (e.g., *“I have been feeling optimistic about the future”*) and eudaimonic (e.g., *“I have been feeling*

useful”) domains of mental health. This scale has been validated and found suitable for assessing positive mental well-being among adolescents (McKay & Andretta, 2017; Ringdal et al., 2018).

Self-Esteem

Self-esteem was assessed using the five positive statement items (e.g., “*I feel that I have a number of good qualities,*” “*I take a positive attitude toward myself*”) from the Rosenberg Self-Esteem Scale (Rosenberg, 1965) in Study V.

4.2.2 Socioecological Risk and Protective Factors

Perceived Discrimination

Perceived discrimination was assessed in Studies I, II, and V. In Study I, three items inquiring about perceived discrimination were summed to create a composite variable with a range from 0 to 3. In turn, in Study II, the same items were used to create a dummy-variable. These three items were dichotomous yes/no questions, addressing whether the respondent had been “*bullied because of the following during this semester, whether at school or in leisure time?*” due to 1. “*Skin colour, language, foreign origin, Roma origin, Sámi origin,*” 2. “*Family (parents, poverty, place of residence, etc.)*” 3. “*Religion.*” In Study V, a single-item direct question was used on a Likert scale from 1 (=never) to 6 (=often), stating, “*I have experienced discrimination or bullying due to my background or characteristics.*”

Parent-Child Relations and Other Supportive Bonds

Parent-child relations and other supportive bonds were measured with two single-item direct questions. First, concerning parent-child relations, respondents were inquired “*Are you able to discuss personal matters with your parents?*” with response options of “*almost never,*” “*sometimes,*” “*quite often,*” and “*often.*” The availability of other supportive bonds was inquired with a single-item direct yes/no question “*Do you have someone with whom to discuss matters that worry you?*” These two items were used in Study I.

Sense of Belonging

In Studies II, III, and IV a sense of belonging was operationalized as a sense of membership (Goodenow, 1993; Hagerty et al., 1992). In Study II, the overall (i.e., *global*) sense of belonging was used as a latent variable constituting of six items inquired on a five-point Likert scale ranging from *Fully Agree* to *Fully Disagree*. The respondents were asked whether they felt like they were an important member of 1. *“My school community,”* 2. *“My classroom community,”* 3. *“An internet community I use the most,”* 4. *“A hobby club,”* 5. *“A group of friends,”* 6. *“The Finnish society.”*

In Studies III and IV, a sense of school belonging was examined using two items. The participants responded whether they felt like they were an important member of 1. *“My school community”* and 2. *“My classroom community.”* In Study III, primary school preadolescent children were given three response options: *“Agree,”* *“neither agree nor disagree,”* and *“disagree.”*

In Study V, two sense of belonging single-item direct statements were inquired on a 4-point Likert scale, where 1 = *not at all* and 4 = *very strongly* (Berry & Hou, 2017; Hou et al., 2018). The participants were asked, *“How strongly do you feel that you belong to...”* 1. *“The Finnish Society,”* and 2. *“Your parent’s ethnic or cultural community.”*

The School Context

Factors related to the school context and experiences in school were focused on in Studies III and IV. In Study III, the following single-item direct questions were investigated: *“Is it peaceful in your class,”* *“When something is talked about in class, do you dare to express your opinion?”*, and *“Are teachers interested in how you are doing?”* The response options for these three items were *“Often,”* *“Sometimes,”* and *“Never.”* Further, with the focus on social bonds, items inquiring *“How well do you get along with your teachers?”* and *“How well do you get along with your schoolmates?”* with response options *“Well,”* *“Fairly well,”* and *“Poorly”* were used. Maladaptive peer relations were assessed with a focus on peer victimization by asking, *“How often have you been bullied at school during this semester?”* and *“How often have you participated in bullying other pupils during*

this semester?” with response options “*Several times a week,*” “*about once a week,*” “*less frequently*”, and “*not at all.*” Participants were given a definition of bullying ahead of their responses (see Study III). Finally, challenges in reading and writing were inquired as “*Do you have difficulties with reading?*” and “*Do you have difficulties with writing?*” with response options of “*Not at all,*” “*some,*” and “*a lot.*” In Study IV, teacher support was inquired as a composite scale with items inquiring whether “*teachers treat us fairly,*” “*teachers are interested in how I am doing,*” and “*teachers encourage me to express my opinions in class.*” (García-Moya et al., 2015; Torsheim et al., 2000).

4.2.3 Acculturation Orientations

Acculturation Orientations were examined using the novel Compact Acculturation Scale (CAS) in Study V. I developed this scale to examine acculturation orientations and strategies among adolescents. The need to develop a new instrument stemmed from space constraints in surveys; previous short acculturation scales (e.g., Demes & Geeraert, 2014) were deemed too extensive to be included in already-packed surveys.

A previous version of CAS scale was tested in *Youth Future Report 2022*, further developed for the *Growing Mind Survey 2022*, with the final version being used for the first time in the *Youth Future Report 2023*. This scale adapted key questions of acculturation orientations shared in many established scales (e.g., Demes & Geeraert, 2014; Ryder et al., 2000). Acculturation expectations for others were included in the scale to enhance ecological validity, as expectations (or attitudes) for others may affect personal behaviours through reciprocity, helping the individual reflect on this question more objectively (Bandura, 1999).

The scale inquires ethnic orientation in three domains: 1. Attitude: “*In my opinion, people who migrate to [Country / Finland] should maintain their heritage culture and cultural practices,*” 2. Strategy: “*It is important for me to maintain cultural practices and values of my ethnic or religious community,*” and 3. Social preference: “*I enjoy spending time with my friends, who share a similar background with me (e.g., spoken language at home, culture, ethnic or cultural group, religion).*” Further, it inquires host orientation in three respective domains:

1. Attitude: *“In my opinion, people who migrate to [Country / Finland] should adopt [host national / Finnish] cultural traditions and cultural practices,”* 2. Strategy: *“It is important for me to follow and adopt [host national / Finnish] cultural practices and values,”* and *“I enjoy spending time with my native [to host nation / Finnish] friends.”* These questions are inquired on a 6-point Likert scale, where 1 = *“totally disagree,”* and 6 = *“totally agree.”*

4.3 Overview of Data Analyses

All studies in this dissertation examined cross-sectional survey data. Variable-oriented data analyses were conducted in RStudio (RStudio Team, 2020) with complementary packages. For person-oriented data analysis, RStudio and MPlus (Muthén & Muthén, 2017) were used in tandem via the MplusAutomation package in RStudio.

In part-studies I–IV, population-based datasets with large sample sizes were used. To avoid Type I errors (i.e., a false positive) when inferring from the data, in Studies I–IV the alpha level was set at $p < .001$ (Lakens et al., 2018). However, in more complex sub-sample analyses, such as examining moderation effects, the alpha level was set at $p < .05$ to avoid Type II errors (i.e., false negatives) (Lakens, 2021, 2022; Mudge et al., 2012). The alpha in Study V was set at $p < .05$ due to its smaller sample size. Nevertheless, due to the sensitivity of the p -value to the sample size, in all these studies, effect sizes and equivalence tests were given more emphasis in interpreting the results of analyses (Lakens, 2022; Sullivan & Feinn, 2012). Moreover, a 95 % confidence interval for the model estimates was used (Studies III–V) to indicate the likely range and precision of the population estimates calculated from the sample (Thompson, 2007).

The data analyses used in the studies are listed in Table 1. The data analyses are described in more detail in the original publications. This section aims to provide a brief overview and explanation of the key data analysis techniques used in the original studies.

4.3.1 Psychometric Properties and Measurement Invariance

To examine whether the instruments used measured what they were designed and thought to assess, I used tests of internal consistency and confirmatory factor analyses. Moreover, to ensure that all constructs were comparable between groups of interest, I tested for measurement invariance (French & Finch, 2008).

In Study I, only Cronbach's alpha was used. This is the most widely used measure of internal consistency, which provides a value between 0 and 1 indicating the magnitude of inter-item correlations of the scale, with a higher number indicating higher consistency between items (Cronbach, 1951). Generally, an alpha of $\geq .70$ is considered acceptable. Cronbach's alpha, however, assumes equal variances and equal loadings. Therefore, this is not the most optimal measure of internal consistency, and thus McDonald's omega, based on a factor analytic approach, gives more robust estimates as it does not hold these same assumptions.

In all the following studies, psychometric properties were examined additionally with confirmatory factor analysis (CFA) and McDonald's omega, and the comparability of measurement models between groups were tested with nested, gradually constrained multigroup confirmatory factor analysis (MCFA) (Cheung & Rensvold, 2002; French & Finch, 2008).

Confirmatory factor analysis is a statistical technique used to test the assumed construct of an unobserved variable (e.g., generalized anxiety). It is used to test whether an assumed model (e.g., generalized anxiety is a single latent factor explaining the variance in its seven items) fits the data (Brown, 2015). In other words, it allows us to investigate whether the assumed model can be observed in the sample of data. First, the loadings of each item are investigated to ensure they are adequately linked to the latent construct, indicated by loadings greater than .40, yet preferably greater than .70 (Brown, 2015). Second, the model-data-fit is examined with statistical fit index cut-off criteria (Hu & Bentler, 1999). These indices include, for example, the root mean squared error of approximation (RMSEA), Comparative Fit Index (CFI), and standardized root mean squared residual (SRMR). RMSEA considers the complexity of the model and the sample size, providing a measure linked with the degrees of freedom (df), an index

calculated as the ratio of observed variables and their covariances. CFI, in turn, compares the user-specified model to a baseline model with uncorrelated variables (Xia & Yang, 2019). Lastly, SRMR compares the discrepancy between the observed and predicted correlation matrices. To determine that the model fits the data well, RMSEA should be $\leq .06$, CFI $\geq .95$, and SRMR $\leq .08$ (Hu & Bentler, 1999).

To investigate whether the underlying latent construct is comparable between groups, an extension of the CFA, namely, multigroup CFA, is used to test for measurement invariance (Chen, 2007). In this approach, the model is estimated for each group independently. First, the specified model is compared to ensure that the structure is comparable between groups. Then, gradually constrained models are tested stepwise to reveal differences by group. First, in a *metric model*, the loadings (i.e., the slopes) are constrained to be equal between groups. Then in addition to constraining the loadings, the intercepts are constrained, constituting a *scalar model*. Finally, in addition to these two, the residuals are constrained, constituting a *strict model*. In between gradual constraints, at each step, change in fit indices and/or a chi-square test based Satorra-Bentler tests are used to determine whether constraining the models would reveal inequality between groups. The assumption at each step of constraining is that the models between groups are equal. In other words, using the metric model as an example, where all loadings are constrained to be the same, the comparison test would reveal any discrepancies in the assumption of equal loadings. With smaller samples, the Satorra-Bentler test is adequate and was used in Study V. However, with large samples, as in all the other studies, this test is overly sensitive. Therefore, change (Δ) in alternative fit indices were used ($\Delta\text{CFI} < .01$, $\Delta\text{RMSEA} < .015$ and $\Delta\text{SRMR} < .03$), which are the recommended metrics to investigate measurement invariance with large samples (Chen, 2007).

In the case of two-item composite variables (e.g., PHQ-2) I estimated the Spearman-Brown Coefficient and assumed essentially tau-equivalence (τ -equivalence) in CFA. Two-item composite scales introduce the problem of a possible violation of the classical test theory assumption of the independence of items (Eisinga et al., 2013). The idea behind this is that the items (observed variables, e.g., a single symptom of depression) used to reveal an underlying latent construct (unobserved variables, e.g., depression) should be independent of each

other after the latent construct has been estimated. In other words, the theoretical concept is that these items would be linked to each other only via the latent construct. However, this assumption is often violated in social sciences, indicated by remaining residual variances between items in factorial models. To address this issue in confirmatory factor analysis, the residuals of some items are allowed to covary.

Regarding investigating the factorial structure of two-item constructs, they need to be assumed (essentially) τ -equivalent that is, their *true score*, and *error score* are to be considered equal (Mair, 2018). In classical test theory's true score model $X = T + E$, a true score (T) is the reflection of reality, which is affected by the error score E, thus leading to an observed score (X). Thus, in the factorial model each of the two items are constrained to have the same loading on the latent construct. This by design restricts comparing metric invariance between groups, that is, whether their observed score has an equal effect on the score of the latent variable. Hence, only invariance of intercepts, that is, the starting points in the latent factorial model, can be investigated.

4.3.2 Treating Missing Values

People might sometimes skip responding to some questions or some parts of surveys for various reasons that may remain unknown to the researcher. This brings forward the dilemma of how these participants and their data should be treated in data analysis. Specifically, when values are missing from focal instruments for the study, one must consider how to address them. In Study I, all analyses were conducted listwise. This means that if a participant had even one unanswered item that was included in the analysis, their responses were not included. Listwise deletion brings the issue of losing important information, and thus biasing population-level estimates.

Therefore, in the following studies I considered missing data analysis techniques to get all participants included (Enders, 2022). In studies where structural equation modelling was used (II, IV, V: I) I used full information maximum likelihood (FIML). This technique uses all available data to provide more unbiased parameter estimates, even though some data might be missing (Enders & Bandalos, 2001). To

do this, FIML uses a likelihood function for each participant based on their observed data instead of data imputation.

In turn, in Studies III and V: II, I used multiple imputation by chained equations, i.e., *MICE* (Enders, 2022; Shah et al., 2014; van Buuren & Groothuis-Oudshoorn, 2011). This technique uses the available information (observed values) and predicts the most likely value for each missing value using chained equations. It creates multiple imputed datasets, reflecting the uncertainty of predictions, which are pooled in further analyses to achieve robust model estimates. Instead of standard multiple imputation methods, I used the state-of-the-art Random Forest method, which has been demonstrated to be the least biased imputation method (Shah et al., 2014). Unlike traditional regression-based multiple imputation methods, the non-parametric Random Forest does not assume specific distributions in the data. Random forest is an ensemble method based on multiple decision paths, namely *decision trees*, to determine the most accurate value for imputation.

4.3.3 Mean and Prevalence Comparisons

In Studies I, IV and V, mean differences between two groups were inquired with the Welch's t-test. This test is more robust than the classic Student's t-test due to not assuming equal variances, and is thus encouraged to be used by default in social sciences (Delacre et al., 2017). In Study V, first analysis of variance (ANOVA) was used to investigate mean differences among multiple groups, followed by post-hoc pairwise Holm-adjusted t-tests.

Frequencies and prevalences of e.g., exceeding clinical cutoffs of mental health symptoms were inquired in Study I and III by cross-tabulating frequencies by group. The differences between groups were determined by the chi-square test of independence, which evaluates whether values in each cell exceeds the expected values of equal distribution. Further, standardized Pearson residuals were used to determine which of the cells contributed most to the chi-square statistic. A Pearson Residual equal or larger than ± 1.96 indicates a significantly larger than expected cell count at the $p = .05$ level (Agresti, 2002). Lastly, the group differences were further determined by regression analyses with mental health variables as the outcome, and groups contrasts as explanatory variables. In Study III, this analysis

was further adjusted for gender, length of residence, and the survey year to control (i.e., rule out) their effect on the outcome.

4.3.4 Linear Regression Models

Ordinary Least Squares (OLS) regression (i.e., linear regression) was employed in investigating the relationship between explanatory and response variables in Study I. The aim of linear regression analysis is to find the line that minimizes the sum of the squared differences between observed values and the values predicted by the regression model (Agresti, 2015). The predicted model can then be used to investigate the most likely value of the response variable for each explanatory variable. With a model with multiple explanatory variables, the coefficient (beta value) of each variable in the model represents the change in the response variable for one-unit change in the explanatory variable, while holding other variables constant.

4.3.5 Logistic Regression Models

In Study III, instead of a continuous outcome, a binary outcome of depressive symptoms was used. To model the probability of elevated depressive symptoms, I used logistic regression, an extension of the generalized linear model for binary outcomes (i.e., binomial logistic regression) (Agresti, 2002). I reported odds ratios and their confidence intervals in all logistic regression models. The odds ratio indicates how the odds of belonging to category 1 (i.e., category 1 = having; 0 = not having elevated depressive symptoms) in the response variable changes with one-unit increase in the explanatory variable. An odds ratio of 1 indicates no effect, while an odds ratio of 2 indicates double the odds, and 0.5 half of the odds. Thus, an odds ratio larger than 1 can be interpreted as a positive effect, and an odds ratio smaller than 1 as a negative effect linked with the response variable.

4.3.6 Multigroup Structural Equation Modelling

In Studies II and V, I used multigroup structural equation modelling (MgSEM) to investigate the relationship between explanatory and response variables (Cheung & Rensvold, 2002; Cole et al., 1993; Rosseel, 2012). Structural equation modelling (SEM) integrates elements of factor analysis and multiple regression and allows for examining the relationships between various explanatory and response variables simultaneously. Maximum likelihood with robust standard errors (MLR) estimator was used to account for any non-normality in the data.

SEM allows for examining the direct and indirect links (i.e., path coefficients) between latent unobserved variables, namely latent factors, by using indicator variables (i.e., observed variables). Like with simple regression analysis, these coefficients indicate whether the relationship between latent factors is positive or negative, and the magnitude of the relationship. For example, an estimate of -0.8 would indicate that for every one-unit increase of the explanatory variable would decrease the value of the response variable by -0.8. One key element in SEM is to capture the measurement error in the observed data that is not explained by the latent unobserved variable. It is also an excellent method to compare different theoretical models with the data. The goodness-of-fit of competing models can be examined by comparing their fit indices (Hu & Bentler, 1999), and determining the model that best fits the data according to them (see 4.3.4).

Multigroup structural equation modelling is an extension of SEM (French & Finch, 2008; Kline, 2005), which allows for comparing the models between groups and examining whether the magnitude of relationships between variables vary by group. To compare group differences in model estimates (slopes), I compared models with constrained regressions to models with unconstrained regressions by analysis of variance. In this approach, if slopes between groups would vary, the analysis of variance would indicate it by a significant chi-square difference between the constrained and unconstrained models. To further investigate each slope in the model, I calculated the z-score differences of each estimate between groups. In Study II, the nested structure of the data was considered by specifying the school clusters where students are nested in as the random intercept in the model. The random intercept represents the average effect of each school on the outcome

variable, thus controlling for the unique influence a school cluster (i.e., similarity between students within a school, *homoscedasticity*).

4.3.7 Moderation Analysis

In Studies I, II, III, and IV, group differences were investigated by moderation models, where a moderating factor is considered a variable that introduces variability to the relationship of the explanatory and response variables (Fairchild & McQuillin, 2010). In these moderation models, the effect of a focal variable (e.g., discrimination) was interacted with a group-contrast variable (e.g., first-generation vs. second-generation). The interaction term then indicates whether there is a significant difference between the slopes of the focal variable among these groups. The conditional mean predictions or marginal effects of these interaction models allow for investigating the group differences in detail – e.g., where the slopes diverge and overlap. These conditional mean predictions were plotted in all these four studies.

Random-Intercept Linear Mixed Modelling

In Study IV a multiple-methods approach was used, with first constructing factor scores of latent variables for each participant using MgSEM. Next, these factor scores were used in random-intercept linear mixed models with the school cluster as the random effect. The fixed effects represent the population-level effects, and the random effects the variations by group. Here, the random effect allows the intercepts to vary by school clusters, considering the nested structure of the data (students nested in schools). This approach was chosen to allow for deriving conditional mean predictions from the moderation models and to visualize the moderation effect while simultaneously accounting for the nested structure of the data.

4.3.8 Mediation Analysis

In Study V, the indirect effect of perceived discrimination between acculturation orientations and self-esteem was investigated in a multigroup structural equation model with perceived discrimination as the mediator variable (Fairchild &

McQuillin, 2010). In mediation analysis, a mediator is thought to explain how and why an explanatory variable is linked with a response variable. In principle, mediation, like all path analyses, has a presumption of the direction, that is, the temporal ordering of the effect. Therefore, there is a risk of estimation biases related to cross-sectional mediation analysis lacking temporal ordering of the variables (Maxwell & Cole, 2007). To minimize the risk for estimate biases, I used bootstrapped estimates (Shrout & Bolger, 2002). Bootstrapping is a statistical method used to repeatedly resample the data to create simulated samples based on the real data, which provides robust estimates and confidence intervals for indirect effects. Ultimately, this approach was used to study the relationship between acculturation strategies, perceived discrimination and self-esteem, with acknowledging that in the real world, alternative ordering and bidirectional relations, and even feedback-loops may be possible.

