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Wellbeing Dynamics of Migrant Adolescents

Role of Teachers and School as a Context

Sanni Aalto



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WELLBEING DYNAMICS OF MIGRANT ADOLESCENTS

Role of Teachers and School as a Context

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Doctoral programme on Inequalities, Interventions and New Welfare State

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*There's a crack, a crack in everything
That's how the light gets in.
- Leonard Cohen*

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ABSTRACT

Migrant adolescents often experience elevated levels of mental health difficulties, but also notable resilience. As a primary developmental context, school provides a crucial setting for promoting adaptation and wellbeing, with teachers serving a central role. Psychosocial, multi-tiered school interventions demonstrate potential for providing both universal and targeted student support. This thesis examined wellbeing profiles and their determinants among immigrant and refugee adolescents, as well as the association of teachers' multicultural attitudes on their self-efficacy and wellbeing. It also presents the protocol and effectiveness study of two psychosocial school interventions aimed at enhancing migrant adolescents' wellbeing. The findings are discussed through ecological, acculturation, and resilience frameworks.

The data of this thesis derives from the RefugeesWellSchool project, a European collaboration across six countries examining psychosocial school interventions for migrant student wellbeing. Students and teachers completed self-report surveys at baseline, post-intervention, and follow-up. This thesis employed cross-sectional data from 1607 migrant students and 433 teachers across all countries, and longitudinal Finnish data from 1974 native and migrant students.

Four wellbeing profiles emerged among migrant students, differing especially in PTSD symptom patterns. Refugee background, older age, discrimination, daily stress, and low family support were linked to profiles with poorer mental health. Among teachers, positive multicultural attitudes associated with greater work dedication, but not with work exhaustion. Self-efficacy mediated the association between multicultural attitudes and work-related wellbeing. Finally, the psychosocial interventions were generally not effective in increasing wellbeing; their benefits varied by students' age, gender, and exposure to stress and discrimination.

This thesis deepens understanding of migrant adolescents' wellbeing, highlighting how individual and contextual factors shape both wellbeing and intervention outcomes. It also emphasizes teachers' multicultural attitudes as important to both their wellbeing and efficacy beliefs. Overall, this doctoral thesis advocates for multidimensional, culturally informed collaboration across education, mental health, and social systems to better support migrant youth.

KEYWORDS: migration, wellbeing, intervention, multiculturalism, self-efficacy

TURUN YLIOPISTO

Yhteiskuntatieteellinen tiedekunta

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TIIVISTELMÄ

Maahanmuuttajanuoret kokevat usein kohonneita mielenterveyden haasteita, mutta osoittavat myös merkittävää resilienssiä. Koulu tarjoaa tärkeän kontekstin nuorten ja hyvinvoinnin tukemiseen, ja opettajilla on tässä keskeinen rooli. Monitasoiset psykososiaaliset kouluinterventiot ovat osoittautuneet lupaaviksi tuen tarjoamisessa. Tämä väitöskirja tarkasteli maahanmuuttajanuorten hyvinvointiprofiileja ja niiden taustatekijöitä sekä opettajien monikulttuurisuusasenteiden, minäpystyvyyden ja hyvinvoinnin yhteyttä. Lisäksi esitellään kahden psykososiaalisen kouluinterventio tutkimusprotokolla ja vaikuttavuustutkimus. Tuloksia tarkastellaan ekologisten, akkulturaatio- ja resilienssiteorioiden viitekehysten kautta.

Väitöskirjan aineisto perustuu RefugeesWellSchool-hankkeeseen, joka oli kuuden Euroopan maan välinen yhteistyöhanke maahanmuuttajaoppilaiden hyvinvointia tukevien psykososiaalisten kouluinterventioiden tutkimiseksi. Oppilaat ja opettajat täyttivät itsearviointikyselyt tutkimuksen alku-, loppu- ja seurantavaiheessa. Työssä hyödynnettiin kaikkien maiden poikkileikkausaineistoa maahanmuuttajaoppilailta (n = 1607) ja opettajilta (n = 433) sekä Suomessa kerättyä pitkittäisaineistoa kantaväestön ja maahanmuuttajaoppilailta (n = 1974).

Maahanmuuttajaoppilailta tunnistettiin neljä hyvinvointiprofiilia, jotka erosivat toisistaan erityisesti PTSD -oireiden suhteen. Pakolaistausta, syrjäntäkokemukset, arjen stressitekijät ja heikko perheen tuki liittyivät heikompaan mielenterveyteen. Opettajien osalta monikulttuurisuusasenteet olivat yhteydessä vahvempaan työlle omistautumiseen, mutta eivät vähäisempään työuupumukseen. Minäpystyvyys välitti yhteyttä monikulttuurisuusasenteiden ja työhyvinvoinnin välillä. Psykososiaaliset interventiot eivät yleisesti lisänneet hyvinvointia, vaan niiden hyöty riippui oppilaiden iästä, sukupuolesta sekä stressi- ja syrjäntäkokemuksista.

Tämä väitöskirja korostaa yksilöllisten ja kontekstuaalisten tekijöiden vaikutusta maahanmuuttajanuorten hyvinvoinnille ja interventioiden vaikuttavuudelle. Lisäksi se painottaa opettajien monikulttuurisuusasenteiden merkitystä niin heidän omalle hyvinvoinnilleen kuin pystyvyyden kokemuksilleen. Kokonaisuudessaan väitöskirja suosittaa moniulotteista, kulttuurisensitiivistä yhteistyötä koulu-, mielenterveys- ja sosiaalipalveluiden välillä maahanmuuttajanuorten tukemisen edistämiseksi.

ASIASANAT: maahanmuutto, hyvinvointi, interventio, monikulttuurisuus, minäpystyvyys

Acknowledgements

During my exchange year in Geneva, Switzerland, I ended up choosing by chance a course on cultural psychology, *Questions approfondies de psychologie clinique interculturelle*. This course turned out to be a turning point in terms of my academic interests, and after returning to Finland, my interest in multiculturalism deepened and continued to grow. After graduating, alongside my clinical work in child psychiatry, I continued to nurture the idea of conducting research related to cultural psychology. Then, as I came across an announcement for a doctoral researcher position in Prof. Raija-Leena Punamäki's RefugeesWellSchool project in Tampere University, I was so excited, I trembled. It felt like an answer to my calling. This leap from clinical work to academia would not have been possible without the funding provided by the European Horizon 2020 programme and Tampere University, for which I am truly grateful. Later, I was fortunate to continue my research alongside Prof. Kirsi Peltonen in University of Turku with a funded position. Having had the peace of mind to focus on my research without the constant pressure of applying for funding has made this journey much smoother.

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List of Original Publications

This dissertation is based on the following original publications, which are referred to in the text by their Roman numerals:

- I Aalto, S., Punamäki, R.-L., Vänskä, M., Kankaanpää, R., Turunen, T., Lahtinen, O., Derluyn, I., Spaas, C., De Haene, L., Jervelund, S. S., Skovdal, M., Andersen, A. J., Opaas, M., Osman, F., Sarkadi, A., Durbeej, N., Soye, E., & Peltonen, K. (2025). Patterns of Mental Health Problems and Resilience among Immigrant and Refugee Adolescents: A Latent Profile Analysis. *European Journal of Psychotraumatology*, *16*(1), 2479924.
- II Aalto, S., Kankaanpää, R., Peltonen, K., Derluyn, I., Szelei, N., Verelst, A., De Haene, L., de Smet, S., Spaas, C., Jervelund, S. S., Skovdal, M., Andersen, A. J., Hilden, P. K., Opaas, M., Durbeej, N., Osman, F., Sarkadi, A., Soye, E., & Vänskä, M. (2024). The effect of teacher multicultural attitudes on self-efficacy and wellbeing at work. *Social Psychology of Education*, *27*, 2527–2557.
- III Kankaanpää, R., Aalto, S., Vänskä, M., Lepistö, R., Punamäki, R.-L., Soye, E., Watters, C., Andersen, A., Hilden, P. K., Derluyn, I., Verelst, A., & Peltonen, K. (2022). Effectiveness of psychosocial school interventions in Finnish schools for refugee and immigrant children, “Refugees Well School” in Finland (RWS-FI): A protocol for a cluster randomized controlled trial. *Trials*, *23*(1), 1–14.
- IV Peltonen, K., Aalto, S., Vänskä, M., Lepistö, R., Punamäki, R.-L., Soye, E., Watters, C.; deWal Pastoor, L., Derluyn, I., Kankaanpää, R. (2022). Effectiveness of Promotive and Preventive Psychosocial Interventions on Improving the Mental Health of Finnish-Born and Immigrant Adolescents. *International Journal of Environmental Research & Public Health*, *19*, 3686.

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1 Introduction

Since the beginning of humanity, people have migrated in search of new opportunities, or fleeing insecurity or danger. Currently there are 304 million international migrants worldwide, of which 52 million are refugees, asylum seekers, or people otherwise seeking international protection (United Nations, 2025). While only less than 15% of all the international migrants are under the age of 20 (United Nations, 2020), minors form a large share (40%) of all refugees globally (UNHCR, 2025). Although many children migrate to Europe due to their parents' work or to be reunited with family members, others may flee war, persecution, or seek international protection. In Europe, children represent roughly a fourth of all first-time asylum applications, and 17% of these asylum-seeking minors have migrated unaccompanied by family members (Eurostat, 2025).

Considering the world situation with the ongoing wars, global uncertainty and natural catastrophes related to climate change, migration is not expected to decrease in the future. Quite the contrary, the expectations are that migration will keep on increasing globally, with wide ranging effects of political, economic and social relevance (Sohst et al., 2020; United Nations, 2024; Welch & Raftery, 2022). The migration policies of the host countries can have decisive consequences for the wellbeing of migrant populations, with inclusive migration policies being the most beneficial for mental health of newcomers (Malmusi et al., 2017). Therefore, it is essential to consider how host societies can not only respond effectively to the challenges posed by migration but also harness its potential to foster societal development and growth, as well-designed integration policies can contribute significantly to both humanitarian and societal goals. In particular, they offer promising solutions to pressing demographic issues in Europe, such as aging populations and labour shortages, by helping to rebalance age distributions and fill critical workforce gaps (United Nations, 2024). Moreover, migration enriches societies culturally and enhances collective competencies, fostering more inclusive and dynamic communities. In Finland, the PALOMA project has aimed to answer this call by increasing knowledge and suggesting recommendations for professionals working with refugees in order to create more cohesive and supportive national policies to enable wellbeing and integration (Castaneda et al., 2018).