4.3.9 Latent Profile Analysis

Latent profile analysis, used in Study V, is a person-oriented method used to identify similar patterns in data. These similar patterns are then considered clusters of profiles of individuals with similar response profiles (Bauer, 2022). To find the right number of profiles that best describe the data, models of different number of profiles are compared using statistical indicators such as Bayesian/Akaike's Information Criterion [AIC/BIC], sample-adjusted BIC, BLRT, and entropy to determine the best model-to-data fit (Tein et al., 2013). For example, a model with the smallest AIC/BIC-value, and a significant BLRT-test value indicates superiority compared to other models. In turn, a higher entropy indicates more precise assignment of individuals to probabilistic profile memberships, serving as an indicator of the model's classification accuracy. The profiles derived from the best model can then be used for further analysis. In Study V, I investigated how different profiles of acculturation were related with a sense of belonging, perceived discrimination, and self-esteem using analysis of variance.

4.4 Research Ethics

This dissertation constituted of studies where secondary data from the School Health Promotion Study (Studies I–IV) and The Future Youth Report were analysed (Study V). The Finnish Institute for Health and Welfare surveys children and adolescents throughout Finland to inform stakeholders, including schools, of the state of their health and well-being. The surveys are administered during school days by teachers. The study protocol of the School Health Promotion Study has been evaluated and accepted by the ethical committee of the Finnish Institute for Health and Welfare. The data collected is completely anonymous.

Concerning the Future Youth Report, the ethical committee of social and behavioural sciences in University of Helsinki was consulted, and granted, that no further evaluation was in place as all guidelines of the Finnish National Board on Research Integrity were followed. The survey was disseminated throughout mainland Finland to principals of upper-secondary schools. Principals made the decision of whether their school would attend to the survey. Here, only adolescents of over 15 years of age were included, for whom parental consent is not required by the ethical standards. Adolescents' consent to participate in research conducted by Helsinki University researchers were formally inquired in the survey form. Throughout Finland, 6,027 adolescents participated in the Future Youth Report in 2023, of whom 4,578 gave their informed consent for their data to be used for research purposes.

Table 1 Overview of the Aims, Data and Procedures in Each Study

Study	Aims	Data and Subgroups	Instruments	Analyses
I	Examine the prevalence of generalized anxiety and depressive symptoms among adolescents. Examine the link between discrimination, parental relations, and supportive adults with depressive and anxiety symptoms.	School Health Promotion Study, 2017, 8 th and 9 th grade comprehensive school students, N = 73,690. Subgroups: 1 st generation 2 nd generation 2.5 generation native population.	Depressive symptoms scale (Patient health questionnaire, PHQ-2); Generalized anxiety disorder scale (GAD-7); Discrimination variable (composite with three items); single Likert item assessing the possibility and frequency of discussing personal matters with parents; single dummy item assessing whether one has an adult to discuss their worries with.	Tests of mean difference (χ^2 -tests, comparison of Pearson residuals, Welch t-tests, regression analyses and moderation analyses.

Study	Aims	Data and Subgroups	Instruments	Analyses
II	Investigate the link between global sense of belonging and mental health, group differences by immigrant status, and the buffering role of sense of belonging for the detrimental effect of discrimination on mental health.	School Health Promotion Study, 2017, 8 th and 9 th grade comprehensive school students, N = 61,540). Subgroups: 1 st generation, MENAP 1 st generation, OCO 2 nd generation, MENAP 2 nd generation, OCO MENAP = Afghanistan, Iraq, Iran, Somalia OCO = Other countries.	Depressive symptoms scale (Patient health questionnaire, PHQ-2); Generalized anxiety disorder scale (GAD-7); Warwick-Edinburgh Mental Well-Being Short Scale (SWEMWBS); Sense of belonging scale (six items); Discrimination, dummy variable.	Multigroup confirmatory factor analysis, tests of measurement invariance, multigroup structural equation modelling, two- and three-way interaction (moderation) analyses.
III	Examine the prevalence of depressive symptoms among primary school preadolescent children and investigate the link of their school experiences with these symptoms.	School Health Promotion Study, 2017, 2019, 2021, 4 th and 5 th grade primary school students (N = 259,382). Subgroups: 1 st generation, MENAP 1 st generation, OCO 2 nd generation, MENAP 2 nd generation, OCO MENAP = Afghanistan, Iraq, Iran, Somalia OCO = Other countries.	Depressive symptoms scale (the Finnish short version of the Mood and Feelings Questionnaire, FsMFQ); Variables measuring school experience: Peacefulness in class; Chance to express opinions in class; Getting along with schoolmates; Getting along with teachers; Sense of School Belonging; Having bullied others; Being bullied; Literacy and reading challenges.	χ^2 -tests of difference and Pearson residual effect analysis, logistic regression and area under the curve analysis, logistic regression moderation analyses and model based marginal effects analyses.
IV	Examine the risk that immigrant status poses for mental health and school adaptation and the protective/promotive role of teacher support and sense of school belonging.	School Health Promotion Study, 2017, 2019, 2023, 8 th and 9 th grade comprehensive school students (N = 207,873). Subgroups: 1 st generation, Refugees, 2 nd generation, Ethnic Finns.	Internalizing symptoms (combined PHQ-2 and GAD-7); School adaptation difficulties scale (9 items); Teacher support scale; Sense of School Belonging Scale.	Multigroup confirmatory factor analyses, measurement invariance tests, random-intercept linear mixed models, moderation analysis.
V	First, Develop the Compact Acculturation Scale, investigate the links between acculturation orientations, self-esteem, and discrimination. Second, explore the acculturation profiles and their links with sense of belonging, discrimination, and self-esteem.	The Future Youth Report 2023, secondary school students (Mean age = 16.7). A subset of immigrant-origin students (N = 744). Subgroups: 1 st generation resided for <5 years. 1 st generation resided > 5 years 2 nd + generation.	Compact Acculturation Scale (CAS); Self-esteem scale (RSES); Perceived Discrimination; Sense of Belonging.	Confirmatory factor analysis (CFA), multigroup CFA and measurement invariance tests, multigroup structural equation modelling, latent profile analysis, Anova, t-tests.

5 Results

Study I:

Anxiety and depression symptoms and their association with discrimination and a lack of social support among first- and second-generation immigrant adolescents

The first study of this dissertation focused on establishing the foundations for understanding the extent of mental health disparities between immigrant-origin and non-immigrant majority population youth in Finland, addressing RQ1 and RQ2. Given that discrimination is a key stressor among immigrants and immigrant minors (Brown & Bigler, 2005; Brown et al., 2000; Plenty & Jonsson, 2017), this study investigated its link with mental health symptoms among immigrant-origin youth in Finland (RQ3). Additionally, due to the acculturation gaps and discrepancies between immigrant-origin children and their parents (Schwartz et al., 2016; Telzer, 2011), the study also examined the role of parent-child relationships and other forms of perceived social support in conjunction with perceived discrimination in shaping mental health outcomes (RQ3).

First, I investigated the prevalence of depressive and generalized anxiety symptoms among adolescents who were first- or second-generation immigrants, those who had one parent of foreign origin (i.e., “2.5 generation”), and Finnish majority population adolescents. I found that first-generation immigrants reported more often both depressive (26.1 %) and generalized anxiety symptoms (23.5 %) compared to their second-generation counterparts (17.9 %; 16.5 %). Second-generation reported depressive symptoms as often as their 2.5-generation peers, both of whom reported more depressive and anxiety symptoms than their majority population peers (13.2 %; 11.3 %). These results indicated that immigrant-origin

adolescents were indeed more likely to present mental health burdens compared non-immigrant majority youth (RQ1), and that the risk was two-fold among first-generation immigrants, yet smaller among second-generation compared to majority population peers (RQ 2).

Second, I assessed whether these youth had someone to discuss their personal worries with, and whether they were able to discuss their personal matters with their parents. I found that youth of immigrant-origin were less likely to have someone to discuss their worries with than their majority population peers. As many as 42 % of first-generation, and 23.9 % of second-generation youth reported not having anyone to discuss their worries with. Moreover, as many as 22.6 % of first-generation, and 11.9 % of second-generation youth reported that they almost never discussed their personal worries with their parents. Third, I compared the mean difference of perceived discrimination between first- and second-generation immigrant youth and found that first-generation immigrant adolescents reported perceiving discrimination more frequently.

Finally, addressing RQ3, I investigated how these social factors were linked with depressive and generalized anxiety symptoms and whether immigrant status (first-generation / second-generation) moderated this relationship. I found that all these factors were linked with depressive and anxiety symptoms, except for discussing worries with someone which was not related with generalized anxiety among second-generation youth. Discussing with parents was a stronger protective factor for both outcomes. The detrimental effect of discrimination was slightly stronger on generalized anxiety than it was on depressive symptoms. I found that immigrant status moderated only the relation of perceived discrimination on depressive symptoms and generalized anxiety. The link between discrimination and mental health was slightly stronger among first-generation immigrant adolescents. Moreover, predictions made with marginal effects derived from the models indicated that first-generation youth who reported high on discrimination were likely to surpass the critical value of both depressive symptoms scale, and critical value for moderate generalized anxiety.

While this study demonstrated the link between discrimination and mental health, in addition to perceived discrimination, a lack of a sense of belonging is

likely a key factor explaining the mental health disparity (Allen et al., 2024; Allen et al., 2018; Sargent et al., 2002). Therefore, the next study focused on investigating this link along with examining whether a sense of belonging would buffer the negative effect of discrimination on mental health. Moreover, in Study I, immigrant groups were studied by comparing first- and second-generation, without identifying their countries of origin. In the following studies, immigrant-origin was considered with an aim to identify forced and voluntary migrant groups.

Study II:

Sense of belongingness, discrimination, and mental health: Associations and buffering effects of sense of belonging on mental health among Finnish native and immigrant-origin youth

A sense of belonging is a core human need (Baumeister et al., 2007; Baumeister & Leary, 1995). However, many immigrant-origin youth may feel that they do not belong (Abdulhamed & Beattie, 2024; Chiu et al., 2016; Osman et al., 2020), which may be a key factor explaining the mental health disparity. Furthermore, in contrast to Study I, we aimed at acknowledging the increased burdens among forced immigrant-origin youth compared to those who migrated voluntarily by examining these groups separately (Abdi et al., 2023; Fazel et al., 2012; Immigration Department, 2019; Peltonen, 2024; Sutela & Larja, 2015).

Study II addressed RQ3 and focused on the relationship of global (i.e., *overall*) sense of belongingness with depressive symptoms, generalized anxiety, and positive mental well-being. Moreover, this study examined whether these links were equally strong among all immigrant-origin youth by examining the moderating role by immigrant status. Finally, this study aimed at investigating whether sense of belonging buffered the negative effect of discrimination on mental health, and if this buffering effect was equal between groups.

First, I studied the measurement invariance of generalized anxiety scale, depressive symptoms scale, positive mental well-being scale, and the global sense

of belonging scale. I found that one item in the generalized anxiety scale (“*Being so restless that it is hard to sit still*”) varied among groups, and this item was thus omitted from the model. However, I found that other models were invariant between groups. The global sense of belongingness scale asked whether the participant felt like they were an important member of a) their school community, b) class community, c) an internet community I use the most (*web/some*), d) a hobby club, e) a group of friends, and finally f) the Finnish society.

Second, I found that sense of belonging was negatively related with depressive symptoms, generalized anxiety, and positively to positive mental well-being. The shared variance of sense of belonging with depressive (28 %) and generalized anxiety (29 %) symptoms were highest among first-generation migrants originating from Afghanistan, Iraq, Iran, and Somalia. Among other groups the shared variance varied between 12–19 %. Among all groups, the shared variance between sense of belonging and positive mental well-being was weaker, being largest among majority population youth (17 %), and smallest among first-generation immigrants (6–7 %). These results indicate that among forced immigrant youth, lack of sense of belonging is a key factor explaining their mental health burden, and inversely, a sense of belonging is a key protective factor for their mental health.

Third, I found that sense of belongingness buffered the negative effect of discrimination on mental health. This buffering effect was mostly equal across groups. The only significant difference was found between majority population youth and first-generation forced immigrants. Majority population youth who reported being discriminated and reported low sense of belonging, reported less depressive and anxiety symptoms compared to first-generation forced immigrants in a similar situation.

This study demonstrated the strong link between an overall sense of belonging with mental health, and the key role of a sense of belonging as a buffer against detrimental effects of discrimination. To further advance our understanding of factors linked with mental health and explaining the disparity among immigrant-origin and non-immigrant minors, I focused on the role of the school context in two of the following studies. Furthermore, while the first two studies focused on adolescents, the next one zooms onto preadolescent children in primary school.

Study III:

A Whole-Population Comparative Study of the School Experience and Its Association with Depressive Symptoms Among Immigrant Origin and Native Preadolescents

Schools are a prominent developmental context, where children and youth spend a vast majority of their waking hours (Eccles & Roeser, 2011). Moreover, it has a key role in the cultural adjustment and cultural learning among immigrant-origin youth (Motti-Stefanidi et al., 2023). Therefore, the school experience and the support gained in schools could have a paramount importance in promoting/protecting the mental health of specifically immigrant-origin youth, who may lack parental support, as was demonstrated in Study I. However, challenges in school could also be a source of stress for immigrant-origin youth and thus be linked with mental health burden.

In study III addressing RQ's 1–3, I investigated the prevalence of depressive symptoms among preadolescent children in fourth and fifth grades of primary school and how their school experiences were linked with these symptoms. Consistent with previous studies, I found that depressive symptoms were reported most often among first-generation (28–31 %), followed by their second-generation peers. Surprisingly, while forced first-generation immigrants reported depressive symptoms slightly more often (31 %) than voluntary first-generation immigrants (28 %), the difference was not significant when adjusted for gender, length of residence, and the survey year. Strikingly, however, second-generation immigrants from families with forced migration histories had a lower prevalence than their second-generation peers with voluntary migrant histories. Depressive symptoms were more prevalent among second-generation than among majority population children. Interestingly, while depressive symptoms were more prevalent among majority population girls than boys, these symptoms were reported equally as often by boys and girls of immigrant origin.

Overall, the school experience was more strongly related with depressive symptoms among girls than boys in all groups. Importantly, among second-generation forced immigrant-origin girls from Afghanistan, Iraq, Iran, and Somalia, the link of school experience was the strongest. However, this was largely attributable to the strong link of being bullied with depressive symptoms among them.

Bullying, participating in bullying, and literacy challenges were positively linked with depressive symptoms among all preadolescents. The main effect between depressive symptoms and participating in bullying was not significant among some immigrant-origin preadolescents due to confounding with being bullied, revealing that those participating in bullying were in fact often bullied themselves. Lastly, the results indicated that amongst those reporting a lot of literacy challenges, second-generation preadolescents had a higher probability of depressive symptoms compared to others.

A positive school experience was more strongly linked with lack of depressive symptoms among majority population children than those of immigrant origin. Moreover, the lack of positive school experiences was often not as adverse for majority population children as they were to their immigrant-origin peers. While I found that positive school experiences promoted mental health in terms of being linked with lower depressive symptoms, and adverse experiences being linked with higher depressive symptoms, adjusting for these experiences did not nullify the higher risk by immigrant status for depressive symptoms. This indicates that other factors not measured in this study contributed to their depressive symptoms, too.

While this study focused on preadolescent children, developmental challenges of adolescence could interact with the challenges linked to being of immigrant-origin, including their acculturative task (Titzmann & Jugert, 2024). Therefore, it is essential to examine the mental health disparities during adolescence and whether school related factors promote or protect their mental health at this more challenging developmental phase.

Study IV:

Mental Health and School Adaptation Among Immigrant, Refugee, and Non-Immigrant Adolescents: A Nested Population-Based Risk and Resilience Study

Adolescence is a challenging developmental phase during the life course (Crone & Dahl, 2012; Forbes & Dahl, 2010; Gowers, 2005), which among immigrant-origin youth is further challenged by the demands and strains linked with acculturation and immigrant status (Sam & Berry, 2009). In contrast to preadolescence, during the turbulent period of adolescence, the school environment may be linked with mental health differently. Moreover, as Study I demonstrated that immigrant youth may lack the chance to discuss personal matters with their parents, the protective or promotive role that supportive teachers might have for their mental health during adolescence could vary between preadolescence and adolescence.

Study IV, addressing RQ's 1–3, examined whether immigrant status places youths' mental health and school adaptation at risk. Furthermore, it examined whether and how teacher support, and sense of school belonging promoted/protected youths' mental health and school adaptation. These questions were investigated with aggregated population-based data (N = 207,873) from years 2017, 2019, and 2023 of 8th and 9th grade comprehensive school students (Mage = 14.9).

In this study, mental health was operationalized as the reverse score of internalizing symptoms (i.e., generalized anxiety and depressive symptoms). Unadjusted mean differences demonstrated that youth who migrated (first-generation and refugees), were at more risk than those who were born in Finland (second-generation and ethnic Finns). The mental health disparity was large between males who had migrated to Finland and males born in Finland, while this disparity between females was rather negligible. Refugees and first-generation females reported internalizing symptoms as often. In contrast, refugee males reported more internalizing symptoms than their first-generation counterparts. Moreover, females in second-generation compared to ethnic Finns did not differ in

terms of mental health symptoms. However, second-generation males in turn reported more internalizing symptoms than their ethnic Finn counterparts. These results indicate that, specifically, immigrant-origin adolescents males have an increased risk for internalizing symptoms relative to non-immigrant adolescents. Conversely, females in all groups reported internalizing symptoms almost as often. Nevertheless, overall, females reported more internalizing symptoms than their male counterparts within all groups.

Youth who had migrated to Finland were at more risk for school adaptation difficulties. Among them, refugees reported more school adaptation difficulties than their first-generation counterparts. Surprisingly, there was no difference between second-generation and ethnic Finns in terms of their school adaptation. A closer look indicated that sex played a role here. While second-generation males reported more difficulties than their ethnic Finn counterparts, second-generation females reported less difficulties than their ethnic Finn counterparts. Nevertheless, these differences were very small.

Our models investigating the role that psychosocial factors (teacher support and sense of school belonging) played in relation to the outcomes revealed that sense of belonging was the most important variable for mental health, and teacher support for school adaptation among youth born in Finland. Conversely, teacher support was more important for both mental health and school adaptation among youth who migrated to Finland. Teacher support did not only show a promotive effect among migrants, but also a protective effect indicated by a moderation effect. Those youth who had migrated to Finland, and reported high on teacher support, were on the level of their peers born in Finland in terms of mental health. A similar protective effect was found among second-generation male adolescents. Teacher support also protected the school adaptation of refugees as compared to first-generation immigrants.

These results indicate that mental health disparities are a special concern for males in the context of migration in Finland, as females, while reporting more internalizing symptoms, were mostly on the level of their ethnic Finn counterparts. In other words, immigrant status places, specifically, males at risk for internalizing symptoms relative to their non-immigrant majority population counterparts.

Nevertheless, our results indicated that in the Finnish context, immigrant-origin females relative to ethnic Finns, and subsequent generations of immigrants are doing relatively well. The results of mental health among females are striking. It shows that immigrant-origin females are resilient, as their immigrant status hardly (i.e., first-generation compared to those born in Finland) or not at all (refugee and second-generation compared to ethnic Finns) increased their risk for internalizing symptoms relative to their non-immigrant female counterparts.

Overall, studies I, II, III, and IV all indicated increased mental health burdens among immigrant-origin children and adolescents. These studies also illuminated how some key factors explained the mental health disparities. However, I wanted to further understand whether and how acculturation orientations and strategies were linked with mental health and psychosocial adjustment. To pave the way for further studies to investigate these links, I developed the Compact Acculturation Scale (CAS) which was studied in the fifth and last study of my dissertation.