While acknowledging that migrants are a highly heterogeneous group of individuals, they all share the common experience of relocating to another country. In this thesis I will refer to *migrants* whenever inclusively referring to all individuals having moved across national borders, whether due to voluntary or involuntary reasons. Whenever I aim to make an explicit distinction between different migrant groups, I will refer to *refugees* (for involuntary reasons such as fleeing war or persecution) and *immigrants* (for voluntary migration, such work-related reasons). These terms reflect only one dimension of complex, multifaceted identities and experience, and the distinction is not intended to reduce the individuals' identities to administrative categories, but rather to acknowledge the differing experiential contexts that may have shaped their lived realities.

Regardless of the underlying motivation, migration presents profound challenges for individuals as they must learn to navigate unfamiliar cultural environments with a new language, renegotiate their identities, and rebuild their lives. For children and adolescents, these migration-related demands further intersect with normative developmental transitions, thereby amplifying the complexity of developmental challenges (Crone & Dahl, 2012). This dual pressure on development places migrant youth vulnerable to mental health challenges (Fazel et al., 2012), although many also show remarkable resilience in coping with these demands. However, due to pre-migration traumatic events, refugees face an especially elevated risk for mental health challenges (Arakelyan & Ager, 2021).

Despite these risks posed by migration experience, migrants are often found to underutilize mental health services (Kiesepää et al., 2020). Schools, therefore, provide an accessible setting for supporting the wellbeing of migrant adolescents, by offering a daily context for integration and adjustment. In schools the newly arrived students can familiarize themselves with the new culture, establish social connections, and develop a sense of belonging, which promote mental wellbeing. However, despite teachers' important role in recognizing and responding to the diverse needs of multicultural student populations, teachers frequently report feeling unprepared to support culturally diverse students with complex and varied needs (Parkhouse et al., 2019; Romijn et al., 2021). Psychosocial interventions within schools supporting teacher competence, peer acceptance and socioemotional wellbeing can thus provide a feasible avenue for facilitating the successful adaptation and wellbeing of migrant youth.

There is a need to understand more holistically the wellbeing of immigrant and refugee adolescents, the teachers' role and required competences in multiethnic classrooms, and to find effective ways to support the wellbeing of not only the migrant students but also the whole school community. This thesis thus begins with an individual-level analysis of migrant adolescents' wellbeing and progressively broadens to explore how teachers and school environments contribute to supporting

their psychosocial wellbeing. Accordingly, this dissertation thesis aims, first, to study the dynamic interplay between mental health problems and resilience in shaping immigrant and refugee adolescents' development and explore how demographic and contextual factors associate with wellbeing (Study I). Second, considering the important role of teachers in enhancing students' wellbeing and academic success, this thesis aims to understand more closely teachers' multicultural attitudes, their self-efficacy and wellbeing, both among multicultural mainstream education and teachers of reception classes (Study II). Third, this thesis describes a study protocol on how to study the effectiveness of two school-based intervention arms to increase the wellbeing of migrant youth (Study III). Fourth, this thesis examines the effectiveness of two psychosocial school interventions in the Finnish school context among native and migrant students (Study IV). The wellbeing of migrant adolescents in the school context is theoretically discussed in the light of ecological, acculturation, and resilience theories and the conceptual framework of this thesis is depicted in Figure 1. Altogether, this thesis aims to contribute to the knowledge on immigrant and refugee adolescents' wellbeing, and how to create supportive school environments for all students and teachers in the increasingly multicultural setting.

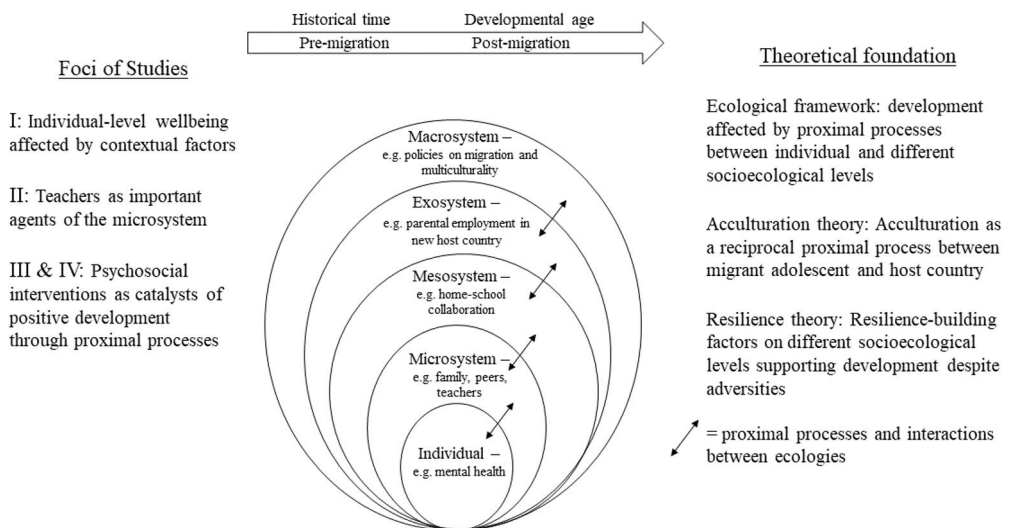


Figure 1. Conceptual framework of the thesis.

1.1 Adolescents' Wellbeing within Ecological and Migration Contexts

It is widely accepted that individuals develop in constant interaction with their environment and the different contexts in which they live. This social ecological framework has gained popularity also in the study of immigrant and refugee youth, as it is not solely the pre-migration adversity that might cause psychopathology. Rather, post-migration contexts and potential new stressors have been found to have at least as much impact on mental health (Miller & Rasmussen, 2017). On the positive side, in addition to the individual resources, there are many social and contextual factors that may buffer against or bolster positive adaptation and functioning. Next, I will present Bronfenbrenner's ecological theory, acculturation research, and resilience theory to studying migrant youth, as together these theories and frameworks build the foundation on which this thesis is based on.

1.1.1 Ecological Framework in Migrant Adolescents' Development

Bronfenbrenner's theory (Bronfenbrenner, 1979; Bronfenbrenner & Evans, 2000) offers a valuable framework for understanding the developmental process of migrant children. This theory, positioned within the general developmental science, was not developed to explicitly acknowledge the specific challenges faced by migrant youth, but the migration context can feasibly be applied to this theoretical framework as it allows the reflection of how different social and cultural factors interplay in migrant youth's development and adaptation (Arakelyan & Ager, 2021; Kreitzer et al., 2022).

Bronfenbrenner's initial Ecological model of human development described individual's development as affected by a multitude of levels of contextual factors, interacting with the individual and each other (Bronfenbrenner, 1979; Rosa & Tudge, 2013). This is often represented through nested concentric circles, with the individual at the centre and the nested circles representing the expanding contextual environments (micro-, exo-, macro-, and mesosystems) in which the individual lives (Figure 1). The migrant adolescents' microsystem consists of their immediate environment, such as their family, school, and peers, which is suggested to have the most influential effects on development (Bronfenbrenner, 1979). The exosystem considers the systems in which the adolescent does not have first-hand contact with, but can nonetheless affect the child. In migration context, this can constitute for example of the parents' difficulty in entering the workforce in the new country, which can affect the adolescent through consequent economic hardship. The macrosystem, on the other hand, includes the cultural and societal characteristics forming an ideological frame to the ecologies in which the individual lives. In migration context, the society's macro-level policies towards multiculturalism infuse

their effect to the migrant adolescent through the policies advocated in the school system and the general attitudinal atmosphere of the country. Although Bronfenbrenner positioned culture as being part of the macro-system, this notion of culture as a separate entity has been criticized by for example Véllez-Agosto et al. (2017), positioning that culture should be embedded within everyday actions and it cannot be separated from the individual. Finally, the mesosystem includes the interaction within and between the systems on different socioecological levels, entailing for example the home-school collaboration within the microsystem. In multicultural school settings, home-school collaboration has been found often problematic due to different cultural understandings and language barriers (Szelei et al., 2024). Moreover, macrosystemic policies governing the allocation of educational resources shape the daily experiences of migrant students by influencing how these resources are implemented by teachers within the microsystem.

Especially in his later reformulations, Bronfenbrenner further highlighted the active role of the individual and the reciprocal interactions between the individual and the different contexts, reconceptualizing the theoretical framework as Bioecological theory (Bronfenbrenner & Evans, 2000; Rosa & Tudge, 2013). An integral part of this reformulated theoretical framework was the PPCT model (Proximal process – Personal characteristics – Context – Time) (Bronfenbrenner & Evans, 2000; Kreitzer et al., 2022). In this model, the proximal processes refer to the enduring and reciprocal interactions between the individual and their environment, leading to either successful (competence) or dysfunctional developmental outcomes depending on the contextual and individual characteristics as well the developmental and historical timing of the events (Bronfenbrenner & Evans, 2000) (Figure 1). The personal characteristics, such as temperament, social skills and mental health affect how the individual interacts with their environment and how the context reciprocates to these characteristics (Rosa & Tudge, 2013). The addition of time further refers to how an individual's development is shaped in interaction with the developmental life course and historical time during which the individual has lived (Kreitzer et al., 2022; Rosa & Tudge, 2013), and it can be conceptualized through the phases of migration experience; the pre- and post-migration (Arakelyan & Ager, 2021). These factors then continually interact with each other and shape development not merely additively, but rather in a simultaneous fashion (Rosa & Tudge, 2013).

The bioecological model outlines competent developmental outcomes of proximal processes as the “acquisition or development of knowledge, skill, or ability to conduct and direct one's own behaviour across situations and developmental domains” (Bronfenbrenner & Evans, 2000, p. 118). Dysfunctional outcomes, on the other hand, are “the recurrent manifestation of difficulties in maintaining control and integration of behaviour across situations and different domains of development” (Bronfenbrenner & Evans, 2000, p. 118). In the context of migration, the competent

developmental outcome can thus be seen as successful sociocultural adaptation. It is enabled through proximal processes, where the migrant adolescent becomes acquainted and learns to navigate their way in the new cultural environment of the host country. Importantly, however, in order to succeed, the proximal processes need to be supported by the personal and contextual factors such as individual agency and supportive peer relations. Also, the pre- and post-migration events such as witnessing horrors of war or experiencing discrimination can further affect the developmental and adaptational outcomes.