Study V: Acculturation Orientations Among Immigrant Origin Youth: How is Acculturation Associated with Self-esteem, Sense of Belonging, and Discrimination?

Extant research has stressed the importance of acculturation in the development of immigrant-origin youth. Study V was inspired by the need to further understand the adaptation and mental health disparities among immigrant-origin youth. We have lacked a suitable brief measurement of acculturation that could be used to assess these orientations among the youth. Hence, I developed a short acculturation measure following the shared items found in established comprehensive acculturation scales that are most frequently used. The motivation to develop the Compact Acculturation Scale (CAS) was driven by the need to investigate acculturation in the future in School Health Promotion Study, and/or other population-based studies, which have restrictions for lengthy scales. The mental health disparities found in Studies I–IV lacked the insight that acculturation orientations of the participants could provide in further studies.

Study V moved forward from examining mental health disparities. Instead, it examined how acculturation orientations were linked with a key mental well-being indicator, namely, self-esteem. To address RQ4, the link of acculturation orientations to sense of belonging, and perceived discrimination were examined, both of which were key factors linked with mental health in Studies I and II. In Study V, I first confirmed a 2nd order factorial structure of the Compact Acculturation Scale (CAS) and investigated its convergent validity with a sense of belonging to the Finnish society, and a sense of belonging to parents' ethnic or cultural community. Second, I investigated the link between acculturation orientations and self-esteem, and how perceived discrimination affected this relationship. Third, I investigated acculturation orientations among immigrant-origin youth.

I found that acculturation orientations were positively linked with self-esteem. However, when both (the ethnic and the host) orientations were adjusted for, only ethnic orientation was positively linked with self-esteem among recently arrived migrant youth, and only host orientation among established migrant youth. I also found that ethnic orientation was more likely among those established migrant youth who perceived discrimination.

Discrimination was negatively related with self-esteem. Among established migrants, perceived discrimination did not affect the relationship between acculturation orientations and self-esteem. Only a small effect was found indicating that those established immigrant-origin youth who perceived discrimination had a stronger link between their host orientation and self-esteem. Among recent immigrants however, perceived discrimination made the positive relation of ethnic orientation on self-esteem non-significant. The confidence interval of the total effect of this relationship varied largely. This means that in the presence of discrimination, some recently migrated youths were negatively affected, and thus, their ethnic orientation was not positively related with their self-esteem, indicating that discrimination likely devalued their ethnic orientation. However, neither did a host orientation predict better self-esteem in such a situation among this group. Nevertheless, on the upper end of confidence interval lies participants who, despite of perceived discrimination, had a positive link between ethnic orientation and self-

esteem, indicating, that they were either not affected, or that this resource (ethnic orientation) had a protective function.

I also investigated acculturation profiles by a person-oriented approach. I found that integrative orientations were most common among youth, and these profiles were linked with better sense of belonging, self-esteem and less perceived discrimination. Profiles of both assimilation and separation were rare. However, the third largest profile, called the Neo-Culture Kids emerged, which demonstrated a disengagement with both heritage and host cultures. However, these youth reported liking peer relations of both majority population and their ingroup peers, indicating that they possibly did not fit to the cultural compartments of host and heritage cultures. However, this orientation was somewhat troubling, indicated by lower self-esteem and a sense of belonging compared to integration profiles. They were, however, on the level of the integration profiles in reporting perceived discrimination.

This study demonstrated the versatility of the Compact Acculturation Scale for both variable- and person-oriented approaches. Moreover, it showed that most youth orient to integrate their heritage cultures and host cultural streams in the Finnish context. Those who oriented to assimilate and separate were very few. It should be noted however that the socioeconomic status of the survey participants was higher than what would be expected for immigrant-origin youth in Finland. Therefore, we need more balanced samples in the future to illuminate the acculturation orientations among immigrant-origin youth in Finland with lower socioeconomic status, too.

6 Discussion

This dissertation aimed at investigating the mental health disparities between immigrant and non-immigrant, first- and second-generation, forced and voluntary migrants during preadolescence and adolescence. Additionally, it aimed at examining whether and how factors in their microsystems promoted, protected or risked their mental health. Lastly, it aimed at developing a short scale for assessing acculturation orientations to investigate how acculturation is linked with positive adaptation. Results of this dissertation have important educational and policy implications, and it provides insight into what further research could and should focus on regarding the positive adaptation of immigrant-origin children and youth.

6.1 Main results – The Mental Health Disparity

Unravelling?

The first research question of this dissertation asked whether immigrant status places the mental health of children and youth at risk during preadolescence and/or adolescence. The results in Studies I, II, III, and IV all revealed that immigrant-origin youth, in the context of Finland, are at higher risk for depressive and generalized anxiety symptoms compared to their non-immigrant majority counterparts. The second research question considered how large the mental health disparities between various groups were. Among adolescents, namely 8th and 9th grade comprehensive school students, first-generation youth originating from Iraq, Iran, Afghanistan, Somalia, and Syria (i.e., *MENAP*-countries) were at more risk than their first-generation counterparts originating from other countries. This does not come as a surprise as migration, or rather, fleeing from these countries to Finland is predominately based on seeking international protection (Immigration Department, 2019; Sutela & Larja, 2015). While they share many acculturative

challenges with their first-generation counterparts – including second-language acquisition, developing their identities in the cross-section of cultures, being ostracised and discriminated against, and living in between cultural demands (Phinney et al., 2006; Suárez-Orozco et al., 2018) – forced immigrants, additionally, may have been exposed to traumatic events (Abdi et al., 2023; Peltonen, 2024).

In turn, second-generation immigrant adolescents reported fewer depressive and anxiety symptoms compared to first-generation. Surprisingly, those second-generation youth, whose parents migrated from MENAP countries, reported slightly fewer depressive and generalized anxiety symptoms compared to their second-generation counterparts with roots elsewhere (Study II, and Table 2). Overall, the results demonstrated that the next generation of immigrant-origin youth have fewer mental burdens, indicating relatively more positive adaptation.

This dissertation investigated whether immigrant status would place minors at risk during both preadolescence and adolescence (RQ1). Interestingly, the results among preadolescent children (i.e., 4th and 5th grade primary school students) in Study III had a different pattern from that of adolescents. Here, first-generation voluntary and forced immigrant minors reported depressive symptoms equally as often. The prevalence was slightly higher among MENAP minors; however, the difference was not significant when sex, length of residence, and survey year were adjusted for. Furthermore, in line with Study II, second-generation voluntary immigrant minors reported more depressive symptoms than did second-generation immigrant minors whose parents were forced immigrants. This counterintuitive finding – in both preadolescence and adolescence – demonstrates that these minors are relatively resilient, despite that their parents were forced migrants, among whom mental burdens are more prevalent (Castaneda et al., 2020; Castaneda et al., 2015). Mental health symptom prevalences among preadolescents as reported in Study III, and complementary prevalences by group in exceeding critical values of depressive and generalized anxiety symptoms among adolescents are presented in Table 2.

6.1.1 Mental Health Disparities During Preadolescence and Adolescence

The finding that the mental health disparity between forced and voluntary first-generation immigrants is nonexistent during preadolescence, but appears during adolescence, is intriguing. This could be linked to challenges with (ethnic) identity development and acculturation discrepancies within the family (Crocetti et al., 2008; French et al., 2006; Schwartz et al., 2016; Osborne & de la Sablonnière, 2014). As adolescents compared to preadolescents turn more to their peer networks, are more influenced by their peers, and are exploring identities (e.g., Crocetti et al., 2008; French et al., 2006), parents' acculturation expectations may more likely lead to conflicts within the family during this developmental period. Moreover, adolescents may be more conscious than preadolescents on how they and their ethnic/religious groups are perceived in the society. As their social and spatial circles expand, including getting more exposed to the media, they may more likely encounter the negative stereotypes, prejudices and attitudes regarding their ingroup in the society. Therefore, those coming from MENAP countries may struggle with the negative stereotypes, prejudices, discrimination and racism that they face more often relative to other immigrant youth (Ishaq et al., 2024; Matikka et al., 2014; Saukkonen, 2018), which even if perceived indirectly has a negative impact on them (Froehlich et al., 2023).

As females are more likely than their male counterparts to report depressive symptoms and are more often diagnosed with depression (Fazel et al., 2012; Filatova et al., 2019; Kuehner, 2017), sex was adjusted for in all studies. Therefore, the results of most part studies were of immigrant groups in general without considering differences between boys and girls.

Surprisingly, Study III showed that in preadolescence, there was no difference between boys and girls in immigrant-origin groups in reporting depressive symptoms. In contrast, non-immigrant majority population girls reported depressive symptoms more often than boys did. Preadolescent immigrant-origin girls compared to non-immigrant majority girls seem to be more resilient to depressive and anxiety symptoms relative to their male counterparts. This, however, changes during adolescence, as demonstrated in Study IV; we found that

in most cases, immigrant-origin and non-immigrant females reported depressive and anxiety symptoms almost as often. There was only a small, but significant, difference between first-generation females (who reported more depressive and anxiety symptoms) and non-immigrant majority population females.

However, in Study IV females with a forced immigrant background, and second-generation females, all reported internalizing symptoms (i.e., combined score of depressive and anxiety symptoms) equally as often with their non-immigrant majority population counterparts. The only statistically significant difference was found between first-generation and majority population female adolescents, but the difference was rather small. These results indicate that immigrant status does not seem to risk female adolescents' mental health relative to their non-immigrant majority population counterparts in adolescence. Nevertheless, while there was no difference in the mean of internalizing symptoms between forced immigrant and majority female adolescents in Study IV, adolescents exceeding the critical values for severe anxiety and depressive symptoms was more prevalent among forced and voluntary first-generation females according to the complementary results reported in Table 2. These findings showed that the immigrant- and non-immigrant mental health disparity in adolescence was largest between male adolescents. That is, adolescent males in all immigrant groups were more likely to report internalizing symptoms compared to majority population males.

The results of the part-studies, overall, supported the immigrant morbidity hypothesis, showing that there is no immigrant paradox in Finland (Coll & Marks, 2012; Marks et al., 2014), aligning with previous research from Europe and Finland (Dimitrova et al., 2016; Matikka et al., 2024; Matikka et al., 2014). This was indicated by second-generation immigrant youth doing better than their first-generation counterparts. Nevertheless, second-generation preadolescents – and second-generation males during adolescence – still lag behind their non-immigrant majority counterparts in mental health, which may be partly explained by them experiencing more bullying and discrimination than their majority population counterparts.

6.1.2 The Contradicting Results of Survey and Registry-Based Studies

While these results aligned with previous results from survey-based studies, they continued to contradict the results of registry-based studies (Kääriälä et al., 2020; Loi et al., 2021). These registry-based studies indicated an immigrant paradox by showing that second-generation and 2.5-generation youth had diagnoses of psychopathological disorders more often than the first generation.

These contradictory results between registry- and self-report-based studies constitute of several different aspects. First, mental health issues may be stigmatized especially in collectivist cultures (Papadopoulos et al., 2013) and, in some cultures, not recognized (Canino & Alegría, 2008; Shirazi et al., 2009). Second, first-generation immigrants may have experiences to which they may associate their mental strains with, such as traumatic experiences, distress associated with pre/peri/post-migration experiences, perceived discrimination, disconnectedness from family and peers (e.g., Kuittinen et al., 2017). Therefore, while they may experience psychological adjustment issues and symptoms of anxiety and depression, and report them in surveys, they may not seek help, which is reflected in lower rates of mental health service use among first-generation immigrant adolescents compared to next generations.

Third, it may be possible – in addition to what was previously argued – that among first-generation immigrant adolescents, the national service-system may not be as approachable to them or their parents due to unfamiliarity and issues in communicating ones needs. Moreover, in collectivist cultures mental strains may be matters that are not shared outside the family (Snowden, 2007). Lastly, experiences or predispositions of the service providers not understanding their needs and lived lives (e.g., Nwokoroku et al., 2022) could contribute to not seeking help. Thus, it is likely that first-generation immigrant youth have more mental health strains than subsequent generations, and the discrepancy in registry- and self-report studies may be attributable to the issues outlined.

Table 2 Prevalence of Mental Health Symptoms by Immigrant Origin

Preadolescents in Primary School							
Group	% of N Reported:						N
	<u>Elevated Depressive Symptoms</u>						
	All	Male	Female				
Majority population	17.4	15.5	19.4				244,455
MENAP 1 st	30.7	30.1	31.5				1,215
MENAP 2 nd	22.7	21.6	23.5				1,447
OCO 1 st	27.9	27.9	27.8				6,067
OCO 2 nd	25.9	25.7	25.9				6,201
Total	17.9	16.1	19.8				259,385
Adolescents in Middle School							
Group	% of N Reported:			Std. Residual			N
	<u>Depressive Symptoms</u>						
	All	Male	Female	All	Male	Female	
Majority population	17.2	9.2	24.9	-3.29	-5.98	-0.79	233,579
MENAP 1 st	29.6	32.6	29.1	12.07	24.26	2.09	1,728
MENAP 2 nd	18.2	14.8	20.6	0.58	3.67	-2.08	1,078
OCO 1 st	22.5	18.2	28.0	10.12	16.37	3.5	6,976
OCO 2 nd	22.5	12.0	26.3	3.25	3.45	1.28	4,679
Total	17.4	9.7	25.0				248,040
Group	% of N reported			Std. Residual			N
	<u>Severe Anxiety</u>						
	All	Male	Female	All	Male	Female	
Majority population	6.6	2.3	10.6	-5.88	-8.05	-1.36	233,579
MENAP 1 st	18.1	21.5	17.9	18.76	37.64	5.50	1,728
MENAP 2 nd	8.9	7.6	9.7	2.51	6.61	-0.73	1,078
OCO 1 st	10.5	8.4	13.0	27.64	20.45	3.98	6,976
OCO 2 nd	8.2	3.5	12.3	3.47	2.31	2.29	4,679
Total	6.8	2.7	10.8				248,040

Note. The results of the prevalence among Preadolescents are as reported in Study III. The results on the prevalence among adolescents are complementary to the results reported in the part-studies, using aggregated data from 2017, 2019 and 2023 imputed with the random forest method. A Std. Residual of ± 1.96 indicates a significant difference at $p < .05$ significance level.

Abbreviations. MENAP = forced immigrants with origins in Iraq, Iran, Somalia, Afghanistan, or Syria; OCO = immigrant children with origins elsewhere; 1st = first generation; 2nd = second generation.

6.2 Factors that Promote, Protect or Risk Immigrant Minors' Mental Health

The development of human beings occurs in socioecological contexts. Interactions in the microsystems, that is, with family, school, and peers, have a tremendous impact on individual trajectories and well-being (Bronfenbrenner & Morris, 2006). Hence, this study focused on the microsystem level proximal factors for examining their role as promotive, protective or risk factors for mental health, depicted in Figure 2.

Discrimination and Supportive Social Bonds

In Study I, I investigated the link between discrimination, parent-child relations, having a supportive adult, and depressive and generalized anxiety symptoms. This study showed that discrimination was a strong predictor of depressive and generalized anxiety symptoms among both first- and second-generation. This link was slightly stronger among first-generation, indicating that discrimination was more detrimental for their mental health. In fact, the statistical model predicted surpassing the critical values for depressive symptoms and generalized anxiety among first-generation youth who reported more discrimination, while second-generation youth were more resilient against discrimination, indicated by slightly lower predicted value of depressive symptoms and generalized anxiety. Nevertheless, this study did not account for recurrence or frequency of perceived discrimination, which are key factors in overweighting individuals' coping against stressful events (Folkman & Lazarus, 1991; Lazarus & Folkman, 1984). Thus, it also possible that this result could (rather) reflect more recurring and frequent discrimination among first-generation adolescents compared to that of second generation.

Good parent-child relationships protected the mental health of both first- and second-generation immigrant-origin adolescents. Having someone to discuss worries with protected both first- and second-generation from depressive symptoms, yet it protected only first-generation immigrants from generalized anxiety. More specifically, not having someone to discuss worries with was a risk factor for generalized anxiety among first-generation youth, while those who

reported having this resource were on the level of their second-generation counterparts on reporting anxiety symptoms. Conversely, this resource was not linked with anxiety symptoms among second-generation youth. It is important to note that this resource was very scarce among first-generation, as 42 % of them reported not having someone to disclose their worries with, while 24 % of second-generation reported so. This indicator was a dummy (yes/no question), and therefore further insight would benefit from more comprehensive and continuous instruments as well as mixed-method designs. Overall, the model demonstrated that when discrimination, discussing with parents, and having someone to discuss worries with were accounted for, first- and second-generation did not differ in terms of their risk for depressive and generalized anxiety symptoms. This indicates that the heightened risk of first generation for depressive and anxiety symptoms relative to second generation can be explained by them perceiving more discrimination, having more often issues with their relationship with their parents, and not having someone to discuss worries with.

Overall Sense of Belonging is a Promotive and Protective Factor

In Study II, I first investigated whether a global sense of belonging was equally related with mental health (depressive symptoms, generalized anxiety, and positive mental health) among immigrant groups and non-immigrant youth. Second, I examined whether a sense of belonging buffered the negative effect of discrimination on mental health. The results showed that a sense of belonging was significantly related to all mental health outcomes. However, the link between a sense of belonging and depressive and anxiety symptoms was strongest among forced first-generation immigrants. Previous research has indicated that a sense of belonging among forced migrants is intertwined with their sense and need for security (Dromgold-Sermen, 2022). Thus, it is not surprising that this psychosocial resource was more strongly linked with mental health among them than other immigrant-origin adolescents.

Third, I found that a sense of belonging buffered the negative effect of discrimination on mental health. This is an important finding for policy and practice. As immigrant-origin youth are prone to be ostracised and discriminated against (Plenty & Jonsson, 2017), we need to understand ways of protecting them

from these adversities. Extant research had demonstrated the importance of a strong ethnic identity, religion, and having many ingroup peers as buffers against discrimination (Ikram et al., 2016). However, the discovery of the buffering/protective role of a sense of belonging in host national contexts against the adverse effects of discrimination on mental health in Study II is of paramount importance. First, focusing on enhancing a sense of belonging in host contexts is key to avoiding segregation in society and promoting intergroup relations. Second, it may provide a more malleable protective resource for mental health, which can be facilitated in schools, hobby clubs, and other key institutions in society.

If people who are discriminated against (only) find comfort in their ethnic identity, religion, and ingroup peer relations (Ikram et al., 2016), discrimination would be – and arguably is by design – a key driver of segregation in the society. To add to this extant research, in Study V, I also found a link between ethnic acculturation orientation and discrimination: discriminated immigrant youth were more likely to prefer an ethnic orientation rather than a host orientation. Taken together, perceiving discrimination pushes immigrant-origin youth to distance themselves from the majority population and culture.

However, if alternatively (or additionally), a sense of belonging in the host contexts can protect immigrant-origin youths' mental health from discrimination, it posits a promise for integration and maintaining positive intergroup relations. Thus, the key message of Study II is that all immigrant-origin children and adolescents should have the right to feel that they belong to the Finnish society, to the Finnish identity, and to the host national contexts and groups they are involved in. And these sentiments are important to be continuously promoted, as they are not a default, especially when one experiences discrimination and ostracism from belonging to Finland.

The Role of the School Context and Teachers' Support

The relationship of the school experience with mental health was investigated among preadolescent primary school kids in Study III, and among adolescents during the last years of comprehensive school (i.e., middle school/lower secondary school) in Study IV. The results of these two studies were to some extent contradictory. In Study III we found that factors indicating a positive school

experience seemed to benefit non-immigrant majority students more than immigrant-origin students. This included having good relations with teachers, and teacher's concern ("*teachers are interested in how I am doing*") for their students. In turn, not perceiving teachers as being interested in how they were doing was linked with higher risk for depressive symptoms among first-generation immigrants.