Bronfenrenner's model has been utilized by researchers working in the field of migration and refugee studies, by examining the risk and protective factors for migrant and refugee children's development in multiple contexts (Dangmann et al., 2022). Reviews of refugee children's risk and protective factors based on Bronfenbrenner's ecological model have operationalized the ecological levels more tangibly as individual, familial, community, and policy-level or sociocultural systems, with risk and protective factors often representing the opposite ends of one continuum (e.g. presence of a factor representing a protective function and the absence a risk for wellbeing) (Arakelyan & Ager, 2021; Scharpf et al., 2021). On the individual level, male gender, longer residence in the new host country, good academic and adaptive coping skills, strong sense of ethnic identity, yet adoption of integrative acculturation style, and religious beliefs were considered as important protective factors, while cumulative trauma exposure and risky behaviour were considerable risk factors for mental health (Arakelyan & Ager, 2021; Scharpf et al., 2021). On the family level, supportive family relations and family cohesion, and parents' good mental health were vital for children's positive development (Arakelyan & Ager, 2021; Scharpf et al., 2021). On community level, teacher support, positive peer relations both with same-ethnicity peers and native peers served important protective functions, while discrimination presented a severe risk for development (Arakelyan & Ager, 2021). Also economic hardship and lack of sufficient health care were important risk factors, especially in more precarious contexts (Arakelyan & Ager, 2021). Finally, on policy level, access to schooling and health services provided a vital context for wellbeing (Arakelyan & Ager, 2021), while on the sociocultural level the proficiency in host country language was denoted as an important sociocultural protective factor (Scharpf et al., 2021). As this thesis lies strongly within the context of migration, the acculturation literature positioning cultural adaptation at the spotlight further provides this thesis with a valuable theoretical backdrop.

1.1.2 Acculturation and Adaptation

Acculturation can be embedded within the bioecological framework and seen as the proximal processes taking place between the migrating individual and their sociocultural environment (Figure 1). Berry's (1997) influential acculturation theory builds on the stress and coping model of Lazarus & Folkman (1984), and defines acculturation as the cultural changes that occur as two cultural groups come into prolonged first-hand contact with each other (Berry, 1997). This two-directional process then leads to adaptation both psychologically and socioculturally (Berry, 2007; Kuo, 2014). If acculturation is conceptualized as a proximal developmental process, then the adaptational outcomes can further be equated with the developmental outcomes of the bioecological theory leading to either acquisition of psychological wellbeing and good sociocultural functioning (competence) or manifestation of difficulties in these areas (dysfunction) (Bronfenbrenner & Evans, 2000). Accordingly, culture could be conceptualized as a central part of the proximal processes taking place during adaptation (Vélez-Agosto et al., 2017).

Berry (1997) has proposed four acculturation strategies that an individual may adopt when coming into contact with the new cultural surrounding. These acculturation strategies are defined through the orientation towards cultural characteristics of the new host country and the heritage culture. Berry's (1997) acculturation strategies include integration (adopting and balancing cultural characteristics of both), assimilation (adopting the cultural characteristics of the host country and rejecting the heritage culture), separation (maintaining the heritage culture and rejecting the new host culture) and marginalization (rejecting the cultural characteristics of both). Recent empirical studies have not, however, supported the four categories of acculturation; although integration, separation and assimilation are often replicated, studies do not support the existence of marginalization in real life settings (Ward & Geeraert, 2016). Reviews and meta-analyses do, however, quite consistently suggest that integration is the acculturation strategy leading to most beneficial outcomes regarding both psychological wellbeing and sociocultural adaptation (Arakelyan & Ager, 2021; Nguyen & Benet-Martínez, 2013).

Integration, however, is only possible in an environmental context that both exhibits multiculturalist attitudes and supports heritage culture maintenance. In an environment where the migrant youth encounters discrimination, integration will likely not be successful and the individual would be pushed more towards separation (Guerra et al., 2019). As schools provide an integral environment for the migrant adolescents, both the teachers, native students, as well as the migrant students, are confronted with the task of acculturation in a multiculturally diverse classroom (Lokhande & Reichle, 2019). The attitudes of the teachers and peers toward the newly arrived students are thus decisive in how supported the migrant adolescents may feel in their endeavour to integrate and adopt both the host and heritage cultures

(Geerlings et al., 2019; Ward & Geeraert, 2016). Interventions aiming at enhancing teachers' multicultural competence and peer relations within school classes may thus provide a more feasible social context for integration to take place (Mäkinen et al., 2019). Further, a school environment promoting inclusion, equity, and intercultural understanding has the potential to benefit not only the migrant students but also the wellbeing of the whole school community (Parkhouse et al., 2019; Schachner et al., 2019).

1.1.3 Resilience in Migration Framework

The protective factors in individual's development based on Bronfenbrenner's ecological theory share much resemblance to and are sometimes even used interchangeably with *resilience*, which refers to the ability to adapt and thrive despite exposure to severe hardships such as war or loss (Masten, 2021). Resilience is, however, not only an individual characteristic, nor the mere sum of protective factors. Instead, it can be defined as a dynamic and multisystemic process involving biological, psychological, social, and ecological factors that contribute to maintaining or restoring wellbeing (Ungar & Theron, 2020). Based on social ecological understanding and in accordance with acculturation theory, resilience theory emphasizes the interplay between individual and their social contexts, highlighting that in addition to individual capacities, resilience depends on the quality and capacity of the environment to facilitate growth (Berry et al., 2006; Kuo, 2014; Masten, 2021; Ungar, 2013).

The resilience-building factors that may explain diverse mental health outcomes after adversity largely overlap with the protective factors on individual, family, community, and policy levels outlined in the ecological models (Figure 1). Masten et al. (2021) have proposed a shortlist of resilience factors that appear consistently across diverse cultural contexts and are thought to promote wellbeing universally, as they likely represent fundamental adaptive systems. These resilience factors include for example social connectedness and sense of belonging, optimism, meaning and agency, self-efficacy or collective efficacy, problem solving skills, and executive functioning (Masten, 2021; Masten et al., 2021). However, for environmental resources to effectively support resilience, they must hold cultural significance for the individual, as their utility is contingent upon being perceived as meaningful and valuable within the individual's cultural context (Ungar, 2013). Thus, while similar resilience factors seem relevant to all humans, culture can shape the cognitions and behaviours related to resilience. The mechanisms through which resilience buffers against stressors is also contextually bound (Ungar, 2013). For instance, maintaining a strong connection to one's heritage culture, while also adapting to the host culture, may be more vital to building the resilience and wellbeing of migrant adolescents

than for their native peers, whose cultural identity is not similarly challenged in the same context (Fazel & Betancourt, 2018; Pieloch et al., 2016; Ungar, 2013). Weine et al. (2014) have also suggested specific resilience-building mechanisms through which especially refugee adolescents' psychosocial wellbeing may be promoted, including financial resources for necessities, acquiring host country language proficiency, educational guidance, social support from family and friends, cultural adherence and religious involvement, further highlighting the importance of supportive host country context for thriving.

Both acculturation and resilience are also seen as processes of coping in reaction to stressful situations, such as acculturative stress or traumatic events (Kuo, 2014; Ungar, 2013). As resilience depends on the environments' capacity to provide culturally meaningful resources for the individual, this largely resembles acculturation as a two-way process as a means to build resilience and adaptive outcomes (Ungar, 2013). There is not a theoretical consensus in how the association of resilience and acculturation should be understood, but it has previously been conceptualized as resilience either mediating the association from acculturation to mental health (Wu et al., 2018) or successful acculturation strategies representing a resilience factor (Dangmann et al., 2022). However, Ungar and Theron (2020) claim that resilience should best be seen as a factor moderating the path between acculturative risk and mental health.

1.2 Migrant Adolescents' Wellbeing

Despite the important role of the socio-ecological factors for wellbeing, the active agency and characteristics of the individual are at the core of developmental and adaptational processes (Figure 1). In the acculturation literature the individual is also seen as actively interacting with the environment during the acculturation process, leading to different outcomes in adaptation. Similarly, resilience constitutes both individual characteristics and contextual factors that either promote or inhibit wellbeing. Mental health of migrant youth can thus be seen both as affecting the developmental and adaptational process and as an important outcome of proximal processes taking place within developmental and adaptational contexts. Next, I will provide an overview of what research shows about migrant children's and adolescents' wellbeing, characterized by their mental health symptoms as well as resilience.

1.2.1 Mental Health Problems and Resilience among Immigrant and Refugee Adolescents

A substantial body of research outlines the negative impact of migration on children's and adolescents' mental health, particularly within the European context (Dimitrova et al., 2016). Most studies report migrant children to be more susceptible to especially internalizing symptoms, such as depression and anxiety, and lower life satisfaction compared to their native counterparts (Belhadj Kouider et al., 2014; Delaruelle et al., 2021; Halme et al., 2017) due to the multitude of pre- and post-migration stressors such as language barriers, acculturative stress, socioeconomic hardship, and experiences of discrimination (Spaas et al., 2021). For the refugee and asylum-seeking children the pre-migration histories are often traumatic, rendering these youth particularly vulnerable to mental health challenges (Fazel et al., 2012; Kien et al., 2019). Refugee children having endured high levels of pre-migration traumatic events, stress, and insecurity often report heightened symptoms of post-traumatic stress disorder (PTSD), anxiety disorders, depression and externalizing symptoms (Scharpf et al., 2021).

The prevalence of mental health symptoms among refugee children in the European context has ranged between 9–32% for anxiety, 10–33% for depression, and 19–53% for PTSD (Kien et al., 2019), while the corresponding prevalence in child and adolescent population worldwide has been 6% for anxiety, and 2% for depression (Polanczyk et al., 2015) and around 4–5% for PTSD (Smith et al., 2019). Especially emotional problems have, however, shown a markedly increasing trend within recent years among all children and youth (Armitage et al., 2024). Among migrants, the severity of mental health challenges and the ability to recover from them are, however, shaped by multiple socio-ecological and resilience factors both pre- and post-migration (Dangmann et al., 2022; Delaruelle et al., 2021).

Individuals exhibit varied responses to psychological distress. Internalizing symptoms, such as depression and anxiety, reflect inward-focused distress, while externalizing symptoms involve outward behaviours like aggression and disinhibition (Krueger & Markon, 2014; Schleider & Weisz, 2017). Research indicates that girls are generally more susceptible to internalizing problems, whereas boys are more likely to display externalizing behaviours (Fazel et al., 2012; Scharpf et al., 2021). While internalizing symptoms have generally been found more frequent among migrant youth compared to native youth (Belhadj Kouider et al., 2014; Kien et al., 2019), research is more inconclusive concerning externalizing symptoms. Studies concerning externalizing symptoms have found migrant youth to exhibit more, less, or equal level of symptoms compared to the native children (Belhadj Kouider et al., 2014).

Many immigrant and refugee youth face traumatic events pre-, peri- and/or post-migration, and while initial stress reactions such as anxiety and nightmares are

common, some experience also more persistent symptoms that impair daily functioning. PTSD is typically characterized by symptom clusters including intrusions, avoidance, hypervigilance, and negative cognitive alterations (American Psychiatric Association, 2022; World Health Organization, 2022). Among these, intrusions comprise the vivid re-experiencing of the traumatic memory in the here-and-now. Avoidance refers to staying away from reminders of the traumatic event and trying not to think about it. Hypervigilance includes for example the heightened awareness for threats, irritability, and sleep disturbances. Negative alterations in cognitions may include for example a persisting negative emotional state or trouble remembering some important aspects of the traumatic event. Mental health symptoms experienced by migrant youth often show high comorbidity, and avoidance, hypervigilance and negative cognitive changes are common also in other mental health conditions such as anxiety and depressive disorders (Fazel et al., 2012; Hukkelberg & Jensen, 2011; Thabet et al., 2004). Intrusions, however, have been suggested as the core symptom defining PTSD (Bar-Haim et al., 2021). These mental health challenges can hinder children's agency, participation in age-appropriate activities, and peer relationships, potentially reinforcing a cycle of developmental and social difficulties (Fazel & Betancourt, 2018).

However, wellbeing is determined by the interplay of risk and resilience factors within the different social ecologies of the individual, and resilience can safeguard children from the negative effects of exposure to extreme adversity and the challenges of migration (Dangmann et al., 2022; Wu et al., 2018). Resilience has been shown to be inversely associated with depressive symptoms, with relational support emerging as the most salient domain of resilience in mitigating depression (Dehnel et al., 2022). An inverse relationship has also been observed between resilience and both PTSD symptoms and emotional problems among refugee children, and higher levels of resilience have also been positively linked to prosocial behaviour (Veronese et al., 2021). Further, resilience has been found to mediate the effect between social relatedness or acculturation strategies and wellbeing (Khawaja et al., 2014; Wu et al., 2018).

1.2.2 Person-Centred Approach to Studying Wellbeing: Two Continua Model

Contemporary understanding of wellbeing emphasizes it as more than the absence of mental health symptoms, viewing it instead as a dynamic interplay between individual strengths and vulnerabilities shaped by multiple contextual influences. Further, resilience theory outlines that resilience and mental health symptoms can coexist, rather than mental health difficulties simply reflecting a lack of resilience (Southwick et al., 2014). Accordingly, wellbeing should best be conceptualized

through a dual-continua model, where mental health difficulties and resilience represent related, yet distinct domains of wellbeing, offering insightful ways to capture the potential diversity and dynamics within wellbeing domains of migrant youth (Keyes, 2006; Moore et al., 2019; Westerhof & Keyes, 2010).

Research on immigrant and refugee wellbeing has traditionally been focused on variable-centred methods examining the associations between different mental health symptoms or (to lesser extent) resilience and the socio-ecological factors explaining their variation. However, these methods assume homogenous study populations and do not allow the examination of simultaneous manifestation of both symptoms and resilience within the same individuals (Andersson et al., 2024). Therefore, a person-centred approach can provide valuable understanding into the heterogeneity of wellbeing among immigrant and refugee children and the interplay between mental health symptoms and resilience.

The study by Kassis et al., (2021) utilizing person-centred methodology to explore the wellbeing of migrant and native adolescents, identified distinct profiles based on mental health symptoms and psychosocial resources, reflecting high, medium, and low levels of wellbeing with mainly quantitative differences. Other studies among general adolescent samples identified also more nuanced patterns, including profiles where high symptoms coexisted with high resources (Janousch et al., 2022; Moore et al., 2019). Among refugee adolescents, latent profile analyses have also revealed diverse subgroups shaped by factors such as trauma exposure, self-regulation, and post-traumatic growth (Aber et al., 2024; Ryu et al., 2024). Notably, the results indicate that individuals with similar trauma exposure may show divergent outcomes depending on resilience-related factors like family support and personal characteristics (Alisic et al., 2014). These findings thus suggest that mental health symptoms and resilience can co-occur in complex ways also among migrant youth, but current research evidence is limited and lacks understanding of how PTSD symptoms may interplay with resilience. This underscores the need for further investigation that also accounts for the varied migration experiences of immigrant and refugee youth. The identification of distinct wellbeing subgroups and examining associated features might enable professionals to develop more targeted and differentiated interventions that better address the individual needs of the most vulnerable adolescents (Andersson et al., 2024; Howard & Hoffman, 2017).

1.3 School as a Developmental Context

Schools provide an important context of the microsystem, restricted and affected by societal macro-level distribution of resources and migration policies, that determine the extent of support they can offer for the migrant students (Figure 1). Yet, positive support from teachers and other staff, as well as peers, can play a crucial role in

promoting mental wellbeing among migrant adolescents (Bennouna et al., 2019; Dangmann et al., 2022). Schools serve as a daily environment where migrant children are introduced to the cultural norms and practices of their new society, offering first-hand exposure to the host culture. Within this context, a safe and supportive school climate, coupled with access to meaningful educational opportunities, can play a pivotal role in fostering resilience and promoting successful integration. Given that developmental processes such as acculturation are inherently bidirectional, the responsibility for adaptation does not rest solely with migrant children. Host societies must also engage in reciprocal efforts by revising policies, rethinking educational practices, and reshaping societal attitudes to more effectively support the inclusion and wellbeing of migrant populations. Schools can thus promote the wellbeing and integration of the migrant students through the societal levels by providing multiculturally oriented policies, but also by supporting the proximal processes in the microsystem. This can be promoted for example by implementing interventions directed at improving peer relations and supporting feelings of belonging, or by promoting the multicultural competence and attitudes of the teachers.

1.3.1 Role of Teachers

Teachers, often among the first representatives of the host culture that migrant children encounter, are instrumental in helping them feel seen, valued, and welcomed in their new home. This is especially important as migrant students are more likely to report lower levels of school satisfaction and sense of belonging (Rodríguez et al., 2020), experience lower teacher expectations (Glock et al., 2013), and tend to underachieve academically compared to their native peers (OECD, 2023). The stand teachers take toward their migrant students can be decisive in creating a more supportive and tolerant classroom atmosphere, as teachers' explicit non-tolerance toward ethnic victimization can set an example for all students to judge discrimination (Bayram Özdemir et al., 2022). The teachers' attitudes toward multiculturalism can play a meaningful role in promoting integration and attenuating the inequality between migrant students and their peers (Celeste et al., 2019).

The increasing multiculturalism in classrooms poses new demands for the teachers, requiring them to adapt their instructions to effectively meet the diverse needs and backgrounds of students from varying ethnic and academic contexts. Multicultural awareness describes a teacher's awareness of, comfort with and sensitivity to cultural pluralism among their students (Ponterotto et al., 1998). This awareness is closely associated with bidirectional acculturation, as it enables the creation of a more inclusive and supportive school climate, which in turn can positively influence the adjustment and wellbeing of migrant students. Positive

multicultural attitudes further refer to the appreciation of cultural diversity within the classroom and actively addressing diversity-related topics in their instructional practices (Abacioglu et al., 2020).

Research has shown that a higher level of multicultural awareness is positively linked to teachers' self-efficacy in managing culturally diverse classrooms (Gutentag et al., 2018), i.e. the teachers' belief in their capacity to induce positive changes in students (Tschannen-Moran & Hoy, 2001). Self-efficacy is suggested to derive from four different sources of information; mastery experiences, vicarious experiences, verbal persuasion, and physiological and affective states (Bandura, 1977). Of these sources of self-efficacy, mastery experiences have been suggested as the most potent in increasing teacher self-efficacy (Pfitzner-Eden, 2016). Given that multicultural awareness is essential for cross-cultural communication, it can provide teachers with more successful encounters and understanding towards their migrant students and thereby provide them with mastery experiences, supporting their self-efficacy (Parkhouse et al., 2019). Self-efficacy can also be viewed as a teacher's individual-level resilience-building characteristic, predicting for example better academic adjustment and motivation of students, being more capable of creating a warm classroom climate, having higher job satisfaction (Lent & Brown, 2006; Zee & Koomen, 2016), and higher work enthusiasm (Hachfeld et al., 2015). Lower self-efficacy, on the other hand, has been associated with increased stress and burnout (Skaalvik & Skaalvik, 2014; Zee & Koomen, 2016). Teachers who are multiculturally aware, confident in their abilities, and engaged in their work are thus better positioned to deliver effective teaching and foster student wellbeing (Gutentag et al., 2018; Zee & Koomen, 2016).

The teacher's role is, however, also affected by the class type they teach. Teachers of reception classes for newly arrived immigrant and refugee students may be more focused on integration and language acquisition of their students, while teachers of multi-ethnic mainstream classes have a greater focus on the curriculum. The demand to adapt teaching to migrant students is at the core of teaching reception classes, and the teachers gain continuous experience on multicultural encounters. However, as multiculturalism in also mainstream classes keeps on increasing, it is ever more important to consider how to support teachers' awareness of cultural diversity and their wellbeing in the midst of daily demands. An important, yet underexplored question is whether multicultural awareness and more positive multicultural attitudes among teachers associate with their self-efficacy and overall wellbeing. A more thorough understanding on these interrelations could provide an informed basis for planning effective teacher training programs. Further, improvements in teacher wellbeing may not only benefit teachers themselves, but could also positively influence students through the attitudes and behaviours that teachers model in the classroom.

1.4 Psychosocial School Interventions as Catalysts of Positive Development

Informed by the ecological perspectives, psychosocial interventions provided in the school context should be provided holistically at multiple levels of the child's ecologies and support the proximal processes between the actively engaging individual and their families, communities and institutions (Arakelyan & Ager, 2021; Dangmann et al., 2022). A multi-tiered approach to school-based interventions, ranging from universal promotive strategies to classroom-level preventive measures and individualized targeted support, offers a flexible framework for addressing the diverse needs of students (Bennouna et al., 2019; Inter-Agency Standing Committee, 2007). Promotive interventions, such as teacher training in multicultural awareness and the impact of trauma on learning, have been shown to enhance both feelings of connectedness and academic test scores of migrant students (Parkhouse et al., 2019). Preventive strategies, including efforts to strengthen peer support and foster a sense of belonging, also show promise in supporting positive psychosocial outcomes among migrant youth (Bennouna et al., 2019; Fazel & Betancourt, 2018). At the targeted level, interventions employing cognitive-behavioural techniques have demonstrated particular effectiveness in reducing symptoms of depression and PTSD among trauma-affected refugee and immigrant children (Bennouna et al., 2019). However, only a few studies have evaluated the effectiveness of multi-tiered intervention programs, and especially understanding on the effectiveness of universal and promotive teacher and peer group interventions on migrant students' wellbeing is lacking.