However, in Study IV we found that perceived teacher support ("*teachers treat us fairly; teachers are interested in how I am doing; teachers encourage me to express my opinions in class*") was consistently a protective factor for all immigrant-origin youths' mental health, except for second-generation immigrant-origin females. These results align regarding higher mental health risk being intertwined with low perceived teacher support in both preadolescence and adolescence. However, as opposed to preadolescents, immigrant-origin adolescents who reported high teacher support were likely to report equally on mental health symptoms as their non-immigrant majority population counterparts. It remains unclear whether this result reflects an increased valence of teacher support on mental health among adolescents of immigrant-origin, or a simultaneously decreased valence among majority population adolescents. Previous research has indicated the importance of teacher-student relationships specifically for students at risk throughout adolescence (Wang et al., 2013), and a similarly important buffering role of positive teacher-student relations against depression among both primary and middle school students (Zhang et al., 2022). In both Studies III and IV, more teacher support was linked with less mental health symptoms, indicating that this is an important psychosocial factor for protecting at-risk minors at both age groups, while being more impactful among adolescents of immigrant origin.

Study III indicated that even with adjusting for school factors, immigrant-origin children were more likely than non-immigrant majority population children to report depressive symptoms. This indicates that the school factors, as measured in this study, could not solely account for the higher risk for depressive symptoms. These two studies applied different methods and different instruments. Therefore, it is important to note that they are not directly comparable, even though they inform us about the same phenomena. In summary, both studies show that school

environment is linked with depressive/internalizing symptoms and, specifically, sense of school belonging as a promotive factor, and teacher support as a protective factor should be considered when schools aim at enhancing students' well-being.

Acculturation Orientations and Self-Esteem

While the overarching theme of this dissertation was to investigate the mental health disparity, in Study V the role that acculturation orientations played for the self-esteem of immigrant-origin adolescents was investigated. Self-esteem has strong links with both psychological well-being and resilience (Barbalat et al., 2022). In turn, acculturation is a specific developmental task for immigrant-origin children and youth (Suárez-Orozco et al., 2018). Therefore, investigating the link of these factors along with discrimination, which is a key risk factor for immigrant minors' mental health as indicated in Study I, was critical in illuminating the role that acculturation may play for their mental health.

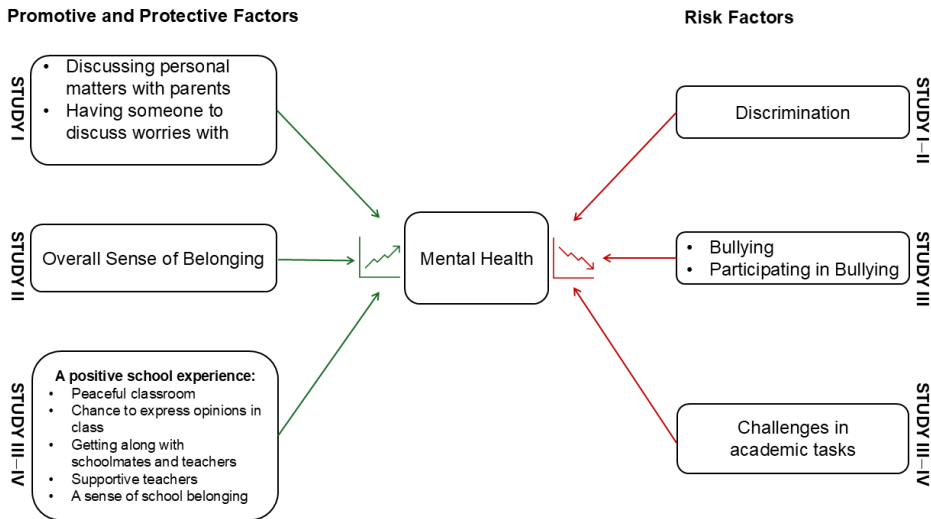
The findings indicated that acculturation orientations were positively linked with self-esteem. I found that a host orientation was linked more strongly to self-esteem among those who had born or resided in Finland for more than five years (i.e., established migrants). In turn, an ethnic orientation was linked more strongly to self-esteem among those who had resided in Finland for less than five years (i.e., recent migrants). Study I showed the link between discrimination and depressive and anxiety symptoms, and that it was stronger among first-generation compared to second-generation youth. Study V adds to that by demonstrating that perceived discrimination was negatively linked with immigrant youths' self-esteem as well, and that this link was stronger among recent immigrant youth compared to established immigrant youth. These complementing results indicate that first-generation compared to later generations are more vulnerable to the negative effects of discrimination on mental health and well-being.

The results of Study V also indicated that the positive link of host orientation and self-esteem among established adolescents was slightly stronger when they simultaneously reported perceiving discrimination. In turn, among recent immigrants, perceived discrimination dispersed the overall positive link between ethnic orientation and self-esteem. These results, however, would need further longitudinal inquiry to illuminate their temporal relations. For example, the result

concerning the slightly stronger link between self-esteem and host orientation in the presence of discrimination could also reflect a higher baseline self-esteem. Alternatively, it is possible that the valence and threat of perceived discrimination did not outweigh adolescents' protective psychosocial resources (Folkman & Lazarus, 1991; Lazarus & Folkman, 1984), such as a sense of belonging to host national context, protecting them from the deleterious effects of discrimination. Moreover, the cross-sectional nature, nor the wording of the discrimination item could account for the frequency or reoccurrence of discrimination in neither Study I or Study V, which are key factors predicting hardships of coping with stressful events (Folkman & Lazarus, 1991). Therefore, many open questions remain for further inquiry.

In summary, the results of this dissertation highlighted the significant impact of socioecological contexts on the mental health of immigrant-origin youth (see Figure 2). Specifically, discrimination and bullying risked their mental health along with the lack of support and positive school environments. In turn, an overall sense of belonging, sense of school belonging, good relations with parents, supportive teachers, and a positive school environment were key factors in promoting and protecting the mental health of immigrant-origin children and youth. Lastly, the complex role that acculturation might play in different phases of immigration was illuminated, demonstrating how ethnic and host orientations were differently linked with self-esteem among recently migrated and established immigrant-origin youth.

Figure 2 Factors in part studies I–IV linked with mental health



6.3 Methodological Reflections

This dissertation used cross-sectional population-based survey data (Studies I–IV), and a nationwide cross-sectional survey (Study V). In Studies III and IV, data was aggregated from multiple years to derive results that can be regarded as more stable through time, providing for more robust inferences. Overall, Studies I–IV represent the population examined well, whereas the data in Study V was less successful in reaching immigrant-origin youth of low socioeconomic status. The methodological limitations of this study include issues related to the use of cross-sectional self-report data, and choices related to stratification. In this section, I will reflect on the strengths and limitations of the studies and how these were addressed by discussing methodological and analytical choices.

Psychometric Properties

Using self-report surveys are prone to biases stemming from variability in how certain questions are understood or interpreted. To address this issue, I carefully investigated the psychometric properties of the scales by multigroup confirmatory factor analysis and measurement invariance tests, along with comparing reliabilities across groups (French & Finch, 2008). For example, in Study II, one

item in the GAD-7 scale was invariant between the groups: “*Being so restless that it is hard to sit still.*” To retain comparability between groups, this item was omitted from the latent factor. As study II investigated the relationship between sense of belonging and mental health, clinically relevant cutoffs were not at the focus, making it feasible to omit this item. In fact, previous research has indicated cultural biases with this item too, along with *Feeling nervous, anxious or on edge*, and *becoming easily annoyed or irritable* (Parkerson et al., 2015).

In Study IV, the GAD-7 and PHQ-2 scales were used in tandem as a latent factor. Here, no invariant items were found. Either the invariance was specific to the sample used in Study II, or in the larger sample used in Study IV the invariance of the item was redundant for the measurement model. Nevertheless, further research should investigate whether the GAD-7 scale provides psychometrically and ecologically valid results across diverse adolescent groups.

Pros and Cons of Stratification of Immigrant-origin Minors

Given that immigrant minors are a heterogeneous group, I aimed to address this by stratifying first- and second-generation minors in all studies, and further stratifying those with predominantly forced and voluntary migration backgrounds in Studies II–IV. Furthermore, the groups in Studies II–IV were coded so that mixes between the forced and voluntary groups were not allowed, to provide robustness to this stratification. This allowed to remove mischievous responses (i.e., demographically or culturally unlikely or rare mixes of origins). Nevertheless, at best, this procedure was a proxy to stratify groups of forced and voluntary migrants based on the most common countries of forced migration to Finland (Immigration Department, 2019; Sutela & Larja, 2015).

The school health promotion study does not collect data on reasons for migration, and due to the high standards for retaining anonymity, single-country information are not handed for secondary data-analysis. Despite of the shortcomings and limitations regarding this procedure, I consider that this level of analysis is more informative than mere comparisons of first- and second-generation immigrant minors. Nevertheless, it still poses the risk of essentializing these groups. For example, within both the voluntary and forced migrant groups, there may be subgroups that are particularly resilient or vulnerable. Moreover, the

groups combined in this study could have variability in their endorsements on mental health scale items. In fact, previous research has indicated that Somali adults in Finland have lower than expected symptom endorsements to mental health scales, which is considered to be linked with cultural and religious ideas or stigmas related to mental health (Kuittinen et al., 2017).

In Studies I–IV first-generation immigrants were not stratified by their length of residence. In turn, Study V did and found that first-generation immigrants who had resided in Finland for a longer period resembled second-generation youth more closely than those who had recently migrated. Therefore, future studies could benefit from comparing recently migrated first-generation immigrants with those who have resided in the country for longer periods, sometimes referred to as 1.5-generation migrants. This is particularly important when investigating late adolescents or adults who have surpassed the sensitive periods for acculturation (Cheung et al., 2011).

Another issue, closely related to length of residence and thus language proficiency, was the limited survey language options available in this study. However, as children and adolescents completed the surveys in class under the supervision of their teachers, they had the opportunity to ask for help from teachers or teaching assistants if they did not understand something. Moreover, psychometric tests did not indicate issues related to respondents understanding items differently. Nevertheless, without more language options, these surveys are likely to miss the chance to collect data from young people at the earliest stages of their resettlement.

Choosing the Right Tools

A key to robust inferences from data is to choose the right methodological tools. These include considering missing values, and patterns of missingness, consideration of sensitivity and statistical power of various techniques in group comparisons, along with their possible biases. Mental health symptom scales do not usually follow a normal distribution, as they are designed to identify clinically relevant symptoms. This introduces the dilemma of whether to use them as categorical variables (1 = exceeds critical value, 0 = does not exceed critical value) or continuous ones. The former might limit statistical power in detecting significant

effect differences by group and assumes mental health to be dichotomous variable instead of a continuum. In fact, this was the case in Study I. Initially, I submitted the paper to the journal using logistic regression in modelling. In this first version, the moderation analyses did not detect the difference between first and second-generation adolescents. Reviewers deemed to use GAD-7 and PHQ-2 scales as continuous ones, and use ordinary least squares regression in modelling, which resulted in the detection of the moderation effect.

In this approach, model based conditional mean predictions and visualization have a key role in correctly interpreting the effect sizes and the relationship between explanatory and response variables. In the case of structural equation modelling, I used maximum likelihood with robust standard errors (MLR), which can handle non-normal distributions. Compared to diagonally weighted squares (WLSMV) estimator, MLR is more conservative in detecting misfits of the measurement model and data. Oftentimes, researchers choose WLSMV in similar cases (Tiirikainen et al., 2019). However, WLSMV estimator is prone to indicate good fit even with dreadful measurement models (Sass et al., 2014). Therefore, I chose to keep to MLR for the sake of stringent and reliable models.

Moreover, comparing the means and clinically relevant prevalences between groups might therefore give different results, complicating interpretations. This was the case between Study IV, where GAD-7 and PHQ-2 was used as a conjoint latent factor score, and the complementary prevalence Table 2 in this dissertation. While Study IV indicated no difference in the mean between forced and majority-population females, the prevalence comparison (Table 2) showed that clinically relevant symptoms were more common among forced female immigrants.

Nevertheless, the information value of the mean comparison and prevalence rates tell a different story: in general, these groups do not differ in terms of their mental health symptoms in the Finnish context. However, the number of individuals exceeding the clinically relevant thresholds varies. While in general, female immigrant-origin adolescents do not report more mental health symptoms than their majority counterparts, there is a subgroup among them who are not doing so well. Yet, the interpretation of the result among immigrant-origin males did not alter, as both methods indicated that there is a large mental health disparity

between immigrant-origin and majority population group males. This example underscores the importance of using multiple methods to derive a clear picture of the focal phenomena. Accordingly, Study III incorporated multiple sub-sample methodologies in revealing the links between school related factors and mental health. In fact, subset analysis of main effects by group and gender, post-hoc sensitivity analysis, moderation analysis by group, and conditional mean prediction analysis helped in creating a wholistic picture of the focal phenomena across groups. Choosing and incorporating the right methods for Study III was an exciting journey, but quite complex in terms of reporting the relevant results to the readers.

Shortcomings of Cross-Sectional Data

Due to the cross-sectional nature of the part studies, they could not examine the temporal relationships between mental health and psychosocial factors. However, they provide basic knowledge and founding stones with robust large datasets that can inform and inspire further in-depth research unravelling temporalities.

Investigating the temporal relationships is important to inform interventions and practise, especially as acculturation is inherently a developmental process (Schwartz et al., 2020). For example, understanding the temporal relations of perceived discrimination, parental relations and mental health, investigated cross-sectionally in Study I, would help to understand where and when support would be most impactful. For instance, immigrant-origin adolescents may avoid sharing their discriminatory experiences with their parents (Juang & Syed, 2014), which could make them less likely to discuss personal matters with them over time. Immigrant-origin children might learn early on during their life course that they are not accepted but rather rejected. Their experiences of sharing their experiences with their parents, and what follows, could play an important role whether they find discussing their personal matters with their parents helpful. Extant research on whether immigrant-origin children disclose their discriminatory experiences with their parents is rather scant. For example, previous studies have demonstrated that the majority (62 %) of immigrant-origin youth do not disclose their experiences of discrimination with their parents (Juang & Syed, 2014). Reasons for non-disclosure includes for example anticipating a negative reaction from parents or not wanting parents to worry. Higher ethnic/racial socialization has been linked with disclosing

experiences of discrimination to parents (Juang & Syed, 2014; Neblett Jr. et al., 2008), indicating the importance of a strong ethnic identity not only for a buffer for discrimination (Ikram et al., 2016), but an asset for better parent-child relations.

In Studies I–III mental health was conceptually considered as an outcome. However, there are likely other possibilities of temporalities. As immigration and acculturation are inherently stressful and demanding processes for adolescents (Berry et al., 2006; Sam & Berry, 2009), they may have had mental burdens at the first place. This conceptualization was reflected in Study IV where the integrative risk and resilience model (Motti-Stefanidi et al., 2012; Motti-Stefanidi & Masten, 2017; Suárez-Orozco et al., 2018) was employed. In this study, immigrant status was considered the risk factor for mental health symptoms, and psychosocial factors as the moderator of this risk. Both conceptualizations are widespread in extant literature.

Yet, it remains unclear whether depressive symptoms precede social adjustment difficulties or vice versa (see e.g., Powell et al., 2017). Extant longitudinal evidence indicates that when discrimination is considered, it consistently precedes depressive symptoms, but not the other way around (Brown et al., 2000). Cognitive vulnerabilities, such as negative cognitive schemas (Dozois & Beck, 2008) interacting with life stressors, such as acculturation, may drive the development and onset of internalizing symptoms. Indeed, previous research has indicated, for example, that depressive symptoms may predict future victimization via the mechanism of self-blaming attributions (Schacter & Juvonen, 2017), a negative cognitive bias towards the self. Interestingly, Graham and colleagues (2009) found that in a non-diverse classroom setting, self-blaming attributes did not explain the link between victimization and depressive symptoms among ethnic minorities. They argued that this context offered these minors a defensive attributional stance to consider them being victimized due to prejudices rather than their personal attributes. Thus, the socioecological context likely has a key role in how psychological adjustment, negative cognitive biases and social factors are linked over time. It would be beneficial for further inquiry of immigrant-origin minors to have information of the diversity ratio of their schools.

In summary, while this dissertation provided robust correlational results, data that allows for temporal inquiry is necessary in further investigation. Such data can help illuminate developmental processes and mechanisms in the socioecological network linked with mental health among immigrant-origin children and youth. Nevertheless, this dissertation paves the way for further inquiry by indicating key factors, developmental phases, and groups of interest.

6.4 Ethical Considerations

The School Health Promotion secondary data used in Studies I–IV were completely anonymous. However, a theoretical possibility to identify individuals remains by combining, for example, the school ID, gender, and ethnic background (i.e., countries of origin). Therefore, for secondary data analysis, a randomized school ID code, and only readily grouped responses for the birth country of the minor, their father, and their mother were made available. This, by design, posed the issue of essentializing immigrant groups in my studies.

Immigrants are a very heterogenous group. Therefore, I wanted to take a few steps to consider it with the given constraints by grouping them by relevant background information. Thus, rather than essentializing all immigrant-origin minors, I first stratified the data by generation to first- and second-generation immigrant-origin youth.

After the first publication (Study I), I aimed to distinct those who migrated as forced (i.e., asylum seekers, refugees), and those migrating by predominantly voluntary (e.g., migration due to parent’s employment) reasons. This distinction was made via the proxy of countries of origin, where Iraq, Iran, Afghanistan, Somalia, and Syria were considered as countries from where emigration to Finland is predominantly forced (Immigration Department, 2019; Sutela & Larja, 2015). Even though demographically it is the case that immigrants from these countries predominantly share the reason of migration due to displacement (fleeing war, conflict, and/or persecution), they should not be essentialized by other means, and their heterogeneity should be respected. Regrettably, as the sample size in the Future Youth Report was relatively small, this kind of sub-sample analysis in Study

V was not possible, and the level of inquiry was on first- and second-generation, and the length of residence.

Consideration of the benefits of research for its participants and for the society is a key concern of research ethics. The present study aimed at unravelling the mental health disparities among children and adolescents and provide insights into why these mental disparities emerge between immigrant-origin and non-immigrant majority children and youth. Without such research, stakeholders may rely solely on general statistical reports providing only information of the disparities. This may risk the adequate interpretations of this phenomenon and poses the risk of reducing issues of mental health to the individual or even the group. Therefore, it is important to study the correlates and possible reasons behind the mental health disparities. This research offers insights for stakeholders, school personnel, and other professionals working with children and adolescents on how mental health can be promoted, and what societal issues need to change and develop to achieve the goal of narrowing mental health disparities. Moreover, the results of the fifth study provide a tool for researchers and stakeholders to investigate acculturation orientations of young people to further develop understanding in supporting their positive adaptation and development.

6.5 Societal and Educational Implications

Children and adolescents who have migrated to or were born to migrant parents in a new country, have profoundly different foundations for their lives than those minors who are native to the country. Migration and migrant background are linked with a myriad of challenges (Abdi et al., 2023; Suárez-Orozco et al., 2018). These children and youth usually need to study in their second language, which they might not excel, profoundly hindering their equal learning opportunities (Pulkkinen et al., 2024). They also need to consider how they identify with the majority population, its culture, and how they balance home and majority population identities and cultures (Phinney et al., 2006; Phinney et al., 2000). However, it is not only up to them whether they can achieve a sense of belonging in their new home country. Their experiences of perceived acceptance and/or rejection on the part of majority population peers and adults alike play a key role here. The cultural orientations and

adjustment of immigrant-origin minors are shaped reciprocally by the boundaries drawn by their family, majority peers and adults, and the host society in general (Berry, 2005; Berry et al., 2006; Motti-Stefanidi et al., 2012). This was also evident in Study V, which demonstrated that perceived discrimination was linked with an ethnic orientation at the expense of host orientation among established immigrant-origin youth.

The results of this dissertation stresses the need to support mental health of immigrant-origin children and youth by focusing on: a) tackling discrimination and bullying; b) promoting their sense of belonging, both overall and in the school; c) supporting immigrant families to bridge the acculturation gap between parents and their children, with an aim to promote immigrant parents' role as supportive adults, with whom immigrant-origin minors feel comfortable to disclose their personal matters with, and d) acknowledging the key role of teachers' support for immigrant-origin youth. As a society, it is essential to listen to and provide teachers with the resources they need in allowing them to be the supportive teachers for these youth. Additionally, it is crucial to further develop teachers' intercultural competences, and their understanding in acculturation and migration related challenges. Furthermore, training teachers on manifestations and expressions of mental health symptoms is necessary as this knowledge could further provide for more caring and supportive student-teacher relationships. Indeed, as depressive symptoms may manifest in irritability and low frustration tolerance (Powell et al., 2017), there is a risk that such behaviours are interpreted as deviant and undesirable, which non-informed teachers might not address expediently.