Thus, multi-tiered school interventions represent a promising avenue for promoting the wellbeing of broad student populations, while ensuring that additional resources are directed to those most in need. From the perspective of ecological systems theory, such interventions can be understood as catalysts for proximal processes; mechanisms through which individuals interact with their environments to increase more successful and competent adaptational outcomes (Figure 1). Moreover, these interventions may serve as moderating factors that enhance the quality of interactions between students and their surrounding systems. Importantly, the systemic nature of this framework suggests that the benefits of school-based interventions may extend beyond the individual, potentially influencing other layers of the ecological system through interconnected proximal processes (Arakelyan & Ager, 2021).

From the perspective of the acculturation framework, both promotive and preventive interventions play a vital role in supporting successful integration. Importantly, these interventions should not be viewed as benefiting only migrant students. Many teachers report feeling unprepared to deliver multiculturally aware teaching (Parkhouse et al., 2019; Romijn et al., 2021), highlighting a broader need

for professional development in multicultural competence. Enhancing teachers' cultural awareness and pedagogical skills can foster more inclusive and supportive learning environments, which in turn facilitate the integration and academic success of migrant students. At the same time, such training can strengthen teachers' own sense of professional efficacy and wellbeing, potentially increasing job satisfaction and reducing the intention to quit the profession (Mérida-López et al., 2022; Zee & Koomen, 2016).

Promotive interventions that encourage positive peer relationships in multiethnic mainstream classrooms can further serve as catalysts for two-way acculturation. These interactions allow native students to develop a deeper appreciation for human diversity and to view cultural differences as enriching rather than divisive. Simultaneously, migrant students gain opportunities to feel accepted and valued, which supports their sociocultural adaptation and sense of belonging. Research suggests that fostering an inclusive and culturally affirming classroom climate benefits all students, regardless of migration background (Schachner et al., 2019). In contrast, targeted interventions focus more directly on strengthening individual-level resources such as agency and coping skills in managing psychological stress and adversity. When implemented effectively, school-based interventions can generate positive outcomes across multiple levels: empowering teachers, supporting both migrant and native students, and promoting a more cohesive and inclusive school community.

1.4.1 The RefugeesWellSchool Project

Given the evident need of supporting migrant children's mental health and the intertwined nature of wellbeing, integration, teacher support and positive interethnic peer-relations, the RefugeesWellSchool project (2017-2022) was launched to study the effectiveness of school-based psychosocial interventions for increasing the wellbeing of immigrant and refugee youth (RefugeesWellSchool, 2021). This Horizon 2020 funded study was conducted as a European collaboration between seven European institutes in six countries; Belgium, Denmark, Finland, Norway, Sweden, and the United Kingdom. In Finland the participating institute was Tampere University where I conducted my doctoral studies from 2018 until the finalization of the project in 2022.

Within the RefugeesWellSchool project, five distinct school-based psychosocial interventions were implemented, each grounded in different theoretical frameworks and designed for varied target groups, with unique components and delivery methods. One of the interventions focused on enhancing teachers' multicultural awareness and pedagogical practices. This training, the In-service Teacher Training (INSETT), included modules on trauma, mental health, learning processes, and

collaboration between schools and families (Pastoor, 2019). Three interventions were designed to strengthen students' wellbeing at classroom level and they were delivered through participatory activities facilitated either by teachers or trained therapists. Of these interventions, the Peer Integration and Enhancement Resource (PIER) intervention aimed at fostering safe peer interactions in multi-ethnic school settings by organizing collaborative groups of students from both migrant and native backgrounds, with the aim to strengthen students' sense of school belonging and encourage meaningful dialogue between majority and minority groups through shared activities (Watters et al., 2021). The Welcome to School Initiative aimed to foster migrant youths' self-esteem, strengthen coping mechanisms, and promote the development of social skills and behavioural adjustment through teacher-led sessions (Tuk & de Neef, 2020). The Classroom Drama intervention engaged refugee and immigrant adolescents in collaborative storytelling activities that support identity formation and meaning-making, with the aim to bridge past and present experiences to foster social integration through creative expression (Plurality Theater team ÉRIT, 2010). The fifth intervention of the RefugeesWellSchool project was a targeted cognitive-behavioural group program Teaching Recovery Techniques (TRT), aimed at students experiencing posttraumatic stress symptoms (Smith et al., 2002). For more detailed information on the interventions and their manuals, please see <https://refugeeswellschool.org/manuals/>.

Each participating country implemented two or three of these interventions. In Finland, three interventions were implemented and divided into two arms. The first intervention arm included the teacher training, In-service Teacher Training (INSETT) coupled with the cognitive-behavioural group treatment Teaching Recovery Techniques (TRT), and second intervention arm composed of the peer-group intervention Peer Integration and Enhancement Resource (PIER). These interventions, embedded in the multi-tiered approach to providing psychosocial support, are presented in Figure 2.

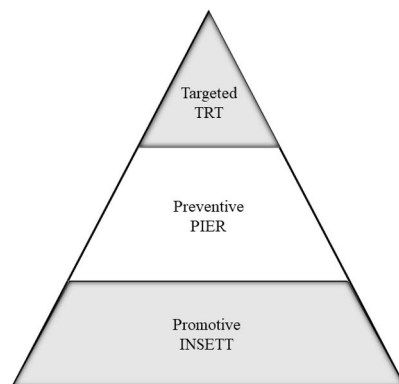


Figure 2. Psychosocial school interventions of the RefugeeWellSchool project implemented in the Finnish context and embedded in the multi-tiered approach to providing psychosocial support. *Note.* The shaded interventions belong to the same intervention arm.

In the first intervention arm the promotive teacher intervention (INSETT; Pastoor, 2019) was developed to enhance teachers' competencies in supporting the mental health and wellbeing of refugee and immigrant students. The program aimed to increase teachers' mental health literacy, promote positive interethnic relationships, and strengthen collaboration with families. These objectives align with the concept of acculturation as a reciprocal process, wherein teachers are encouraged to reflect on and adapt their attitudes and practices to better accommodate newly arrived students and facilitate their integration. In line with the recommended multi-tiered approach to service provision, INSETT was coupled with the targeted TRT intervention for students exhibiting post-traumatic stress symptoms, developed by the Children and War Foundation (Smith et al., 2002). TRT is a trauma-focused cognitive behavioural therapy (tf-CBT) group program designed for students exhibiting symptoms of post-traumatic stress. It aimed to reduce trauma-related distress and enhance students' coping skills, thereby supporting their psychological recovery and overall adjustment.

In the second intervention arm, the preventive PIER intervention (Watters et al., 2021) was implemented in multiethnic mainstream classrooms that included both native and migrant students. PIER aimed to foster safe, inclusive, and supportive peer relationships through structured group activities. These exercises focused on enhancing students' sense of belonging, cultivating empathy, encouraging mutual learning, and promoting the exchange of social support. Grounded in the acculturation framework, the intervention emphasized the importance of peer relationships in mitigating the negative effects of acculturative stress. By facilitating

the development of meaningful social bonds, PIER sought to promote psychological wellbeing and support the broader integration process for migrant students, while also enriching the social experiences of all participants.

2 Aims of the Study

The overall aim of this thesis was to deepen the understanding on how individual and contextual factors interplay and influence the wellbeing of migrant youth, and offer new insights into the role of teachers and psychosocial interventions in multicultural school settings. Current research has largely focused on variable-centred methodology assessing migrant children's mental health, ignoring the possibility of simultaneous manifestation of both symptoms and resilience within the same individuals (Andersson et al., 2024). Study I of the thesis thus aims to fill this gap by examining the wellbeing profiles of refugee and immigrant students including both symptoms and resilience, as well as their determinants. Schools further provide a vital context for the migrant students, and teachers' multicultural attitudes, self-efficacy, and wellbeing can have a notable impact on their students. However, little is known about how these teacher characteristics are intertwined and how this information could be used in planning effective teacher training programs. Thus, Study II aims to increase understanding on the association of these teacher perspectives. Finally, schools provide a feasible and easy-to-reach context for implementing psychosocial interventions, and although the multi-tiered provision of support is increasingly recommended, there are only a handful of studies evaluating the effectiveness of these multi-layered intervention models. Accordingly, in Study III a design for a multi-layer intervention model is presented, and Study IV evaluates the effectiveness of these psychosocial interventions to improve the wellbeing of youth. In line with these general aims, the specific research questions and hypotheses of the dissertation were:

1. What kind of distinct wellbeing profiles of both vulnerabilities (externalizing and internalizing symptoms, PTSD intrusion and avoidance) and resources (resilience) can be identified among immigrant and refugee adolescents across multiple countries? Further, how do demographic and contextual factors (age, gender, migration status, time in host country, discrimination, daily material stress, and social support from family and friends) associate with these profiles (Study I)? Given the sparsity of prior research, we approach both analyses exploratorily without predefined hypotheses.

2. How do teachers' multicultural attitudes associate with their wellbeing at work, defined through work exhaustion and dedication, and does self-efficacy mediate the association? Further, do the associations between multicultural attitudes, self-efficacy and work-related wellbeing differ between teachers of multiethnic mainstream education and teachers of reception classes for migrant students (Study II)? We hypothesize that teachers' positive multicultural attitudes are associated with high wellbeing at work, indicated by a low level of work exhaustion and a high level of work dedication and that this association is mediated by self-efficacy. Due to lack of previous research, we do not pose specific hypotheses concerning differences between multiethnic mainstream class and reception class teachers' multicultural attitudes, self-efficacy and wellbeing.
3. The thesis describes the research protocol (Study III) and then aims to answer, are the INSETT and PIER interventions effective in decreasing symptoms of psychological distress (internalizing and externalizing problems) and increasing positive resources (prosocial behaviour and resilience) among migrant and native Finnish adolescents (Study IV)? We hypothesize that psychological distress would decrease and positive resources would increase statistically significantly among adolescents participating in the interventions, but not in the control groups. We further ask, do adolescent-related preconditions moderate the effectiveness of the interventions (Study IV)? We hypothesize that adolescents reporting fewer daily stressors and lower perceived discrimination will exhibit greater intervention-induced improvements in mental health.

3 Method

3.1 Study Setting and Procedure

The data of this dissertation is based on the RefugeesWellSchool project (RefugeesWellSchool, 2021). Data was gathered from the participating students, teachers, and parents at three timepoints (T1-T3). The recruitment of multicultural schools in the six countries took place between January 2018 and October 2019. Baseline data (T1) was collected between January 2019 and September 2020 before implementation of interventions, with variation in timing between the countries. Recruitment methods varied by country, using municipal and national education departments in Belgium, Denmark, and Norway, and direct contact in Finland, Sweden, and the United Kingdom. In total 86 schools (Belgium n = 10; Denmark n = 28; Finland n = 16; Norway n = 21; Sweden n = 9; United Kingdom n = 2) provided data for the project.

For the participating adolescents and parents, the questionnaires were translated and back-translated into 22 languages, except in cases when there were already validated translations. In those cases, the validated translations were used instead of new translations. Adolescents independently completed the questionnaire either in paper format (Belgium, Denmark, United Kingdom) or electronically via LimeSurvey (<https://www.limesurvey.org/>) in Finland, Norway, and Sweden, during a 60-minute school lesson. Practical assistance was provided by the research team and teachers as needed. In Belgium, Norway, and Sweden, qualified interpreters supported participants with limited literacy skills. The adolescents' parents were provided the questionnaires on paper. Participating teachers completed the questionnaire in their national language, either online or on paper, following the same procedure as the students.

Each country implemented two intervention arms. In Finland, the intervention arms were INSETT+TRT and PIER, and the 16 participating schools were randomized in a parallel-group condition to either intervention arm or a waitlist-control group. The schools were first grouped based on whether they offered reception classes or not. The schools with reception classes were randomized into INSETT+TRT intervention or control groups and schools without reception classes into PIER intervention or control groups. This was due to the nature of the PIER

intervention aiming to improve interethnic collaboration, which would not be possible to implement in reception classes. The allocation aimed at equal numbers of schools in each condition. Following the randomization, eight schools were allocated into the INSETT+TRT intervention, three schools were allocated to PIER, and five schools served as waiting-list controls. In Finland, baseline T1 data were collected mainly before the implementation of the INSETT+TRT and PIER interventions between August 2019 and January 2020. The post-intervention (T2) data collection took place from February to May 2020 and the follow-up (T3) data from May to October 2020, with both T2 and T3 data collections coinciding with the onset of Covid-19 pandemic. Unfortunately, Covid-19 also compromised the implementation of the TRT intervention, and only very few TRT groups were implemented. Due to this very limited success in TRT implementation, the targeted TRT intervention could not be included in the analyses. Consequently, the successful intervention arms in the Finnish context were INSETT and PIER.

3.1.1 Ethical Considerations

Ethical approval for the RWS project was obtained from national ethics committees in all participating countries according to national regulations, and additional approval was granted by the Ethical Board of Ghent University (the coordinating institution) and the Horizon 2020 Ethical Review. All participation in the research was voluntary, and all participants were informed about the confidentiality of their responses and their right to withdraw at any time without consequences. Adolescents received written information and consent forms in their mother tongue in order to ensure that participants clearly understood the study's objectives and what their informed consent entailed. Parental consent was not required for participants over 15 years of age. For those under 15, parents or guardians received an information letter, and passive consent was applied. Teachers were also provided with informed consent forms, confidentiality information, and the option to withdraw from the study.

Further, given that RWS was situated within the context of ethnic minority research, and while the primary objective was to generate direct benefits for the participants through interventions, also power relations and the active inclusion of the target group were recognized as critical ethical dimensions of the project. These principles were acknowledged through qualitative focus group discussions with migrant adolescents both before and after the implementation of interventions. These focus groups aimed to emphasize the narratives of the migrant adolescents, particularly in relation to wellbeing and societal integration, but also to understand the lived experiences related to the interventions' strengths and weaknesses. The

qualitative data from migrant students is out of scope of this thesis, but is reported in RWS effectiveness report (RefugeesWellSchool, 2021).

3.1.2 Adolescents in Studies I and IV

Study I is based on the T1 baseline data from the participating immigrant and refugee adolescents ($n=1607$) from Belgium ($n = 595$), Denmark ($n = 271$), Finland ($n = 209$), Norway ($n = 248$), Sweden ($n = 196$), and the United Kingdom ($n = 88$). Of these adolescents, 42.3% were girls, with mean age of 15.3 years (SD 2.15). A majority of the adolescents were refugees ($n = 871$, 54.2%) and a third immigrants ($n = 546$, 34.0%). The remaining 190 (11.8%) adolescents' migration status could not be determined based on the information provided. The adolescents had resided in the host country on average for 2.6 years (SD 2.97).

Study IV is based on longitudinal data collected from native and migrant adolescents at three timepoints in 16 Finnish schools. In this study, the native students comprise all those adolescents, who have been born in Finland, regardless of their parents' country of birth. In Study IV, immigrant and refugee adolescents were grouped together as "migrants" due to insufficient sample size to analyse them as separate groups. Altogether, 995 students participated at T1 in the *INSETT intervention* schools. Of these students 106 (11%) were migrants with mean age of 14.5 years and 55% boys, and the native sample had a mean age of 13.9 years with 49% boys. Out of 684 participants in the *INSETT control schools*, 59 (9%) were migrants with mean age 14.6 years and 49% boys and the native sample had a mean age was 13.9 years with 48% boys. Among the 108 adolescents in the *PIER intervention* group, 15 (14%) were migrants and 52% were boys. The mean age was 13.6 among native students and 14.3 among migrant students. Out of 187 participants in the *PIER control* group, 24 (13%) were migrants and 40% were boys. The mean age of the PIER control participants was 13.9 years among native students and 14.2 years among migrant students.

There was substantial attrition in the sample sizes from T1 through T2 to T3. The sample size of INSETT intervention groups were for the natives $n_{T1} = 889$, $n_{T2} = 609$ and $n_{T3} = 501$, and for migrants $n_{T1} = 106$, $n_{T2} = 46$ and $n_{T3} = 62$. For INSETT control groups the sample sizes were for the natives $n_{T1} = 625$, $n_{T2} = 304$ and $n_{T3} = 191$, and for migrants $n_{T1} = 59$, $n_{T2} = 32$ and $n_{T3} = 18$. In the PIER intervention group the sample sizes were $n_{T1} = 108$, $n_{T2} = 83$ and $n_{T3} = 65$, and in the PIER control group $n_{T1} = 187$, $n_{T2} = 146$ and $n_{T3} = 116$.

3.1.3 Teachers in Study II

Study II is based on cross-sectional data from the participating 433 teachers from Belgium (n = 72), Denmark (n = 55), Finland (n = 188), Norway (n = 37), Sweden (n = 70), and the United Kingdom (n = 11). The teachers' mean age was 43.4 years, and 77% were female. All participating teachers taught secondary school grades, with 51% teaching mainstream education with migrant and native students and 49% teaching reception classes for newly arrived migrant students.

3.1.4 Interventions in Studies III and IV

The promotive teacher intervention INSETT consisted of two whole-day seminars for the participants, with individually completed online training between them. The seminars included lectures and group work on supporting migrant students' mental health, encouraging positive interethnic relationships, and fostering relationships with caregivers to promote school involvement. The online training "Providing support to refugee youth" was developed by the Augeo Foundation and was translated into Finnish (Augeo, 2020). The INSETT intervention was coupled with the targeted group intervention for students (TRT) (Smith et al., 2002). Those students who reported PTSD symptoms above the clinical cut-off were asked to take part in the TRT intervention. The TRT consisted of five group sessions including psychoeducation and skills development to cope with intrusive, arousal and avoidance symptoms of PTSD. In the Finnish context two training days were organized by qualified TRT trainers for the willing student welfare body members, such as school psychologist and school social workers, who then implemented the TRT sessions during the school days. However, due to Covid-19, only very few TRT groups were successfully implemented.

The preventive manualized classroom-level PIER intervention by Watters et al. (2021) consisted of eight sessions including group activities such as cartoon drawing, role-play, movies, and drama aiming to support safe and positive interethnic interaction between peers. Sessions also included processes of reflection on various identities, migration, and racism. These sessions were facilitated by the secondary school teachers who were provided a two-day training for the intervention. The first training day consisted of practicing each intervention session together and getting familiar with the resource material through lectures and discussion. The second day involved sharing experiences and valuable ideas to improve the intervention.

3.2 Measures

The RWS study included questionnaires for the participating adolescents, and their teachers and parents. All measures used in empirical studies (I, II, and IV) are presented in Table 1.

3.2.1 Adolescent Questionnaires

Adolescents in the RefugeesWellSchool study answered a questionnaire assessing their background information, mental health symptoms, psychosocial resources, and adverse life events (Table 1). As background information they reported their gender, age, reason for migration (e.g. fleeing war or persecution vs parents' work) and time in the host country.

The mental health symptoms measured were post-traumatic stress disorder, and internalizing and externalizing symptoms. Post-traumatic stress disorder (PTSD) was measured using the 8-item Children's Revised Impact of Event Scale (CRIES-8; Dyregrov et al., 1996) as recommended by an international consortium of experts (Krause et al., 2021). The scale has two subscales: intrusion and avoidance, each with four items. Participants rated on a four-point scale (0 = Not at all, 1 = Rarely, 3 = Sometimes, 5 = Often) how often they experienced intrusive thoughts ("Do pictures about it pop into your mind?") and avoidance behaviours ("Do you try not to think about it?"). In Study I, the reliability for the intrusion and avoidance subscales were $\alpha = .83$ and $\alpha = .80$, respectively. Internalizing and externalizing symptoms were assessed with the Strengths and difficulties questionnaire (SDQ; Goodman et al., 1998). Participants rated on a three-point scale (0 = Not true, 1 = Somewhat true, 2 = Certainly true) how well statements like "I worry a lot" or "I get very angry and often lose my temper" described them. In Study I, the reliability for the internalizing and externalizing subscales were $\alpha = .69$ and $\alpha = .62$, respectively. In Study IV, the reliability for internalizing and externalizing subscales ranged between $\alpha = .76 - .79$ for native students and $\alpha = .67 - .78$ for migrant students from T1 to T3 (please see Studies I and IV for detailed description).

Psychosocial resources measured were resilience, prosocial behaviour, and social support from family and friends. Resilience was measured using the unidimensional 12-item Child and Youth Resilience measure (CYRM-12; Liebenberg et al., 2013), which has been developed for applications in multicultural contexts (Ungar, 2008). Participants rated on a five-point scale (1 = Not at all, 2 = A little, 3 = Somewhat, 4 = Quite a bit, 5 = A lot) how well statements like "Do you feel you fit in with other peers?" described them. In Study I, the reliability for the scale was $\alpha = .76$. In Study IV, the reliability for the scale ranged from $\alpha = .85 - .86$ for the natives and $\alpha = .77 - .86$ for migrant students from T1 to T3 (please see Studies I and IV for detailed description). Prosocial behaviour was measured using

the SDQ prosocial subscale with 5 items (Goodman et al., 1998). The participants rated statements such as “I usually share with others (food, games, pens etc.)” on the three-point scale used in SDQ. In Study IV, the reliability for the prosocial scale ranged from $\alpha = .66 - .68$ for the natives and $\alpha = .68 - .78$ for migrant students from T1 to T3 (please see Study IV for detailed description). Social support from family and friends was measured using the Multidimensional Scale of Perceived Social Support (MSPSS) with eight items divided into two subscales: family support and friend support (Zimet et al., 1988). Participants rated on a four-point scale (1 = Not at all, 2 = A little, 3 = Quite a bit, 4 = A lot) how much support they received from family (e.g., “I get the emotional help & support I need from my family”) and friends (e.g., “I can count on my friends when things go wrong”). In Study I, the reliability for the family support subscale was $\alpha = .81$ and friend support subscale was $\alpha = .88$.