Fortunately, teachers in Finland are highly educated professionals (Lavonen, 2018). And unlike in some European countries, teacher-student relations have been demonstrated to equally benefit both immigrant-origin and majority population students' sense of school belonging (Abdulhamed & Beattie, 2024). This result along with the result of teachers' support as a protective factor for immigrant students' mental health clearly show that Finnish teachers are already making a positive impact. Therefore, developing, creating and providing teachers with further training for encountering their immigrant-origin students should be carefully designed. It is necessary to identify their training requirements by

considering both the needs expressed by in-service teachers, and needs identified in further research.

A critical focus should be laid on the link between negative cognitive schemas and depression (Dozois & Beck, 2008). One example of development of negative cognitive schemas is rejection sensitivity, which is predicted by experiencing rejection early in life (Gao et al., 2017). Therefore, it is important to provide immigrant-origin children with inclusive and non-discriminatory environments from early on in their lives. Identifying discriminatory ideas and attitudes at a young age is important, as already young children categorize by race/ethnicity, have ingroup preferences and intergroup attitudes very similar to adults (Dunham et al., 2013; Pauker et al., 2016), emphasising the role of socialization in intergroup relations and group stereotypes. Inclusive and non-discriminatory social environments need active work and socialization to counter established negative intergroup attitudes, stereotypes, and biases. This is a key educational implication that needs to be considered from early childhood education and care throughout primary education to minimize the risk for development of rejection sensitivity.

Lastly, it is important to note that while mental health symptoms are reported more often among immigrant-origin youth than the majority population, most of immigrant-origin youth demonstrate positive adaptation. Notably, female immigrant-origin adolescents reported mental health symptoms almost as often as majority population females did. Moreover, Study V indicated that 71% of immigrant-origin youth had an integrated acculturation orientation. Overall, the developmental context in Finland seems to promote positive adaptation, which is likely linked with its relatively favourable migration policies (Solano & Huddleston, 2020). Finland needs to simultaneously acknowledge the actions that have promoted positive adaptation and reveal factors that needs to be focused on to support those minors who are at risk of faltering.

6.6 The Way Forward

This dissertation illuminated several key factors linked with the mental health of immigrant-origin youth, explaining the disparity between immigrant-origin and non-immigrant adolescents. These results also surfaced many unanswered questions. Overall, the studies in this dissertation indicate that discrimination, parental relations, a sense of (global/school) belonging, supportive teachers, and other social factors in the school microsystem are key factors in explaining the mental health disparity. However, in most cases there was variance left to explain after these factors were controlled for. Thus, more comprehensive and wholistic models are needed in further research. Moreover, it would be beneficial along the length of residence to have information on their educational paths. For example, whether they attended early childhood education in Finland, and whether they have had interruptions in their educational paths at different phases of migration, are critical concerns that should be inquired in further studies.

We need to further understand the mechanisms, and more specifically the kind and nature of sense of belonging that protects mental health from discrimination. Our global sense of belonging measurement in Study II did not discriminate between different memberships, rather, it showed their overall importance. For example, we need to understand what are the factors that explain developing and achieving a sense of belonging to the receiving nation and its identity. Namely, who among immigrants achieve and develop a sense of belonging to Finland and to the Finnish identity, and why. Specifically interesting, and societally important, would be to understand, whether such sense of belonging and membership identification is possible for immigrants who face discrimination. What are the circumstances of discrimination and sense of belonging, and what are the personal characteristics that predict having a sense of belonging regardless of discrimination? Addressing this complex question calls for longitudinal, qualitative, and mixed-methods studies in the future that could provide more in-depth knowledge.

We also need further research to understand the link between discrimination and mental health among immigrant-origin youth. What is the role that early negative experiences play? Perceiving ostracism and rejection early in the life course is linked in developing rejection sensitivity (Gao et al., 2017). These early

experiences wire sensitized individuals to be more attenuated to social cues informing them about how they are perceived (Gardner et al., 2000; Syrjämäki & Hietanen, 2019). Thus, they are also more negatively affected by discrimination and are more actively reflecting whether they fit in or not. It is thus critical that especially young children are protected from experiencing rejection. Immigrant-origin children who have not sensitized to rejection could more likely be resilient against (prevailing) discrimination. Having such resilience is important for immigrants who risk being ostracised and discriminated against in the countries where they are planting their roots.

A Disparity in Mental Health or in Everyday Challenges?

Mental health is defined as the ability to cope with normative stresses of everyday life (Fusar-Poli et al., 2020; Galderisi, 2024). Migration, immigrant status, and acculturation add to the everyday challenges of children and youth (Berry, 2006; Berry et al., 2006). Thus, it bears the question, whether mental health, as a concept, is relevant in understanding the challenges of immigrant children and youth – or whether we are unnecessarily reproducing the narrative of medicalization of childhood (Timimi, 2002). The link between acculturation stress (Rudmin, 2009; Sandhu & Asrabadi, 1994) and mental health, specifically internalizing symptoms, has attracted extensive research (Lerias et al., 2024; Tineo et al., 2024). These studies have indicated a link with a medium effect size between acculturation stress and internalizing symptoms. This means that while they are closely related, there remains a considerable amount of unexplained variance. Nevertheless, the scale of acculturation stress used in these studies (i.e., Lerias et al., 2024; Sandhu & Asrabadi, 1994; Tineo et al., 2024) does not account for all the hassles related to migration and immigrant status.

Therefore, it is important to consider whether the higher risk for internalizing symptoms indicates a higher prevalence of a mental health disorders, or whether it reflects having more challenges in everyday life due to issues related to immigrant status and acculturation. This is important, as the answer to this question can inform how these children and adolescents should be supported. Immigrant minors' developmental paths can be challenged with a myriad of factors related to immigrant status along with the general challenges of adolescence (Sam & Berry,

2009; Suárez-Orozco et al., 2018). Previous research shows that social support (academic and emotional) buffers the link between acculturation stress and internalizing symptoms (Sirin et al., 2013). More generally, immigrant youth who perceive having social support and social capital are less likely to report mental health symptoms (Delaruelle et al., 2021), a result also reflected in the part studies of this dissertation.

A study from Norway demonstrated that while the role of social support is a key factor for inhibiting depressive symptoms among unaccompanied minor asylum-seekers, it was not linked with reduced symptoms of post-traumatic stress (Oppedal & Idsoe, 2015). This is an important finding, which helps us to situate depressive symptoms in the continuum of mental health in the context of immigrant minors. In contrast to post-traumatic stress disorders, depressive and anxiety symptoms are clearly linked to the social fabric these youth are living in. Therefore, it is crucial to consider and understand the mental health disparity between immigrant-origin and majority population minors through the lens of acculturation challenges and unmet social needs.

In further research, we need to unravel the temporal relationships between acculturation orientations and psychosocial adaptation among immigrant-origin minors. Generally, extant research indicates that integrative acculturation orientation is linked with and/or predicts better psychological adaptation (Grigoryev et al., 2023; Nguyen & Benet-Martínez, 2013; Sam et al., 2022). However, recent research has showed that mental burdens are likely to hinder developing an integrative strategy, as it is cognitively more demanding (Doucerain et al., 2023), suggesting that good mental health and psychological adjustment may be key factors predicting an integrative strategy.

By understanding the role and magnitude of various social and cultural factors that are linked with depressive and anxiety symptoms among immigrant-origin minors, we can better inform policy, practice and intervention efforts. These factors are essential to acknowledge in both education and clinical practice. Acculturation psychology plays a key role in informing both educators and clinical practitioners working with immigrant-origin minors. By addressing the acculturative and other social challenges these youth face, we come one step closer to narrowing the

disparities in mental burdens. In reaching this aim, we progress towards a society where all children and youth can thrive.

References

- Abdi, S., Akinsulure-Smith, A. M., Sarkadi, A., Fazel, M., Ellis, B. H., Gillespie, S., Juang, L. P., & Betancourt, T. S. (2023). Promoting positive development among refugee adolescents. *Journal of Research on Adolescence*, 33(4), 1064–1084. <https://doi.org/10.1111/jora.12890>
- Abdulhamed, R., & Beattie, M. (2024). The link between teacher–student relations and sense of school belonging is not equal for all: The moderating role of immigrant status. *Journal of Community & Applied Social Psychology*, 34(6), e2892. <https://doi.org/10.1002/casp.2892>
- Agresti, A. (2002). *Categorical Data Analysis* (2nd ed.). Wiley.
- Agresti, A. (2015). *Foundations of linear and generalized linear models* (1st ed.). John Wiley & Sons Inc.
- Allen, K.-A., Greenwood, C. J., Berger, E., Patlamazoglou, L., Reupert, A., Wurf, G., May, F., O'Connor, M., Sanson, A., Olsson, C. A., & Letcher, P. (2024). Adolescent School Belonging and Mental Health Outcomes in Young Adulthood: Findings from a Multi-wave Prospective Cohort Study. *School Mental Health*, 16(1), 149–160. <https://doi.org/10.1007/s12310-023-09626-6>
- Allen, K.-A., Kern, M. L., Vella-Brodrick, D., Hattie, J., & Waters, L. (2018). What Schools Need to Know About Fostering School Belonging: a Meta-analysis. *Educational Psychology Review*, 30(1), 1–34. <https://doi.org/10.1007/s10648-016-9389-8>
- Allgaier, A.-K., Pietsch, K., Frühe, B., Sigl-Glöckner, J., & Schulte-Körne, G. (2012). Screening for depression in adolescents: validity of the patient health questionnaire in pediatric care. *Depression and Anxiety*, 29(10), 906–913. <https://doi.org/10.1002/da.21971>
- Antony-Newman, M. (2019). Parental involvement of immigrant parents: a meta-synthesis. *Educational Review*, 71(3), 362–381. <https://doi.org/10.1080/00131911.2017.1423278>
- Asendorpf, J. B., & Motti-Stefanidi, F. (2017). A longitudinal study of immigrants' peer acceptance and rejection: Immigrant status, immigrant composition of the classroom, and acculturation. *Cultural Diversity & Ethnic Minority Psychology*, 23(4), 486–498. <https://doi.org/10.1037/cdp0000155>
- Bandura, A. (1978). Self-efficacy: Toward a unifying theory of behavioral change. *Advances in Behaviour Research and Therapy*, 1(4), 139–161. [https://doi.org/10.1016/0146-6402\(78\)90002-4](https://doi.org/10.1016/0146-6402(78)90002-4)
- Bandura, A. (1999). Social cognitive theory: An agentic perspective. *Asian Journal of Social Psychology*, 2, 21–41. <https://doi.org/10.1111/1467-839X.00024>
- Barbalat, G., Plasse, J., Gauthier, E., Verdoux, H., Quiles, C., Dubreucq, J., Legros-Lafarge, E., Jaafari, N., Massoubre, C., Guillard-Bouhet, N., Haesebaert, F., & Franck, N. (2022). The central role of self-esteem in the quality of life of patients with mental

- disorders. *Scientific Reports*, 12(1), 7852. <https://doi.org/10.1038/s41598-022-11655-1>
- Bates, L. A., & Glick, J. E. (2013). Does it matter if teachers and schools match the student? Racial and ethnic disparities in problem behaviors. *Social Science Research*, 42(5), 1180–1190. <https://doi.org/10.1016/j.ssresearch.2013.04.005>
- Bauer, J. (2022). A Primer to Latent Profile and Latent Class Analysis. In M. Goller, E. Kyndt, S. Paloniemi, & C. Damşa (Eds.), *Methods for Researching Professional Learning and Development: Challenges, Applications and Empirical Illustrations* (pp. 243–268). Springer International Publishing. https://doi.org/10.1007/978-3-031-08518-5_11
- Baumeister, R. F., Brewer, L. E., Tice, D. M., & Twenge, J. M. (2007). Thwarting the Need to Belong: Understanding the Interpersonal and Inner Effects of Social Exclusion. *Social and Personality Psychology Compass*, 1(1), 506–520. <https://doi.org/10.1111/j.1751-9004.2007.00020.x>
- Baumeister, R. F., & Leary, M. R. (1995). The need to belong: Desire for interpersonal attachments as a fundamental human motivation. *Psychological Bulletin*, 117(3), 497–529. <https://doi.org/10.1037/0033-2909.117.3.497>
- Baumert, J., Becker, M., Jansen, M., & Köller, O. (2024). Cultural Identity and the Academic, Social, and Psychological Adjustment of Adolescents with Immigration Background. *Journal of Youth and Adolescence*, 53(2), 294–315. <https://doi.org/10.1007/s10964-023-01853-z>
- Berjot, S., & Gillet, N. (2011). Stress and Coping with Discrimination and Stigmatization. *Frontiers in Psychology*, 2(33). <https://doi.org/10.3389/fpsyg.2011.00033>
- Berry, J. W. (1970). Marginality, Stress and Ethnic Identification in an Acculturated Aboriginal Community. *Journal of Cross-Cultural Psychology*, 1(3), 239–252. <https://doi.org/10.1177/135910457000100303>
- Berry, J. W. (1990). Psychology of acculturation: Understanding individuals moving between cultures. In *Applied cross-cultural psychology*. (pp. 232–253). Sage Publications, Inc.
- Berry, J. W. (1992). Acculturation and Adaptation in a New Society. *International Migration*, 30(s1), 69–85. <https://doi.org/10.1111/j.1468-2435.1992.tb00776.x>
- Berry, J. W. (1997). Immigration, Acculturation, and Adaptation. *Applied Psychology*, 46(1), 5–34. <https://doi.org/10.1111/j.1464-0597.1997.tb01087.x>
- Berry, J. W. (2005). Acculturation: Living successfully in two cultures. *International Journal of Intercultural Relations*, 29(6), 697–712. <https://doi.org/10.1016/j.ijintrel.2005.07.013>
- Berry, J. W. (2006). Stress perspectives on acculturation. In D. L. Sam & J. W. Berry (Eds.), *The Cambridge Handbook of Acculturation Psychology* (pp. 43–57). Cambridge University Press. <https://doi.org/10.1017/CBO9780511489891.007>
- Berry, J. W., & Hou, F. (2017). Acculturation, discrimination and wellbeing among second generation of immigrants in Canada. *International Journal of Intercultural Relations*, 61, 29–39. <https://doi.org/10.1016/j.ijintrel.2017.08.003>
- Berry, J. W., Lepshokova, Z., Collaboration, M., & Grigoryev, D. (2022). How shall we all live together?: Meta-analytical review of the mutual intercultural relations in plural societies project. *Applied Psychology*, 71(3), 1014–1041. <https://doi.org/10.1111/apps.12332>
- Berry, J. W., Phinney, J. S., Sam, D. L., & Vedder, P. (2006). Immigrant Youth: Acculturation, Identity, and Adaptation. *Applied Psychology*, 55(3), 303–332. <https://doi.org/10.1111/j.1464-0597.2006.00256.x>

- Berry, J. W., & Sam, D. L. (2006). Theoretical perspectives. In D. L. Sam & J. W. Berry (Eds.), *The Cambridge Handbook of Acculturation Psychology* (pp. 11–29). Cambridge University Press. <https://doi.org/10.1017/CBO9780511489891.007>
- Birman, D. (2006). Measurement of the "Acculturation Gap" in Immigrant Families and Implications for Parent–Child Relationships,. In M. H. Bornstein & L. R. Cote (Eds.), *Acculturation and Parent-Child Relationships: Measurement and Development* (1st ed., pp. 113–134). Routledge. <https://doi.org/10.4324/9780415963589>
- Blakemore, S.-J., & Mills, K. L. (2014). Is Adolescence a Sensitive Period for Sociocultural Processing? *Annual Review of Psychology*, *65*, 187–207. <https://doi.org/10.1146/annurev-psych-010213-115202>
- Bohman, A., & Miklikowska, M. (2021). Does classroom diversity improve intergroup relations? Short- and long-term effects of classroom diversity for cross-ethnic friendships and anti-immigrant attitudes in adolescence. *Group Processes & Intergroup Relations*, *24*(8), 1372–1390. <https://doi.org/10.1177/1368430220941592>
- Bornstein, M. H. (2017). The Specificity Principle in Acculturation Science. *Perspectives on Psychological Science*, *12*(1), 3–45. <https://doi.org/10.1177/1745691616655997>
- Bouakaz, L. (2007). *Parental involvement in school: What promotes and what hinders parental involvement in an urban school* [Doctoral thesis, Malmö högskola]. Malmö. <https://www.diva-portal.org/smash/record.jsf?pid=diva2%3A1404438&dswid=6183>
- Branje, S. (2022). Adolescent identity development in context. *Current Opinion in Psychology*, *45*, 101286. <https://doi.org/10.1016/j.copsyc.2021.11.006>
- Branje, S., de Moor, E. L., Spitzer, J., & Becht, A. I. (2021). Dynamics of Identity Development in Adolescence: A Decade in Review. *Journal of Research on Adolescence*, *31*(4), 908–927. <https://doi.org/10.1111/jora.12678>
- Branscombe, N. R., Schmitt, M. T., & Harvey, R. D. (1999). Perceiving pervasive discrimination among African Americans: Implications for group identification and well-being. *Journal of Personality and Social Psychology*, *77*(1), 135–149. <https://doi.org/10.1037/0022-3514.77.1.135>
- Bronfenbrenner, U. (1979). *The Ecology of Human Development Experiments by Nature and Design*. Harvard University Press. <https://doi.org/10.2307/j.ctv26071r6>
- Bronfenbrenner, U., & Morris, P. A. (2006). The Bioecological Model of Human Development. In *Handbook of child psychology: Theoretical models of human development, Vol. 1, 6th ed.* (pp. 793–828). John Wiley & Sons, Inc.
- Brown, C. S., & Bigler, R. S. (2005). Children's Perceptions of Discrimination: A Developmental Model. *Child Development*, *76*(3), 533–553. <http://www.jstor.org/stable/3696450>
- Brown, T. A. (2015). *Confirmatory factor analysis for applied research* (Second Edition ed.). The Guilford Press.
- Brown, T. N., Williams, D. R., Jackson, J. S., Neighbors, H. W., Torres, M., Sellers, S. L., & Brown, K. T. (2000). “Being black and feeling blue”: the mental health consequences of racial discrimination. *Race and Society*, *2*(2), 117–131. [https://doi.org/10.1016/S1090-9524\(00\)00010-3](https://doi.org/10.1016/S1090-9524(00)00010-3)
- Buriel, R., Love, J. A., & De Ment, T. L. (2006). The Relation of Language Brokering to Depression and Parent–Child Bonding Among Latino Adolescents. In M. H. Bornstein & L. R. Cote (Eds.), *Acculturation and Parent-Child Relationships* (pp. 249–270). Routledge. <https://doi.org/10.4324/9780415963589>

- Butler, N., Quigg, Z., Bates, R., Jones, L., Ashworth, E., Gowland, S., & Jones, M. (2022). The Contributing Role of Family, School, and Peer Supportive Relationships in Protecting the Mental Wellbeing of Children and Adolescents. *School Mental Health, 14*(3), 776–788. <https://doi.org/10.1007/s12310-022-09502-9>
- Castaneda, A., Cilenti, K., Mäki-Opas, J., Abdulhamed, R., & Garoff, F. (2020). Psykkinen hyvinvointi. In H. Kuusio, A. Seppänen, S. Jokela, L. Somersalo, & E. Lilja (Eds.), *Ulkomaalaisten terveys ja hyvinvointi Suomessa. FinMonik-tutkimus 2018–2019* (pp. 119–123). THL. <https://urn.fi/URN:ISBN:978-952-343-034-1>
- Castaneda, A., Larja, L., Nieminen, T., Jokela, S., Suvisaari, J., Rask, S., Koponen, P., & Koskinen, S. (2015). *Ulkomaalaistaustaisten psykkinen hyvinvointi, turvallisuus ja osallisuus - Ulkomaista syntyperää olevien työ ja hyvinvointi -tutkimus 2014 (UTH)*. THL. https://www.julkari.fi/bitstream/handle/10024/127023/URN_ISBN_978952-302-535-6.pdf
- Chen, B., Vansteenkiste, M., Beyers, W., Boone, L., Deci, E. L., Van der Kaap-Deeder, J., Duriez, B., Lens, W., Matos, L., Mouratidis, A., Ryan, R. M., Sheldon, K. M., Soenens, B., Van Petegem, S., & Verstuyf, J. (2015). Basic psychological need satisfaction, need frustration, and need strength across four cultures. *Motivation and Emotion, 39*(2), 216–236. <https://doi.org/10.1007/s11031-014-9450-1>
- Chen, F. F. (2007). Sensitivity of Goodness of Fit Indexes to Lack of Measurement Invariance. *Structural Equation Modeling: A Multidisciplinary Journal, 14*(3), 464–504. <https://doi.org/10.1080/10705510701301834>
- Cheung, B. Y., Chudek, M., & Heine, S. J. (2011). Evidence for a Sensitive Period for Acculturation: Younger Immigrants Report Acculturating at a Faster Rate. *Psychological Science, 22*(2), 147–152. <https://doi.org/10.1177/0956797610394661>
- Cheung, G. W., & Rensvold, R. B. (2002). Evaluating Goodness-of-Fit Indexes for Testing Measurement Invariance. *Structural Equation Modeling: A Multidisciplinary Journal, 9*(2), 233–255. https://doi.org/10.1207/S15328007SEM0902_5
- Chiu, M. M., Chow, B. W.-Y., McBride, C., & Mol, S. T. (2016). Students' Sense of Belonging at School in 41 Countries: Cross-Cultural Variability. *Journal of Cross-Cultural Psychology, 47*(2), 175–196. <https://doi.org/10.1177/0022022115617031>
- Cole, D. A., Maxwell, S. E., Arvey, R., & Salas, E. (1993). Multivariate group comparisons of variable systems: MANOVA and structural equation modeling. *Psychological Bulletin, 114*(1), 174–184. <https://doi.org/10.1037/0033-2909.114.1.174>
- Coll, C. G., Crnic, K., Lamberty, G., Wasik, B. H., Jenkins, R., García, H. V., & McAdoo, H. P. (1996). An Integrative Model for the Study of Developmental Competencies in Minority Children. *Child Development, 67*(5), 1891–1914. <https://doi.org/10.1111/j.1467-8624.1996.tb01834.x>
- Coll, C. G., & Marks, A. K. (2012). *The immigrant paradox in children and adolescents: Is becoming American a developmental risk?* American Psychological Association. <https://doi.org/10.1037/13094-000>
- Collins, W. A., Maccoby, E. E., Steinberg, L., Hetherington, M., & Bornstein, M. H. (2022). Contemporary Research on Parenting. In M. H. Bornstein (Ed.), *Parenting: Selected Writings of Marc H. Bornstein*. Routledge. <https://doi.org/10.4324/9781003167570>
- Crocetti, E., Rubini, M., Luyckx, K., & Meeus, W. (2008). Identity Formation in Early and Middle Adolescents From Various Ethnic Groups: From Three Dimensions to Five Statuses. *Journal of Youth and Adolescence, 37*(8), 983–996. <https://doi.org/10.1007/s10964-007-9222-2>
- Cronbach, L. J. (1951). Coefficient Alpha and the Internal Structure of Tests. *Psychometrika, 16*(3), 297–334. <https://doi.org/10.1007/BF02310555>

- Crone, E. A., & Dahl, R. E. (2012). Understanding adolescence as a period of social–affective engagement and goal flexibility. *Nature Reviews Neuroscience*, *13*(9), 636–650. <https://doi.org/10.1038/nrn3313>
- Cummings, C. M., Caporino, N. E., & Kendall, P. C. (2014). Comorbidity of anxiety and depression in children and adolescents: 20 years after. *Psychological Bulletin*, *140*(3), 816–845. <https://doi.org/10.1037/a0034733>
- De Coninck, D. (2023). The Refugee Paradox During Wartime in Europe: How Ukrainian and Afghan Refugees are (not) Alike. *International Migration Review*, *57*(2), 578–586. <https://doi.org/10.1177/01979183221116874>
- Delacre, M., Lakens, D., & Leys, C. (2017). Why Psychologists Should by Default Use Welch’s t-test Instead of Student’s t-test. *International Review of Social Psychology*, *30*(1), 92–101. <https://doi.org/10.5334/irsp.82>
- Delaruelle, K., Walsh, S. D., Dierckens, M., Deforche, B., Kern, M. R., Currie, C., Maldonado, C. M., Cosma, A., & Stevens, G. W. J. M. (2021). Mental Health in Adolescents with a Migration Background in 29 European Countries: The Buffering Role of Social Capital. *Journal of Youth and Adolescence*, *50*(5), 855–871. <https://doi.org/10.1007/s10964-021-01423-1>
- Demes, K. A., & Geeraert, N. (2014). Measures Matter: Scales for Adaptation, Cultural Distance, and Acculturation Orientation Revisited. *Journal of Cross-Cultural Psychology*, *45*(1), 91–109. <https://doi.org/10.1177/0022022113487590>
- Dimitrova, R., Chasiotis, A., & van de Vijver, F. (2016). Adjustment Outcomes of Immigrant Children and Youth in Europe. *European Psychologist*, *21*(2), 150–162. <https://doi.org/10.1027/1016-9040/a000246>
- Doucerein, M. M., Amiot, C. E., Jurcik, T., & Ryder, A. G. (2023). What Comes First, Acculturation or Adjustment? A Longitudinal Investigation of Integration Versus Mental Resources Hypotheses. *Personality and Social Psychology Bulletin*, *0*(0). <https://doi.org/10.1177/01461672231210460>
- Dozois, D. J. A., & Beck, A. T. (2008). Chapter 6 - Cognitive Schemas, Beliefs and Assumptions. In K. S. Dobson & D. J. A. Dozois (Eds.), *Risk Factors in Depression* (pp. 119–143). Elsevier. <https://doi.org/10.1016/B978-0-08-045078-0.00006-X>
- Dromgold-Sermen, M. S. (2022). Forced migrants and secure belonging: a case study of Syrian refugees resettled in the United States. *Journal of Ethnic and Migration Studies*, *48*(3), 635–654. <https://doi.org/10.1080/1369183X.2020.1854087>
- Dunham, Y., Chen, E. E., & Banaji, M. R. (2013). Two Signatures of Implicit Intergroup Attitudes: Developmental Invariance and Early Enculturation. *Psychological Science*, *24*(6), 860–868. <https://doi.org/10.1177/0956797612463081>
- Eccles, J. S., & Roeser, R. W. (2011). Schools as Developmental Contexts During Adolescence. *Journal of Research on Adolescence*, *21*(1), 225–241. <https://doi.org/10.1111/j.1532-7795.2010.00725.x>
- Eisinga, R., Grotenhuis, M. t., & Pelzer, B. (2013). The reliability of a two-item scale: Pearson, Cronbach, or Spearman-Brown? *International Journal of Public Health*, *58*(4), 637–642. <https://doi.org/10.1007/s00038-012-0416-3>
- Enders, C. K. (2022). *Applied missing data analysis / Craig K. Enders* (Second edition. ed.). The Guilford Press.
- Enders, C. K., & Bandalos, D. L. (2001). The Relative Performance of Full Information Maximum Likelihood Estimation for Missing Data in Structural Equation Models. *Structural Equation Modeling: A Multidisciplinary Journal*, *8*(3), 430–457. https://doi.org/10.1207/S15328007SEM0803_5
- Erikson, E. H. (1968). *Identity: youth and crisis*. Norton & Co.

- Fairchild, A. J., & McQuillin, S. D. (2010). Evaluating mediation and moderation effects in school psychology: A presentation of methods and review of current practice. *Journal of School Psychology, 48*(1), 53–84. <https://doi.org/10.1016/j.jsp.2009.09.001>
- Faircloth, B. S. (2009). Making the Most of Adolescence: Harnessing the Search for Identity to Understand Classroom Belonging. *Journal of Adolescent Research, 24*(3), 321–348. <https://doi.org/10.1177/0743558409334248>
- Fazel, M., Reed, R. V., Panter-Brick, C., & Stein, A. (2012). Mental health of displaced and refugee children resettled in high-income countries: risk and protective factors. *The Lancet, 379*(9812), 266–282. [https://doi.org/10.1016/S0140-6736\(11\)60051-2](https://doi.org/10.1016/S0140-6736(11)60051-2)
- Filatova, S., Upadhyaya, S., Kronström, K., Suominen, A., Chudal, R., Luntamo, T., Sourander, A., & Gyllenberg, D. (2019). Time trends in the incidence of diagnosed depression among people aged 5–25 years living in Finland 1995–2012. *Nordic Journal of Psychiatry, 73*(8), 475–481. <https://doi.org/10.1080/08039488.2019.1652342>
- Folkman, S., & Lazarus, R. S. (1991). 10. Coping and Emotion. In M. Alan & S. L. Richard (Eds.), *Stress and Coping: an Anthology* (pp. 207–227). Columbia University Press. <https://doi.org/10.7312/mona92982-018>
- Forbes, E. E., & Dahl, R. E. (2010). Pubertal development and behavior: Hormonal activation of social and motivational tendencies. *Brain and Cognition, 72*(1), 66–72. <https://doi.org/10.1016/j.bandc.2009.10.007>
- French, B. F., & Finch, W. H. (2008). Multigroup Confirmatory Factor Analysis: Locating the Invariant Referent Sets. *Structural Equation Modeling: A Multidisciplinary Journal, 15*(1), 96–113. <https://doi.org/10.1080/10705510701758349>
- French, S. E., Seidman, E., Allen, L., & Aber, J. L. (2006). The development of ethnic identity during adolescence. *Developmental Psychology, 42*(1), 1–10. <https://doi.org/10.1037/0012-1649.42.1.1>
- Froehlich, L., Brokjøb, L. G., Nikitin, J., & Martiny, S. E. (2023). Integration or isolation: Social identity threat relates to immigrant students' sense of belonging and social approach motivation in the academic context. *Journal of Social Issues, 79*(1), 264–290. <https://doi.org/10.1111/josi.12548>
- Fusar-Poli, P., Salazar de Pablo, G., De Micheli, A., Nieman, D. H., Correll, C. U., Kessing, L. V., Pfennig, A., Bechdolf, A., Borgwardt, S., Arango, C., & van Amelsvoort, T. (2020). What is good mental health? A scoping review. *European Neuropsychopharmacology, 31*, 33–46. <https://doi.org/10.1016/j.euroneuro.2019.12.105>
- Galderisi, S. (2024). The need for a consensual definition of mental health. *World Psychiatry, 23*(1), 52–53. <https://doi.org/10.1002/wps.21150>
- Gao, S., Assink, M., Cipriani, A., & Lin, K. (2017). Associations between rejection sensitivity and mental health outcomes: A meta-analytic review. *Clinical Psychology Review, 57*, 59–74. <https://doi.org/10.1016/j.cpr.2017.08.007>
- García-Moya, I., Brooks, F., Morgan, A., & Moreno, C. (2015). Subjective well-being in adolescence and teacher connectedness: A health asset analysis. *Health Education Journal, 74*(6), 641–654. <https://doi.org/10.1177/0017896914555039>
- Gardner, W. L., Pickett, C. L., & Brewer, M. B. (2000). Social Exclusion and Selective Memory: How the Need to belong Influences Memory for Social Events. *Personality and Social Psychology Bulletin, 26*(4), 486–496. <https://doi.org/10.1177/0146167200266007>

- Georgiades, K., Boyle, M. H., & Fife, K. A. (2013). Emotional and Behavioral Problems Among Adolescent Students: The Role of Immigrant, Racial/Ethnic Congruence and Belongingness in Schools. *Journal of Youth and Adolescence*, 42(9), 1473–1492. <https://doi.org/10.1007/s10964-012-9868-2>
- Gershenson, S., Hart, C. M. D., Lindsay, C. A., & Papageorge, N. W. (2017). *The Long-Run Impacts of Same-Race Teachers* (Discussion Paper Series, Issue 10630). <https://docs.iza.org/dp10630.pdf>
- Gestsdottir, S., & Lerner, R. M. (2008). Positive Development in Adolescence: The Development and Role of Intentional Self-Regulation. *Human Development*, 51(3), 202–224. <https://doi.org/10.1159/000135757>
- Goodenow, C. (1993). The psychological sense of school membership among adolescents: Scale development and educational correlates. *Psychology in the Schools*, 30(1), 79–90. [https://doi.org/10.1002/1520-6807\(199301\)30:1%3C79::AID-PITS2310300113%3E3.0.CO;2-X](https://doi.org/10.1002/1520-6807(199301)30:1%3C79::AID-PITS2310300113%3E3.0.CO;2-X)
- Goodenow, C., & Grady, K. E. (1993). The Relationship of School Belonging and Friends' Values to Academic Motivation Among Urban Adolescent Students. *The Journal of Experimental Education*, 62(1), 60–71. <https://doi.org/10.1080/00220973.1993.9943831>
- Gowers, S. (2005). Development in adolescence. *Psychiatry*, 4(6), 6–9. <https://doi.org/10.1383/psyt.4.6.6.66353>
- Graham, S., Bellmore, A., Nishina, A., & Juvonen, J. (2009). “It Must Be Me”: Ethnic Diversity and Attributions for Peer Victimization in Middle School. *Journal of Youth and Adolescence*, 38(4), 487–499. <https://doi.org/10.1007/s10964-008-9386-4>
- Graves, T. D. (1967). Acculturation, Access, and Alcohol in a Tri-Ethnic Community. *American Anthropologist*, 69(3-4), 306–321. <https://doi.org/10.1525/aa.1967.69.3-4.02a00030>
- Grigoryev, D., Berry, J. W., Stogianni, M., Nguyen, A.-M. D., Bender, M., & Benet-Martinez, V. (2023). The integration hypothesis: A critical evaluation informed by multilevel meta-analyses of three multinational datasets. *International Journal of Intercultural Relations*, 97, 101897. <https://doi.org/10.1016/j.ijintrel.2023.101897>
- Hagerty, B. M. K., Lynch-Sauer, J., Patusky, K. L., Bouwsema, M., & Collier, P. (1992). Sense of belonging: A vital mental health concept. *Archives of Psychiatric Nursing*, 6(3), 172–177. [https://doi.org/10.1016/0883-9417\(92\)90028-H](https://doi.org/10.1016/0883-9417(92)90028-H)
- Havighurst, R. J. (1948). *Developmental tasks and education*. The University of Chicago Press.
- Hou, F., Schellenberg, G., & Berry, J. (2018). Patterns and determinants of immigrants' sense of belonging to Canada and their source country. *Ethnic and Racial Studies*, 41(9), 1612–1631. <https://doi.org/10.1080/01419870.2017.1295162>
- Hu, L. t., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling: A Multidisciplinary Journal*, 6(1), 1–55. <https://doi.org/10.1080/10705519909540118>
- Ialuna, F., Civitillo, S., Schachner, M. K., & Jugert, P. (2024). Culturally responsive teaching self-efficacy and cultural diversity climate are positively associated with the academic and psychological adjustment of immigrant and nonimmigrant students. *Cultural Diversity & Ethnic Minority Psychology*, Advance online publication. <https://doi.org/10.1037/cdp0000697>
- Ikram, U. Z., Snijder, M. B., de Wit, M. A. S., Schene, A. H., Stronks, K., & Kunst, A. E. (2016). Perceived ethnic discrimination and depressive symptoms: the buffering

- effects of ethnic identity, religion and ethnic social network. *Social Psychiatry and Psychiatric Epidemiology*, 51(5), 679–688. <https://doi.org/10.1007/s00127-016-1186-7>
- Immigration Department. (2019). *International migration 2018–2019 – Report for Finland* (Ministry of the Interior Publications, Issue 32). Ministry of the Interior. <http://urn.fi/URN:ISBN:978-952-324-303-3>
- Ishaq, B., Diaz, E., & Østby, L. (2024). Discrimination and health: A cross-sectional study comparing Muslims with other-religious. *Scandinavian Journal of Public Health*, 0(0). <https://doi.org/10.1177/14034948231225561>
- Jarbin, H., Ivarsson, T., Andersson, M., Bergman, H., & Skarphedinsson, G. (2020). Screening efficiency of the Mood and Feelings Questionnaire (MFQ) and Short Mood and Feelings Questionnaire (SMFQ) in Swedish help seeking outpatients. *PLOS ONE*, 15(3), e0230623. <https://doi.org/10.1371/journal.pone.0230623>
- Jasinskaja-Lahti, I., Liebkind, K., & Solheim, E. (2009). To Identify or Not To Identify? National Disidentification as an Alternative Reaction to Perceived Ethnic Discrimination. *Applied Psychology*, 58(1), 105–128. <https://doi.org/10.1111/j.1464-0597.2008.00384.x>
- Jones, S. M., McGarragh, M. W., & Kahn, J. (2019). Social and Emotional Learning: A Principled Science of Human Development in Context. *Educational Psychologist*, 54(3), 129–143. <https://doi.org/10.1080/00461520.2019.1625776>
- Juang, L. P., & Syed, M. (2014). Sharing stories of discrimination with parents. *Journal of Adolescence*, 37(3), 303–312. <https://doi.org/10.1016/j.adolescence.2014.02.004>
- Kia-Keating, M., & Ellis, B. H. (2007). Belonging and Connection to School in Resettlement: Young Refugees, School Belonging, and Psychosocial Adjustment. *Clinical Child Psychology and Psychiatry*, 12(1), 29–43. <https://doi.org/10.1177/1359104507071052>
- Kline, R. B. (2005). *Principles and practice of structural equation modeling* (Second Edition ed.). Guilford Press.
- Kretschmer, D. (2024). Gender segregation in the friendship networks of Muslim youth in Germany: the role of chastity norms. *Ethnic and Racial Studies*, 1–27. <https://doi.org/10.1080/01419870.2024.2399725>
- Kroenke, K., Spitzer, R. L., & Williams, J. B. W. (2003). The Patient Health Questionnaire-2: Validity of a Two-Item Depression Screener. *Medical Care*, 41(11), 1284–1292. <https://doi.org/10.1097/01.Mlr.0000093487.78664.3c>
- Kuehner, C. (2017). Why is depression more common among women than among men? *The Lancet Psychiatry*, 4(2), 146–158. [https://doi.org/10.1016/S2215-0366\(16\)30263-2](https://doi.org/10.1016/S2215-0366(16)30263-2)
- Kuittinen, S., García Velázquez, R., Castaneda, A. E., Punamäki, R.-L., Rask, S., & Suvisaari, J. (2017). Construct validity of the HSCL-25 and SCL-90-Somatization scales among Russian, Somali and Kurdish origin migrants in Finland. *International Journal of Culture and Mental Health*, 10(1), 1–18. <https://doi.org/10.1080/17542863.2016.1244213>
- Kumi-Yeboah, A., Onyewuenyi, A. C., & Smith, P. (2021). Teaching Black Immigrant Students in Urban Schools: Teacher and Peer Relationships and Academic Performances. *The Urban Review*, 53(2), 218–242. <https://doi.org/10.1007/s11256-020-00570-2>
- Kunst, J. R., Lefringhausen, K., Sam, D. L., Berry, J. W., & Dovidio, J. F. (2021). The Missing Side of Acculturation: How Majority-Group Members Relate to Immigrant and Minority-Group Cultures. *Current Directions in Psychological Science*, 30(6), 485–494. <https://doi.org/10.1177/09637214211040771>