Adverse life events measured were discrimination and daily stressors. Discrimination was measured first by five dichotomous items asking whether the adolescent had experienced discrimination due to specific attributes (e.g., the colour of their skin, or being a refugee or immigrant). In Study IV, a dichotomous variable was then formed indicating whether the adolescent had experienced at least one type of discrimination or none. In Study I, discrimination experiences were examined with eight items of the discrimination at school and stigmatization/disvaluation subscales from the Brief Perceived Ethnic Discrimination Questionnaire (PEDQ; Brondolo et al., 2005). Participants rated on a four-point scale (1 = Never, 2 = Sometimes, 3 = Often, 4 = Always) how often they experienced discrimination, such as “Have you been treated unfairly by classmates?”. The reliability for the scale was $\alpha = .78$ (Study I). The Daily material stress due to lack of sufficient nutrition, clothing, money, healthcare, and general feeling of security was measured using six items from the unpublished Daily Stressors Scale for Young Refugees (DSSYR) by Vervliet et al. Participants rated on a four-point scale (1 = Never, 2 = Sometimes, 3 = Often, 4 = Always) how often they lacked resources like “an ok place to live” or “enough medical care.” In Study I, the reliability for the scale was $\alpha = .85$.

3.2.2 Teacher Questionnaires

Teachers in the RefugeesWellSchool study answered a questionnaire assessing their background information, multicultural attitudes, self-efficacy, and experiences of burnout and work engagement (Table 1). As background information the teachers answered questions on their age (years), gender (male/female/other), and class type, i.e., whether they taught a mainstream education class with migrant and native students or a reception class for immigrant and refugee students.

The multicultural attitudes were measured using the 20-item Teacher Multicultural Attitudes Scale (TMAS; Ponterotto et al., 1998). TMAS is a

unidimensional scale comprising of 13 positively worded questions (e.g., “I find teaching a culturally diverse student group rewarding”) and 7 negatively worded questions (e.g., “Today’s curriculum gives undue importance to multiculturalism and diversity”). Teachers answered to which extent they agreed with the statements about their teaching on a 5-point scale (ranging from 1 = Strongly disagree to 5 = Strongly agree). In Study II, the reliability of the scale was $\alpha = 0.79$.

Teacher self-efficacy was measured using the short 12-item version of the Teachers’ Sense of Efficacy Scale (TSES; Tschannen-Moran & Hoy, 2001). TSES covers three subscales with dimensions touching on Efficacy for student engagement (e.g. “How much can you do to get students to believe they can do well in schoolwork?”), Efficacy for instructional strategies (e.g. “To what extent can you provide an alternative explanation or an example when students are confused?”), and Efficacy for classroom management (e.g. “How much can you do to control disruptive behaviour in the classroom?”). Each subscale was measured with four items, each assessed using a 9-point scale (anchoring at 1= Nothing, 3 = Very little, 5 = Some influence, 7 = Quite a bit, and 9 = A great deal). In Study II, the reliability for the total TSES scale was $\alpha = 0.86$.

Experiences of burnout were measured with five items using the work exhaustion subscale of the Bergen Burnout Inventory (BBI; Näätänen et al., 2003). The complete inventory has 15 items measuring three different dimensions: work exhaustion, cynicism toward work, and sense of inadequacy at work, with five items for each dimension. The exhaustion subscale includes statements such as “I often sleep poorly because of the situation at work”. The teachers estimated how well the statements described their workload or current work situation using a 6-point scale (ranging from 1 = Completely disagree to 6 = Completely agree). In Study II, the reliability was $\alpha = 0.85$.

Work engagement was measured with five items of the dedication subscale of the Utrecht Work Engagement Scale (UWES; Schaufeli et al., 2002). The complete UWES is a 17-item self-report covering subscales of vigour, dedication, and absorption. The dedication dimension includes statements such as “I find the work that I do full of meaning and purpose”. The teachers estimated how often the statement described their feelings about their work using a 7-point scale (ranging from 1 = Never to 7 = Always; original scale from 0 to 6). In Study II, the reliability was $\alpha = 0.83$.

3.2.3 Parent Questionnaires

Parents in the RefugeesWellSchool study answered a questionnaire assessing their background information, health and mental health, self-efficacy in parenting, social support, and perceived discrimination. However, the response rate for the parental

questionnaires was very low and due to this the parental responses could not be used in the effectiveness study (Study IV) as planned and outlined in the study protocol (Study III).

Table 1. Measures used in empirical studies.

TARGET GROUP AND CONSTRUCT	MEASURE	SUBSCALE/TOTAL SCALE	STUDY
ADOLESCENTS			
PSYCHOLOGICAL SYMPTOMS AND STRENGTHS	Strengths and difficulties questionnaire (SDQ; Goodman et al., 1998)	Internalization (emotional problems)	I & IV
		Externalization (conduct problems and hyperactivity/inattention)	I & IV
		Prosocial behaviour	IV
PTSD SYMPTOMS	Children's Revised Impact of Event Scale (CRIES-8; Dyregrov et al., 1996)	Intrusion	I
		Avoidance	I
RESILIENCE	Child and Youth Resilience measure (CYRM-12; Liebenberg et al., 2013)	Total scale	I & IV
DAILY MATERIAL STRESS	Daily Stressors Scale for Young Refugees (DSSYR; Vervliet et al., unpublished)	Total scale	I & IV
DISCRIMINATION	Brief Perceived Ethnic Discrimination Questionnaire (PEDQ; Brondolo et al., 2005)	Exposure to discrimination	IV
		Discrimination at school and stigmatization/disvaluation	I
SOCIAL SUPPORT	Multidimensional Scale of Perceived Social Support (MSPSS; Zimet et al., 1988)	Social support from family	I
		Social support from friends	I
TEACHERS			
MULTICULTURAL ATTITUDES	Teacher Multicultural Attitudes Scale (TMAS; Ponterotto et al., 1998)	Total scale	II
TEACHING SELF-EFFICACY	Teachers' Sense of Efficacy Scale (TSES; Tschannen-Moran & Hoy, 2001)	Total scale	II
WORK EXHAUSTION	Bergen Burnout Inventory (BBI; Näätänen et al., 2003)	Exhaustion	II
WORK DEDICATION	Utrecht Work Engagement Scale (UWES; Schaufeli et al., 2002)	Dedication	II

Note. The non-empirical Study III additionally outlines the use of the following adolescent scales in the intended analyses that could not be executed in Study IV due to low number of participants; school belonging (The psychological sense of school membership; Goodenow, 1993) and interethnic friendships and satisfaction with friendships (items developed for the RWS study).

3.3 Statistical Analyses

The analyses for Study I were conducted with Mplus version 8.4 (Muthén & Muthén, 1998) and using the `mplus.lca` function from the *misty* package in R (Yanagida, 2024) which generates Mplus input files for conducting the analyses. The analyses in Study II were conducted using Mplus version 8.4 (Muthén & Muthén, 1998). In Study IV the analyses were conducted with Mplus 8.0 software (Muthén & Muthén, 1998). In addition, descriptive statistics were examined in each study using IBM SPSS Statistics 27 or 29.

3.3.1 Exploring Adolescents' Wellbeing Profiles and Their Determinants in Study I

First, a Latent Profile Analysis (LPA) was conducted to identify distinct wellbeing profiles within the sample. Then, the three-step procedure with BCH weights was used to examine mean differences between these profiles regarding the demographic and contextual determinants. To determine the optimal number of profiles, models ranging from $k = 2$ to $k = 8$ profiles were estimated. The profile indicators (externalization, internalization, PTSD-intrusion, PTSD-avoidance, and resilience) were standardized to reflect deviations from the sample mean (Turunen et al., 2024). To select the optimal latent profile model, we combined statistical indicators with theoretical considerations of interpretability and parsimony. The model with the lowest Akaike information criterion (AIC), Bayesian information criterion (BIC), and sample size-adjusted BIC (aBIC) values was considered the best relative fit. In addition, Lo-Mendell-Rubin likelihood ratio test (LMR-LRT), Lo-Mendell-Rubin adjusted LRT test (A-LRT), entropy values to measure classification accuracy, and profile prevalence (i.e., dismissing profiles with less than 5% of participants) were used to select the best model. All analyses were performed using the maximum likelihood estimation with robust standard errors (MLR).

Then, the three-step procedure with BCH weights was applied to examine mean differences between these profiles regarding the demographic and contextual determinants. BCH weighting adjusts for the downward bias in the SEs and avoids shifts in latent class in the final stage (Asparouhov & Muthén, 2021; Nylund-Gibson et al., 2019) and is robust to nonnormality in the outcome variables (Bakk & Vermunt, 2016). This approach was chosen for its ability to handle both categorical and continuous variables (Vermunt, 2010). To account for familywise error rates for multiple hypothesis tests, Holm's Sequential Bonferroni Procedure was followed separately for each outcome (Holm, 1979). All variables considered were unstandardized. Missing data was handled using the Full Information Maximum Likelihood (FIML) (Muthén & Muthén, 1998-2017). For more detailed description on analyses, please see Study I.

3.3.2 Analysing Teacher Characteristics in Study II

The direct effects between teacher multicultural attitudes and work-related wellbeing and the mediating role of self-efficacy in these paths were analysed using structural equation modelling (SEM). Then, the possible moderating effect of teachers' experience of teaching either reception classes or multiethnic mainstream classes was examined on the direct and mediated associations. SEMs were fitted to the data using MLR estimation and model fit was assessed using the chi-square test statistic and p-value, and fit indices with the following criteria: Root Mean Square Error of Approximation (RMSEA) value below .06 a good fit (Hu & Bentler, 1999) and below .08 an acceptable fit (Schreiber et al., 2006), Standardized Root Mean Square Residual (SRMR) value below .08 an acceptable fit (Hu & Bentler, 1999), Comparative Fit Index (CFI) and Tucker-Lewis Index (TLI) values above .95 a good fit and above .90 an acceptable fit (Brown, 2015; Hu & Bentler, 1999). The indirect paths were estimated using the MODEL INDIRECT command in Mplus that employs the Delta method to estimate the standard errors (MacKinnon, 2008). To account for the hierarchical structure of our complex survey data, nested within 83 schools, we specified schools as clusters using the TYPE = COMPLEX command. Missing data was considered in the analyses using FIML.