- Kunst, J. R., & Mesoudi, A. (2024). Decoding the Dynamics of Cultural Change: A Cultural Evolution Approach to the Psychology of Acculturation. *Personality and Social Psychology Review*, 0(0), 10888683241258406. <https://doi.org/10.1177/10888683241258406>
- Kääriälä, A., Keski-Säntti, M., Aaltonen, M., Haikkola, L., Huotari, T., Ilmakunnas, I., Juutinen, A., Kiilakoski, T., Merikukka, M., Pekkarinen, E., Rask, S., Ristikari, T., Salo, J., & Gissler, M. (2020). *Suomi seuraavan sukupolven kasvuympäristönä : Seuranta Suomessa vuonna 1997 syntyneistä lapsista, joilla on ulkomailla syntynyt vanhempi*. THL. <https://urn.fi/URN:ISBN:978-952-343-582-7>
- Lakens, D. (2021). The Practical Alternative to the p Value Is the Correctly Used p Value. *Perspectives on Psychological Science*, 16(3), 639–648. <https://doi.org/10.1177/1745691620958012>
- Lakens, D. (2022). Sample Size Justification. *Collabra: Psychology*, 8(1), 33267. <https://doi.org/10.1525/collabra.33267>
- Lakens, D., Adolphi, F. G., Albers, C. J., Anvari, F., Apps, M. A. J., Argamon, S. E., Baguley, T., Becker, R. B., Benning, S. D., Bradford, D. E., Buchanan, E. M., Caldwell, A. R., Van Calster, B., Carlsson, R., Chen, S.-C., Chung, B., Colling, L. J., Collins, G. S., Crook, Z.,...Zwaan, R. A. (2018). Justify your alpha. *Nature Human Behaviour*, 2(3), 168–171. <https://doi.org/10.1038/s41562-018-0311-x>
- Lavonen, J. (2018). Educating Professional Teachers in Finland through the Continuous Improvement of Teacher Education Programmes. In W. Yehudith & L. Zipora (Eds.), *Contemporary Pedagogies in Teacher Education and Development* (pp. 3–22). IntechOpen. <https://doi.org/10.5772/intechopen.77979>
- Lazarus, R. S., & Folkman, S. (1984). *Stress, appraisal, and coping*. Springer.
- Leary, M. R. (2010). Affiliation, Acceptance, and Belonging: The Pursuit of Interpersonal Connection. In S. T. Fiske, D. T. Gilbert, & G. Lindzey (Eds.), *Handbook of Social Psychology* (pp. 864–897). John Wiley & Sons. <https://doi.org/10.1002/9780470561119.socpsy002024>
- Lerias, D., Ziaian, T., Miller, E., Arthur, N., Augoustinos, M., & Pir, T. (2024). The Role of Acculturative Stress on the Mental Health of Immigrant Youth: A Scoping Literature Review. *Community Mental Health Journal*. <https://doi.org/10.1007/s10597-024-01351-x>
- Loi, S., Pitkänen, J., Moustgaard, H., Myrskylä, M., & Martikainen, P. (2021). Health of Immigrant Children: The Role of Immigrant Generation, Exogamous Family Setting, and Family Material and Social Resources. *Demography*, 58(5), 1655–1685. <https://doi.org/10.1215/00703370-9411326>
- Mair, P. (2018). *Modern Psychometrics with R* (1st 2018. ed.). Springer International Publishing. <https://doi.org/10.1007/978-3-319-93177-7>
- Makarova, E., 't Gilde, J., & Birman, D. (2019). Teachers as risk and resource factors in minority students' school adjustment: an integrative review of qualitative research on acculturation. *Intercultural Education*, 30(5), 448–477. <https://doi.org/10.1080/14675986.2019.1586212>
- Marks, A. K., Ejesi, K., & García Coll, C. (2014). Understanding the U.S. Immigrant Paradox in Childhood and Adolescence. *Child Development Perspectives*, 8(2), 59–64. <https://doi.org/10.1111/cdep.12071>
- Masten, A. S. (2014). *Ordinary magic: Resilience in development*. Guilford Press.
- Masten, A. S., Lucke, C. M., Nelson, K. M., & Stallworthy, I. C. (2021). Resilience in Development and Psychopathology: Multisystem Perspectives. *Annual Review of*

- Clinical Psychology*, 17, 521–549. <https://doi.org/10.1146/annurev-clinpsy-081219-120307>
- Masten, A. S., Roisman, G. I., Long, J. D., Burt, K. B., Obradović, J., Riley, J. R., Boelcke-Stennes, K., & Tellegen, A. (2005). Developmental cascades: linking academic achievement and externalizing and internalizing symptoms over 20 years. *Dev Psychol*, 41(5), 733–746. <https://doi.org/10.1037/0012-1649.41.5.733>
- Masten, A. S., & Tellegen, A. (2012). Resilience in developmental psychopathology: Contributions of the Project Competence Longitudinal Study. *Development and Psychopathology*, 24(2), 345–361. <https://doi.org/10.1017/S095457941200003X>
- Matikka, A., Castaneda, A., & Ervasti, E. (2024). *Ulkomaalaistaustaisten 8.- ja 9.-luokkalaisten hyvinvointi. Kouluterveyskysely 2019–2023*. (Tutkimuksesta tiiviisti, Issue. <https://www.julkari.fi/handle/10024/149309>
- Matikka, A., Luopa, P., Kivimäki, H., Jokela, J., & Paananen, R. (2014). *Maahanmuuttajataustaisten 8. ja 9.-luokkalaisten hyvinvointi. Kouluterveyskysely 2013 [Well-being among 8th and 9th immigrant-background adolescents. School health promotion study 2013]*. Finnish Institute for Health and Welfare (THL). (THL Raportti, Issue. <https://urn.fi/URN:ISBN:978-952-302-297-3>
- Maxwell, S. E., & Cole, D. A. (2007). Bias in cross-sectional analyses of longitudinal mediation [Article]. *Psychological Methods*, 12(1), 23–44. <https://doi.org/10.1037/1082-989X.12.1.23>
- McDermott, L. M., & Ebmeier, K. P. (2009). A meta-analysis of depression severity and cognitive function. *Journal of Affective Disorders*, 119(1–3), 1–8. <https://doi.org/10.1016/j.jad.2009.04.022>
- McKay, M. T., & Andretta, J. R. (2017). Evidence for the Psychometric Validity, Internal Consistency and Measurement Invariance of Warwick Edinburgh Mental Well-being Scale Scores in Scottish and Irish Adolescents. *Psychiatry Research*, 255, 382–386. <https://doi.org/10.1016/j.psychres.2017.06.071>
- McLellan, L. F., & Hudson, J. L. (2017). Generalized anxiety disorder. In G. S. & D. M. (Eds.). Springer. <https://doi.org/10.1007/978-3-319-57196-6>
- Motti-Stefanidi, F. (2018). Resilience among immigrant youth: The role of culture, development and acculturation. *Developmental Review*, 50, 99–109. <https://doi.org/10.1016/j.dr.2018.04.002>
- Motti-Stefanidi, F., Berry, J., Chrysochoou, X., Sam, D. L., & Phinney, J. (2012). Positive immigrant youth adaptation in context: Developmental, acculturation, and social-psychological perspectives. In *Realizing the potential of immigrant youth*. (pp. 117–158). Cambridge University Press. <https://doi.org/10.1017/CBO9781139094696.008>
- Motti-Stefanidi, F., & Masten, A. S. (2017). A Resilience Perspective on Immigrant Youth Adaptation and Development. In N. J. Cabrera & B. Leyendecker (Eds.), *Handbook on Positive Development of Minority Children and Youth* (pp. 19–34). Springer International Publishing. https://doi.org/10.1007/978-3-319-43645-6_2
- Motti-Stefanidi, F., Pavlopoulos, V., & Asendorpf, J. (2023). Cascades linking school achievement and engagement to the acculturation of immigrant-origin youth. *European Journal of Developmental Psychology*, 20(6), 1021–1041. <https://doi.org/10.1080/17405629.2023.2184338>
- Mudge, J. F., Baker, L. F., Edge, C. B., & Houlahan, J. E. (2012). Setting an Optimal α That Minimizes Errors in Null Hypothesis Significance Tests. *PLOS ONE*, 7(2), e32734. <https://doi.org/10.1371/journal.pone.0032734>
- Muthén, L. K., & Muthén, B. O. (2017). *Mplus User's Guide* (Eight ed.).

- Mäkinen, V., Jasinskaja-Lahti, I., Renvik, T. A., & Liebkind, K. (2024). Testing the Moderating Effect of Anti-Prejudice Motivation and Peer Attitudes on the Effectiveness of a School-Based Vicarious Contact Intervention. *Journal of Youth and Adolescence*, 53(8), 1743–1756. <https://doi.org/10.1007/s10964-024-01985-w>
- Neblett Jr., E. W., White, R. L., Ford, K. R., Philip, C. L., Nguyễn, H. X., & Sellers, R. M. (2008). Patterns of Racial Socialization and Psychological Adjustment: Can Parental Communications About Race Reduce the Impact of Racial Discrimination? *Journal of Research on Adolescence*, 18(3), 477–515. <https://doi.org/10.1111/j.1532-7795.2008.00568.x>
- Nguyen, A.-M. D., & Benet-Martínez, V. (2013). Biculturalism and Adjustment: A Meta-Analysis. *Journal of Cross-Cultural Psychology*, 44(1), 122–159. <https://doi.org/10.1177/0022022111435097>
- Näre, L., Abdelhady, D., & Irastorza, N. (2022). What can we learn from the reception of Ukrainian refugees? *Nordic Journal of Migration Research*, 12(3), 255–258. <https://doi.org/10.33134/njmr.620>
- OECD. (2017). *Finding the Way*. <https://doi.org/10.1787/acf7ef05-en>
- Oppedal, B., & Idsoe, T. (2015). The role of social support in the acculturation and mental health of unaccompanied minor asylum seekers. *Scandinavian Journal of Psychology*, 56(2), 203–211. <https://doi.org/10.1111/sjop.12194>
- Osman, F., Mohamed, A., Warner, G., & Sarkadi, A. (2020). Longing for a sense of belonging—Somali immigrant adolescents’ experiences of their acculturation efforts in Sweden. *International Journal of Qualitative Studies on Health and Well-being*, 15(sup2), 1784532. <https://doi.org/10.1080/17482631.2020.1784532>
- Owens, M., Stevenson, J., Hadwin, J. A., & Norgate, R. (2012). Anxiety and depression in academic performance: An exploration of the mediating factors of worry and working memory. *School Psychology International*, 33(4), 433–449. <https://doi.org/10.1177/0143034311427433>
- Parkerson, H. A., Thibodeau, M. A., Brandt, C. P., Zvolensky, M. J., & Asmundson, G. J. G. (2015). Cultural-based biases of the GAD-7. *Journal of Anxiety Disorders*, 31, 38–42. <https://doi.org/10.1016/j.janxdis.2015.01.005>
- Pauker, K., Williams, A., & Steele, J. R. (2016). Children's Racial Categorization in Context. *Child Development Perspectives*, 10(1), 33–38. <https://doi.org/10.1111/cdep.12155>
- Peltonen, K. (2024). Children and war – vulnerability and resilience. *European Journal of Developmental Psychology*, 1–13. <https://doi.org/10.1080/17405629.2024.2382410>
- Phinney, J. S., Berry, J. W., Vedder, P., & Liebkind, K. (2006). The Acculturation Experience: Attitudes, Identities and Behaviors of Immigrant Youth. In *Immigrant youth in cultural transition: Acculturation, identity, and adaptation across national contexts*. (pp. 71–116). Lawrence Erlbaum Associates Publishers. <https://doi.org/10.4324/9780415963619-4>
- Phinney, J. S., Ong, A., & Madden, T. (2000). Cultural Values and Intergenerational Value Discrepancies in Immigrant and Non-Immigrant Families. *Child Development*, 71(2), 528–539. <https://doi.org/10.1111/1467-8624.00162>
- Pitts, B. H., Sheeder, J., Sigel, E., Love-Osborne, K., & Woods, J. (2023). Informing Use of the Patient Health Questionnaire-2 to Detect Moderate or Greater Depression Symptoms in Adolescents and Young Adults in Outpatient Primary Care. *Journal of Adolescent Health*, 73(2), 331–337. <https://doi.org/10.1016/j.jadohealth.2023.02.043>

- Plenty, S., & Jonsson, J. O. (2017). Social Exclusion among Peers: The Role of Immigrant Status and Classroom Immigrant Density. *Journal of Youth and Adolescence*, 46(6), 1275–1288. <https://doi.org/10.1007/s10964-016-0564-5>
- Polat, S., & Kröner, S. (2023). The resilience of school-age immigrant children: A scoping review. *Journal of Human Behavior in the Social Environment*, 33(3), 329–347. <https://doi.org/10.1080/10911359.2022.2061664>
- Powell, A. K., Ocean, S. E., & Stanick, C. F. (2017). Depressive disorders. In S. Goldstein & M. DeVries (Eds.), *Handbook of DSM-5 disorders in children and adolescents* (1 ed.). Springer Cham. <https://doi.org/10.1007/978-3-319-57196-6>
- Prince, M., Patel, V., Saxena, S., Maj, M., Maselko, J., Phillips, M. R., & Rahman, A. (2007). No health without mental health. *The Lancet*, 370(9590), 859–877. [https://doi.org/10.1016/S0140-6736\(07\)61238-0](https://doi.org/10.1016/S0140-6736(07)61238-0)
- Prinstein, M. J., & Giletta, M. (2020). Future Directions in Peer Relations Research. *Journal of Clinical Child & Adolescent Psychology*, 49(4), 556–572. <https://doi.org/10.1080/15374416.2020.1756299>
- Pulkkinen, J., Kauppinen, H., Hiltunen, J., Lehtola, P., Nissinen, K., & Rautopuro, J. (2024). *Tukea tasa-arvoiselle koulutielle. Maahanmuuttajataustaisten nuorten osaaminen PISA 2022 -tutkimuksessa* (Koulutuksen tutkimuslaitos. Tutkimuksia, Issue 39). <https://doi.org/10.17011/ktl-t/39>
- Ramos, M. R., Cassidy, C., Reicher, S., & Haslam, S. A. (2012). A longitudinal investigation of the rejection–identification hypothesis. *British Journal of Social Psychology*, 51(4), 642–660. <https://doi.org/10.1111/j.2044-8309.2011.02029.x>
- Ranson, K. E., & Urichuk, L. J. (2008). The effect of parent–child attachment relationships on child biopsychosocial outcomes: a review. *Early Child Development and Care*, 178(2), 129–152. <https://doi.org/10.1080/03004430600685282>
- Redfield, R., Linton, R., & Herskovits, M. J. (1936). Memorandum for the study of acculturation. *American Anthropologist*, 38(1), 149–152. <https://doi.org/10.1525/aa.1936.38.1.02a00330>
- Rejaän, Z., van der Valk, I. E., & Branje, S. (2022). The Role of Sense of Belonging and Family Structure in Adolescent Adjustment. *Journal of Research on Adolescence*, 32(4), 1354–1368. <https://doi.org/10.1111/jora.12694>
- Richardson, L. P., Rockhill, C., Russo, J. E., Grossman, D. C., Richards, J., McCarty, C., McCauley, E., & Katon, W. (2010). Evaluation of the PHQ-2 as a Brief Screen for Detecting Major Depression Among Adolescents. *Pediatrics*, 125(5), e1097–e1103. <https://doi.org/10.1542/peds.2009-2712>
- Richman, L. S., & Leary, M. R. (2009). Reactions to Discrimination, Stigmatization, Ostracism, and Other Forms of Interpersonal Rejection. *Psychological Review*, 116(2), 365–383. <https://doi.org/10.1037/a0015250>
- Ringdal, R., Bradley Eilertsen, M.-E., Bjørnsen, H. N., Espnes, G. A., & Moksnes, U. K. (2018). Validation of two versions of the Warwick-Edinburgh Mental Well-Being Scale among Norwegian adolescents. *Scandinavian Journal of Public Health*, 46(7), 718–725. <https://doi.org/10.1177/1403494817735391>
- Roach, A. (2018). Supportive Peer Relationships and Mental Health in Adolescence: An Integrative Review. *Issues in Mental Health Nursing*, 39(9), 723–737. <https://doi.org/10.1080/01612840.2018.1496498>
- Rodriguez, L. V. (2023). Adolescent immigrant youth: Creating spaces of belonging. *Migration Studies*, 11(2), 312–329. <https://doi.org/10.1093/migration/mnad004>
- Rosenberg, M. (1965). Rosenberg Self-Esteem Scale. *APA PsycTests*. <https://doi.org/10.1037/t01038-000>

- Rosseel, Y. (2012). lavaan: An R Package for Structural Equation Modeling. *Journal of Statistical Software*, 48(2), 1–36. <https://doi.org/10.18637/jss.v048.i02>
- RStudio Team. (2020). *RStudio: Integrated Development for R*. RStudio, PBC., <http://www.rstudio.com/>
- Rudmin, F. (2009). Constructs, measurements and models of acculturation and acculturative stress. *International Journal of Intercultural Relations*, 33(2), 106–123. <https://doi.org/10.1016/j.ijintrel.2008.12.001>
- Rudmin, F. W. (2003). Critical History of the Acculturation Psychology of Assimilation, Separation, Integration, and Marginalization. *Review of General Psychology*, 7(1), 3–37. <https://doi.org/10.1037/1089-2680.7.1.3>
- Ryder, A. G., Alden, L. E., & Paulhus, D. L. (2000). Is acculturation unidimensional or bidimensional? A head-to-head comparison in the prediction of personality, self-identity, and adjustment. *Journal of Personality and Social Psychology*, 79(1), 49–65. <https://doi.org/10.1037/0022-3514.79.1.49>
- Safadi, M., & Valentine, C. A. (1990). Contrastive analyses of American and Arab nonverbal and paralinguistic communication. *Semiotica*, 82(3-4), 269–292. <https://doi.org/10.1515/semi.1990.82.3-4.269>
- Salter, D., Neelakandan, A., & Wuthrich, V. M. (2024). Anxiety and Teacher-Student Relationships in Secondary School: A Systematic Literature Review. *Child Psychiatry & Human Development*. <https://doi.org/10.1007/s10578-024-01665-7>
- Sam, D. L. (2006). Adaptation of Children and Adolescents With Immigrant Background: Acculturation or Development? In *Acculturation and parent-child relationships: Measurement and development*. (pp. 97–111). Lawrence Erlbaum Associates Publishers. <https://doi.org/10.4324/9780415963589>
- Sam, D. L. (2024). 50+ years of psychological acculturation research: Progress and challenges. *International Journal of Intercultural Relations*, 103, 102076. <https://doi.org/10.1016/j.ijintrel.2024.102076>
- Sam, D. L., & Berry, J. W. (2009). Adaptation of young immigrants. The Double jeopardy of acculturation. In I. Jasinskaja-Lahti & T. A. Mähönen (Eds.), *Identities, Intergroup Relations and Acculturation – The Cornerstones of Intercultural Encounters*. (pp. 191–205). Hakapaino.
- Sam, D. L., Vedder, P., Ward, C., & Horenczyk, G. (2022). Psychological and Sociocultural Adaptation of Immigrant Youth. In J. W. Berry, J. Phinney, D. L. Sam, & P. Vedder (Eds.), (1 ed.). Routledge. <https://doi.org/10.4324/9781003309192-5>
- Sandhu, D. S., & Asrabadi, B. R. (1994). Development of an Acculturative Stress Scale for International Students: Preliminary Findings. *Psychological Reports*, 75(1), 435–448. <https://doi.org/10.2466/pr0.1994.75.1.435>
- Sargent, J., Williams, R. A., Hagerty, B., Lynch-Sauer, J., & Hoyle, K. (2002). Sense of Belonging as a Buffer Against Depressive Symptoms. *Journal of the American Psychiatric Nurses Association*, 8(4), 120–129. <https://doi.org/10.1067/mpn.2002.127290>
- Sass, D. A., Schmitt, T. A., & Marsh, H. W. (2014). Evaluating Model Fit With Ordered Categorical Data Within a Measurement Invariance Framework: A Comparison of Estimators. *Structural Equation Modeling: A Multidisciplinary Journal*, 21(2), 167–180. <https://doi.org/10.1080/10705511.2014.882658>
- Saukkonen, P. (2018). Multiculturalism and nationalism in Finland. *Research of Finnish Society*, 11, 65–73. <https://fjsr.journal.fi/article/view/110781/65132>

- Schacter, H. L., & Juvonen, J. (2017). Depressive symptoms, friend distress, and self-blame: Risk factors for adolescent peer victimization. *Journal of Applied Developmental Psychology, 51*, 35–43. <https://doi.org/10.1016/j.appdev.2017.02.005>
- Schwartz, S. J., Birman, D., Benet-Martínez, V., & Unger, J. (2017). Biculturalism: Negotiating Multiple Cultural Streams. In S. J. Schwartz & J. Unger (Eds.), *The Oxford Handbook of Acculturation and Health*. Oxford University Press. <https://doi.org/10.1093/oxfordhb/9780190215217.013.3>
- Schwartz, S. J., Szabó, Á., Meca, A., Ward, C., Martínez, C. R., Cobb, C. L., Benet-Martínez, V., Unger, J. B., & Pantea, N. (2020). The Convergence Between Cultural Psychology and Developmental Science: Acculturation as an Exemplar. *Frontiers in Psychology, 11*. <https://doi.org/10.3389/fpsyg.2020.00887>
- Schwartz, S. J., Unger, J. B., Baezconde-Garbanati, L., Zamboanga, B. L., Córdova, D., Lorenzo-Blanco, E. I., Huang, S., Des Rosiers, S. E., Soto, D. W., Lizzi, K. M., Villamar, J. A., Pattarroyo, M., & Szapocznik, J. (2016). Testing the Parent–Adolescent Acculturation Discrepancy Hypothesis: A Five-Wave Longitudinal Study. *Journal of Research on Adolescence, 26*(3), 567–586. <https://doi.org/10.1111/jora.12214>
- Schwartz, S. J., Unger, J. B., Zamboanga, B. L., & Szapocznik, J. (2010). Rethinking the concept of acculturation: implications for theory and research. *Am Psychol, 65*(4), 237–251. <https://doi.org/10.1037/a0019330>
- Seaton, E. K., Iida, M., & Morris, K. (2022). The Impact of Internalized Racism on Daily Depressive Symptoms Among Black American Adolescents. *Adversity and Resilience Science, 3*(3), 201–208. <https://doi.org/10.1007/s42844-022-00061-1>
- Shah, A. D., Bartlett, J. W., Carpenter, J., Nicholas, O., & Hemingway, H. (2014). Comparison of Random Forest and Parametric Imputation Models for Imputing Missing Data Using MICE: A CALIBER Study. *American Journal of Epidemiology, 179*(6), 764–774. <https://doi.org/10.1093/aje/kwt312>
- Sharp, C., & Aston, K. (2024). *Ethnic diversity in the teaching workforce: evidence review*. NFER. <https://www.ucet.ac.uk/downloads/15627-Ethnic-diversity-in-the-teaching-workforce-an-evidence-review.pdf>
- Shen, Y., Seo, E., Jiles, A. I., Zheng, Y., & Wang, Y. (2022). Language brokering and immigrant-origin youth's well-being: A meta-analytic review. *American Psychologist, 77*(8), 921–939. <https://doi.org/10.1037/amp0001035>
- Shrout, P. E., & Bolger, N. (2002). Mediation in experimental and nonexperimental studies: New procedures and recommendations [Article]. *Psychological Methods, 7*(4), 422–445. <https://doi.org/10.1037/1082-989X.7.4.422>
- Sidler, P., Baysu, G., Kassis, W., Janousch, C., Chouvati, R., Govaris, C., Graf, U., & Rietz, C. (2022). Minority and Majority Adolescents' Attitudes toward Mutual Acculturation and its Association with Psychological Adjustment. *Journal of Youth and Adolescence, 51*(8), 1511–1535. <https://doi.org/10.1007/s10964-022-01604-6>
- Sirin, S. R., Gupta, T., Ryce, P., Katsiaficas, D., Suárez-Orozco, C., & Rogers-Sirin, L. (2013). Understanding the role of social support in trajectories of mental health symptoms for immigrant adolescents. *Journal of Applied Developmental Psychology, 34*(5), 199–207. <https://doi.org/10.1016/j.appdev.2013.04.004>
- Solano, G., & Huddleston, T. (2020). Migration integration policy index 2020. <https://mipex.eu/key-findings>
- Solmi, M., Radua, J., Olivola, M., Croce, E., Soardo, L., Salazar de Pablo, G., Il Shin, J., Kirkbride, J. B., Jones, P., Kim, J. H., Kim, J. Y., Carvalho, A. F., Seeman, M. V., Correll, C. U., & Fusar-Poli, P. (2022). Age at onset of mental disorders worldwide:

- large-scale meta-analysis of 192 epidemiological studies. *Molecular Psychiatry*, 27(1), 281–295. <https://doi.org/10.1038/s41380-021-01161-7>
- Song, D. S., Ahmed, A., Gilkes Borr, T., & Antonio, A. L. (2022). Multiracials' membership and identification practices on campus: a boundary-work approach. *Race Ethnicity and Education*, 1–21. <https://doi.org/10.1080/13613324.2022.2114510>
- Sowislo, J. F., & Orth, U. (2013). Does low self-esteem predict depression and anxiety? A meta-analysis of longitudinal studies. *Psychological Bulletin*, 139(1), 213–240. <https://doi.org/10.1037/a0028931>
- Spaas, C., Verelst, A., Devlieger, I., Aalto, S., Andersen, A. J., Durbeej, N., Hilden, P. K., Kankaanpää, R., Primdahl, N. L., Opaas, M., Osman, F., Peltonen, K., Sarkadi, A., Skovdal, M., Jervelund, S. S., Soye, E., Watters, C., Derluyn, I., Colpin, H., & De Haene, L. (2022). Mental Health of Refugee and Non-refugee Migrant Young People in European Secondary Education: The Role of Family Separation, Daily Material Stress and Perceived Discrimination in Resettlement. *Journal of Youth and Adolescence*, 51(5), 848–870. <https://doi.org/10.1007/s10964-021-01515-y>
- Speight, S. L. (2007). Internalized Racism: One More Piece of the Puzzle. *The Counseling Psychologist*, 35(1), 126–134. <https://doi.org/10.1177/0011000006295119>
- Spitzer, R. L., Kroenke, K., Williams, J. B. W., & Group, a. t. P. H. Q. P. C. S. (1999). Validation and Utility of a Self-report Version of PRIME-MD The PHQ Primary Care Study. *JAMA*, 282(18), 1737–1744. <https://doi.org/10.1001/jama.282.18.1737>
- Spitzer, R. L., Kroenke, K., Williams, J. B. W., & Löwe, B. (2006). A Brief Measure for Assessing Generalized Anxiety Disorder: The GAD-7. *Archives of Internal Medicine*, 166(10), 1092–1097. <https://doi.org/10.1001/archinte.166.10.1092>
- Steinberg, L., & Monahan, K. C. (2007). Age differences in resistance to peer influence. *Developmental Psychology*, 43(6), 1531–1543. <https://doi.org/10.1037/0012-1649.43.6.1531>
- Stewart-Brown, S., Tennant, A., Tennant, R., Platt, S., Parkinson, J., & Weich, S. (2009). Internal construct validity of the Warwick-Edinburgh Mental Well-being Scale (WEMWBS): a Rasch analysis using data from the Scottish Health Education Population Survey. *Health and Quality of Life Outcomes*, 7(1), 15. <https://doi.org/10.1186/1477-7525-7-15>
- Straiton, M. L., Aambø, A. K., & Johansen, R. (2019). Perceived discrimination, health and mental health among immigrants in Norway: the role of moderating factors. *BMC Public Health*, 19(1), 325. <https://doi.org/10.1186/s12889-019-6649-9>
- Suárez-Orozco, C., Motti-Stefanidi, F., Marks, A., & Katsiaficas, D. (2018). An integrative risk and resilience model for understanding the adaptation of immigrant-origin children and youth. *American Psychologist*, 73(6), 781–796. <https://doi.org/10.1037/amp000265>
- Sullivan, G. M., & Feinn, R. (2012). Using Effect Size—or Why the P Value Is Not Enough. *Journal of Graduate Medical Education*, 4(3), 279–282. <https://doi.org/10.4300/jgme-d-12-00156.1>
- Sutela, H., & Larja, L. (2015). *Yli puolet Suomen ulkomaalaistaustaisista muuttanut maahan perhesyistä. Ulkomaista syntyperää olevien työ ja hyvinvointi tutkimus 2014. [Over half of Finland's immigrant population have migrated due to family reasons. The 2014 Survey on work and well-being among people of foreign origin].* S. Finland. http://www.stat.fi/tup/maahanmuutto/art_2015-10-15_001.html
- Syrjämäki, A. H., & Hietanen, J. K. (2019). The effects of social exclusion on processing of social information – A cognitive psychology perspective. *British Journal of Social Psychology*, 58(3), 730–748. <https://doi.org/10.1111/bjso.12299>

- Tajfel, H. (1974). Social identity and intergroup behaviour. *Social Science Information*, 13(2), 65–93. <https://doi.org/10.1177/053901847401300204>
- Talja, T., Rantanen, A., Koivisto, A.-M., Fröjd, S., Ikonen, R., & Joronen, K. (2022). Early identification of depressive symptoms in school-aged children: Psychometric properties and validation of a new short version of Short Mood & Feelings Questionnaire. *Scandinavian Journal of Caring Sciences*, 36(2), 393–403. <https://doi.org/10.1111/scs.13042>
- Tein, J.-Y., Coxe, S., & Cham, H. (2013). Statistical Power to Detect the Correct Number of Classes in Latent Profile Analysis. *Structural Equation Modeling: A Multidisciplinary Journal*, 20(4), 640–657. <https://doi.org/10.1080/10705511.2013.824781>
- Telzer, E. H. (2011). Expanding the Acculturation Gap-Distress Model: An Integrative Review of Research. *Human Development*, 53(6), 313–340. <https://doi.org/10.1159/000322476>
- Tennant, R., Hiller, L., Fishwick, R., Platt, S., Joseph, S., Weich, S., Parkinson, J., Secker, J., & Stewart-Brown, S. (2007). The Warwick-Edinburgh Mental Well-being Scale (WEMWBS): development and UK validation. *Health and Quality of Life Outcomes*, 5(1), 63. <https://doi.org/10.1186/1477-7525-5-63>
- The Global Deception Research Team. (2006). A World of Lies. *Journal of Cross-Cultural Psychology*, 37(1), 60–74. <https://doi.org/10.1177/0022022105282295>
- Thijs, J., & Verkuyten, M. (2014). School ethnic diversity and students' interethnic relations. *British Journal of Educational Psychology*, 84(1), 1–21. <https://doi.org/10.1111/bjep.12032>
- Thompson, B. (2007). Effect sizes, confidence intervals, and confidence intervals for effect sizes. *Psychology in the Schools*, 44(5), 423–432. <https://doi.org/10.1002/pits.20234>
- Tiffin, P. A. (2010). The Patient Health Questionnaire 2-item is a rapid, sensitive and specific screening tool for identifying adolescents with major depression. *Evidence Based Mental Health*, 13(4). <https://doi.org/10.1136/ebmh1110>
- Tiirikainen, K., Haravuori, H., Ranta, K., Kaltiala-Heino, R., & Marttunen, M. (2019). Psychometric properties of the 7-item Generalized Anxiety Disorder Scale (GAD-7) in a large representative sample of Finnish adolescents. *Psychiatry Research*, 272, 30–35. <https://doi.org/10.1016/j.psychres.2018.12.004>
- Tilley, J. L., Huey Jr., S. J., Farver, J. M., Lai, M. H. C., & Wang, C. X. (2021). The Immigrant Paradox in the Problem Behaviors of Youth in the United States: A Meta-analysis. *Child Development*, 92(2), 502–516. <https://doi.org/10.1111/cdev.13542>
- Timimi, S. (2002). *Pathological Child Psychiatry and the Medicalization of Childhood*. Routledge. <https://doi.org/10.4324/9781315783208>
- Tineo, P., Bixter, M. T., Polanco-Roman, L., Grapin, S. L., Taveras, L., & Reyes-Portillo, J. (2024). The impact of acculturative stress on internalizing problems among racially and ethnically minoritized adolescents and young adults in the U.S.: A systematic review and meta-analysis. *Social Science & Medicine*, 357, 117192. <https://doi.org/10.1016/j.socscimed.2024.117192>
- Titzmann, P. F. (2012). Growing Up Too Soon? Parentification Among Immigrant and Native Adolescents in Germany. *Journal of Youth and Adolescence*, 41(7), 880–893. <https://doi.org/10.1007/s10964-011-9711-1>
- Titzmann, P. F., & Jugert, P. (2024). The dynamics of acculturative change: The potential of a developmental perspective in acculturation science. *advances.in/psychology*, 2, e553629. <https://doi.org/10.56296/aip00029>

- Torsheim, T., Wold, B., & Samdal, O. (2000). The Teacher and Classmate Support Scale: Factor Structure, Test-Retest Reliability and Validity in Samples of 13- and 15-Year-Old Adolescents. *School Psychology International*, 21(2), 195–212. <https://doi.org/10.1177/0143034300212006>
- Tropp, L. R., White, F., Rucinski, C. L., & Tredoux, C. (2022). Intergroup Contact and Prejudice Reduction: Prospects and Challenges in Changing Youth Attitudes. *Review of General Psychology*, 26(3), 342–360. <https://doi.org/10.1177/10892680211046517>
- Turjanmaa, E., & Jasinskaja-Lahti, I. (2020). A comparative study of parental knowledge and adaptation of immigrant youth. *Comparative Migration Studies*, 8(1), 47. <https://doi.org/10.1186/s40878-020-00207-z>
- Ungar, M., & Theron, L. (2020). Resilience and mental health: how multisystemic processes contribute to positive outcomes. *The Lancet Psychiatry*, 7(5), 441–448. [https://doi.org/10.1016/S2215-0366\(19\)30434-1](https://doi.org/10.1016/S2215-0366(19)30434-1)
- Usborne, E., & de la Sablonnière, R. (2014). Understanding My Culture Means Understanding Myself: The Function of Cultural Identity Clarity for Personal Identity Clarity and Personal Psychological Well-Being. *Journal for the Theory of Social Behaviour*, 44(4), 436–458. <https://doi.org/10.1111/jtsb.12061>
- van Buuren, S., & Groothuis-Oudshoorn, K. (2011). mice: Multivariate Imputation by Chained Equations in R. *Journal of Statistical Software*, 45(3), 1–67. <https://doi.org/10.18637/jss.v045.i03>
- van Loo, H. M., Schoevers, R. A., Kendler, K. S., de Jonge, P., & Romeijn, J.-W. (2016). Psychiatric comorbidity does not only depend on diagnostic threshold: An illustration with major depressive disorder and generalized anxiety disorder. *Depression and Anxiety*, 33(2), 143–152. <https://doi.org/10.1002/da.22453>
- van Parys, H., & Rober, P. (2013). Trying to Comfort the Parent: A Qualitative Study of Children Dealing With Parental Depression. *Journal of Marital and Family Therapy*, 39(3), 330–345. <https://doi.org/10.1111/j.1752-0606.2012.00304.x>
- van Praag, L., Stevens, P. A. J., & van Houtte, M. (2016). ‘No more Turkish music!’ The acculturation strategies of teachers and ethnic minority students in Flemish schools. *Journal of Ethnic and Migration Studies*, 42(8), 1353–1370. <https://doi.org/10.1080/1369183X.2015.1103171>
- van Vemde, L., Hornstra, L., & Thijs, J. (2021). Classroom Predictors of National Belonging: The Role of Interethnic Contact and Teachers’ and Classmates’ Diversity Norms. *Journal of Youth and Adolescence*, 50(8), 1709–1725. <https://doi.org/10.1007/s10964-021-01430-2>
- Verkuyten, M., & Yogeewaran, K. (2020). Cultural diversity and its implications for intergroup relations. *Current Opinion in Psychology*, 32, 1–5. <https://doi.org/10.1016/j.copsyc.2019.06.010>
- Vietze, J., Schachner, M. K., Juang, L., van de Vijver, F. J. R., & Noack, P. (2020). Juggling Between Parental and School Expectations: The Development of Domain-Specific Acculturation Orientations in Early Adolescence. *Journal of Research on Adolescence*, 30(3), 616–632. <https://doi.org/10.1111/jora.12547>
- Wang-Schweig, M., & Miller, B. A. (2021). Examining the Interdependence of Parent-adolescent Acculturation Gaps on Acculturation-based Conflict: Using the Actor-Partner Interdependence Model. *Journal of Youth and Adolescence*, 50(2), 367–377. <https://doi.org/10.1007/s10964-018-0948-9>

- Wang, M.-T., Brinkworth, M., & Eccles, J. (2013). Moderating effects of teacher–student relationship in adolescent trajectories of emotional and behavioral adjustment. *Developmental Psychology*, *49*(4), 690–705. <https://doi.org/10.1037/a0027916>
- Ward, C., & Geeraert, N. (2016). Advancing acculturation theory and research: The acculturation process in its ecological context. *Current Opinion in Psychology*, *8*, 98–104. <https://doi.org/10.1016/j.copsy.2015.09.021>
- Ward, C., & Szabó, Á. (2019). Affect, Behavior, Cognition, and Development: Adding to the Alphabet of Acculturation. In D. Matsumoto & H. C. Hwang (Eds.), *The Handbook of Culture and Psychology*. Oxford University Press. <https://doi.org/10.1093/oso/9780190679743.003.0020>
- Ward, C., & Szabó, Á. (2023). Acculturation, cultural identity and well-being. *Nature Reviews Psychology*, *2*(5), 267–282. <https://doi.org/10.1038/s44159-023-00171-2>
- Ward, C., Szabó, Á., & Ng Tseung-Wong, C. (2024). The motivation to integrate and perceived discrimination as antecedents of cultural identity styles. *Cultural Diversity & Ethnic Minority Psychology*, Advance online publication. <https://doi.org/10.1037/cdp0000648>
- Wikström, K., Haikkola, L., & Laatikainen, T. (2014). *Maahanmuuttajataustaisten nuorten terveys ja hyvinvointi. Tutkimus pääkaupunkiseudun somali- ja kurditaustaisista nuorista.* (Työpaperi, Issue. THL. <https://urn.fi/URN:ISBN:978-952-302-212-6>
- World Health Organization. (2017). *Depression and Other Common Mental Disorders: Global Health Estimates*. WHO.
- Wright, M. O. D., Masten, A. S., & Narayan, A. J. (2013). Resilience Processes in Development: Four Waves of Research on Positive Adaptation in the Context of Adversity. In S. Goldstein & R. B. Brooks (Eds.), *Handbook of Resilience in Children* (pp. 15–37). Springer US. https://doi.org/10.1007/978-1-4614-3661-4_2
- Xia, Y., & Yang, Y. (2019). RMSEA, CFI, and TLI in structural equation modeling with ordered categorical data: The story they tell depends on the estimation methods. *Behavior Research Methods*, *51*(1), 409–428. <https://doi.org/10.3758/s13428-018-1055-2>
- Yamamoto, Y., & Holloway, S. D. (2010). Parental Expectations and Children's Academic Performance in Sociocultural Context. *Educational Psychology Review*, *22*(3), 189–214. <https://doi.org/10.1007/s10648-010-9121-z>
- Yuval-Davis, N. (2006). Belonging and the politics of belonging. *Patterns of Prejudice*, *40*(3), 197–214. <https://doi.org/10.1080/00313220600769331>
- Zhang, D., Jin, B., & Cui, Y. (2022). Do Teacher Autonomy Support and Teacher–Student Relationships Influence Students' Depression? A 3-Year Longitudinal Study. *School Mental Health*, *14*(1), 110–124. <https://doi.org/10.1007/s12310-021-09456-4>
- Zimmer-Gembeck, M. J., & Collins, W. A. (2006). Autonomy Development During Adolescence. In *Blackwell Handbook of Adolescence* (pp. 174–204). <https://doi.org/10.1002/9780470756607.ch9>
- Zirkel, S. (2002). Is There a Place for Me? Role Models and Academic Identity among White Students and Students of Color. *Teachers College Record*, *104*(2), 357–376. <https://doi.org/10.1177/016146810210400206>