3.3.3 Planned Effectiveness Analyses in Study III

The study protocol (Study III) describes a design for testing the effectiveness of two intervention arms of the RWS study before the finalization of data collection; 1) promotive In-Service Teacher Training (INSETT) combined with targeted cognitive-behavioural treatment-based Teaching Recovery Techniques (TRT), and 2) a classroom-focused preventive intervention Peer Integration and Enhancement Resources (PIER). The main analyses were set to explore whether the interventions are effective in decreasing psychological distress (internalization and externalization) and increasing positive resources (prosocial behaviour and resilience) among refugee, immigrant, and native Finnish adolescents. Depending on the complexity of the final model specifications, either sum scores as manifest variables or latent constructs were planned to be used in the analyses. The core method of analysis was expected to be a version of a latent growth curve model.

Additionally, Study III describes a design for analyzing which adolescent- and school-related factors could mediate the possible beneficial intervention induced changes. In other words, we hypothesized that INSETT intervention would increase teachers' multicultural awareness, sense of self-efficacy, and wellbeing which in turn would associate with decreased psychological distress and increased positive resources of the adolescents. For the TRT intervention, we hypothesized that TRT intervention would decrease participants' PTSD symptoms, which in turn would lead

to decreased psychological distress and increased positive resources of the adolescents. In the PIER intervention, we hypothesized that PIER intervention would increase adolescents' social support, feeling of belongingness, and quality and number of friendships, which in turn would lead to decreased psychological distress and increased positive resources of the adolescents.

Finally, the protocol presents a design for analyzing how parent- and adolescent-related factors possibly moderate the intervention effectiveness, i.e. which groups the interventions are most beneficial to. The hypothesis was that good parental mental health and parents' high sense of competence and confidence in parenting would be associated with a positive intervention induced change in adolescents' wellbeing. Concerning adolescent-related moderation, the hypothesis was that adolescents who report low frequency of daily stressors and low perceived discrimination would show more positive intervention-induced change in their wellbeing.

3.3.4 Examining Intervention Effectiveness and Moderators in Study IV

Due to problems in implementation and insufficient sample size, the analyses could not be carried out exactly as planned in Study III (for more detailed description, please see also Results section 4.3). Nevertheless, the interventions' effectiveness was analysed using unstructured growth curve model (GCM) with individually varying timepoints of observation due to the substantial range in the response times in each timepoint. Unstructured GCM was used instead of traditional GCM, because it has produced less biased results in several simulation studies with varying timepoints of observation (Aydin et al., 2014; Coulombe et al., 2016). Latent growth parameters were estimated using the robust maximum likelihood estimator (MLR), which accommodates missing data without requiring imputation and enables reliable analysis of non-normally distributed continuous indicators.

Due to the small number of participating schools, analyses were conducted between students. The effectiveness of the interventions was analysed separately for native and migrant students in the INSETT intervention, but with the total sample in the PIER intervention due to low number of especially migrant participants. However, the sample sizes of the migrant groups also in the INSETT intervention and control groups were rather small ($n_{T1} = 106$ and 59 ; $n_{T2} = 46$ and 32 ; $n_{T3} = 62$ and 18 , respectively) and therefore the results should thereby be interpreted with caution.

4 Results

4.1 Wellbeing Profiles of Immigrant and Refugee Adolescents and their Determinants (Study I)

Figure 3 presents the best fitting 4-profile model of the wellbeing profiles. All profile indicator variables were standardized, so each measure in Figure 3 represents the degree to which it was below or above the average sample mean. The profiles were then labelled to describe their most distinguishable characteristics based on the indicator variables' statistically significant differences from sample mean (for more details, please see table 3 in Study I). Results revealed four distinct wellbeing profiles: 1) *Low Symptoms* profile (49.7%, n = 791) was characterized by below-average levels of all mental health symptoms (externalizing, internalizing, PTSD-intrusion, and PTSD-avoidance) and average resilience. 2) *High symptoms with intrusion* profile (10.6%, n = 169) was marked by elevated levels of all mental health symptoms, especially intrusive PTSD symptoms, while resilience remained average. 3) *Moderate symptoms* profile (26.9%, n = 428) displayed moderately elevated mental health symptoms across domains and slightly below-average resilience. 4) *Resilient avoidant* profile (12.8%, n = 203) showed low levels of externalizing, internalizing, and intrusive PTSD symptoms, but high PTSD-avoidance and above-average resilience.

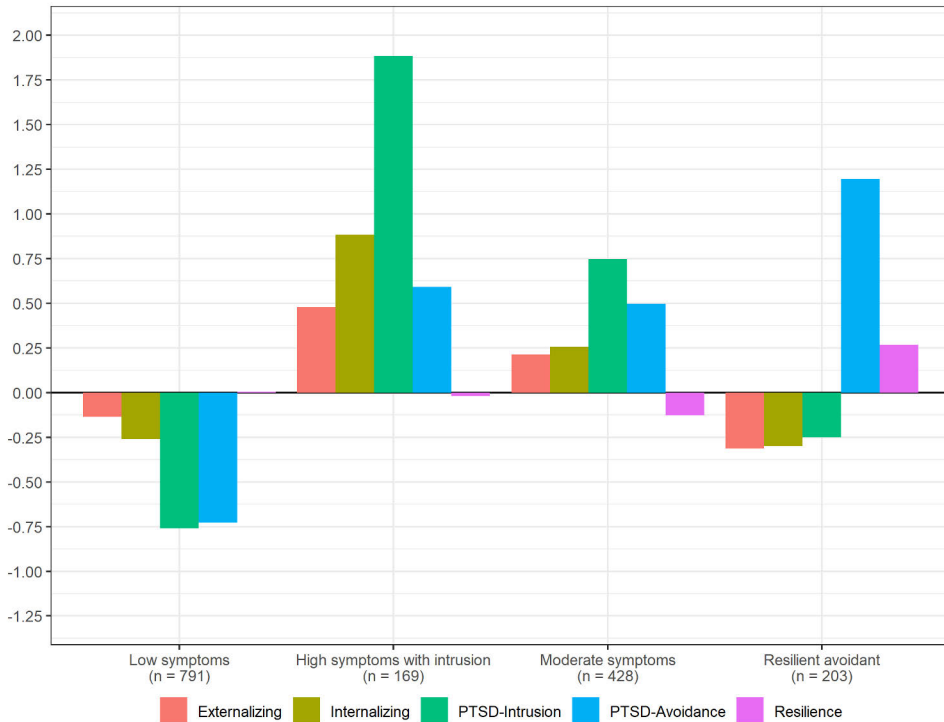


Figure 3. The four wellbeing profiles with externalizing symptoms, internalizing symptoms, PTSD-intrusion, PTSD-avoidance, and resilience identified in the LPA, presented as standardized z-scores. [Figure reproduced from: Aalto et al. (2025). Patterns of Mental Health Problems and Resilience among Immigrant and Refugee Adolescents: A Latent Profile Analysis. *European Journal of Psychotraumatology*, 16(1). Licensed under CC BY-NC 4.0]

Table 2 displays the mean differences in demographic and contextual variables across the wellbeing profiles. Age was significantly associated with profile membership ($\chi^2 = 43.515$, $p < .001$), with adolescents in the Low symptoms profile being younger than those in the more symptomatic profiles (High Symptoms with Intrusion and Moderate symptoms). Gender distribution was not significantly different between the profiles. Migration status was significantly associated with profile membership ($\chi^2 = 28.268$, $p < .001$), with a higher proportion of immigrants (as opposed to refugees) in the Low Symptoms group compared to the other profiles. Similarly, length of residence in the host country was significantly related to profile membership ($\chi^2 = 38.864$, $p < .001$), as those in the Low Symptoms profile had lived in the host country longer than their peers in other profiles.

Significant differences also emerged between profiles in relation to daily stress ($\chi^2 = 15.902$, $p = .001$) and experiences of discrimination ($\chi^2 = 23.698$, $p < .001$). Adolescents in the Low symptoms profile reported fewer daily stressors than those

in the High symptoms with intrusion profile, which in turn reported more stressors than the Moderate symptoms and Resilient avoidant profiles. Regarding discrimination, the Low symptoms group experienced less discrimination than both symptomatic groups (High symptoms with intrusion and Moderate symptoms). The Resilient avoidant profile reported less discrimination than the High symptoms with intrusion group. Additionally, family social support was significantly associated with profile membership ($\chi^2 = 27.990$, $p < .001$). The Resilient avoidant group reported higher levels of familial support than the more symptomatic groups (High symptoms with intrusion and Moderate symptoms). The Low symptoms group also reported more family support than the High symptoms with intrusion group. No significant differences were found between profiles in terms of support from friends.

Table 2. Differences between wellbeing profiles in demographic and contextual factors.

	1: Low symptoms M (SE)	2: High symptoms with intrusion M (SE)	3: Moderate symptoms M (SE)	4: Resilient avoidant M (SE)	Significant post-hoc differences^b
Gender (% girls)	0.41 (0.02)	0.54 (0.04)	0.42 (0.03)	0.46 (0.04)	
Age	14.89 (0.08)	15.80 (0.18)	15.67 (0.11)	15.40 (0.19)	1<2,3
ReMi (% immigrant)	0.46 (0.02)	0.32 (0.04)	0.34 (0.03)	0.25 (0.04)	1>2, 3, 4
Time (years)	3.19 (0.13)	2.08 (0.23)	2.23 (0.15)	1.96 (0.19)	1>2, 3, 4
Daily stress ^a	3.53 (0.03)	3.36 (0.06)	3.43 (0.04)	3.60 (0.05)	1>2; 2, 3<4
Discrimination	1.40 (0.02)	1.59 (0.05)	1.51 (0.03)	1.40 (0.04)	1<2, 3; 2>4
Family social support	3.54 (0.02)	3.40 (0.06)	3.35 (0.04)	3.64 (0.05)	1>3; 2, 3<4
Friend social support	3.07 (0.03)	2.85 (0.08)	2.91 (0.05)	3.07 (0.07)	-

Note. ^a Higher values represent less stress; ^b significant differences at $p < 0.05$ level in a BCH weighted mean difference test with Holm's Bonferroni-adjusted p -value (6 comparisons/outcome); M = Arithmetic mean; SE = Standard error [Table reproduced from: Aalto et al. (2025). Patterns of Mental Health Problems and Resilience among Immigrant and Refugee Adolescents: A Latent Profile Analysis. *European Journal of Psychotraumatology*, 16(1). Licensed under CC BY-NC 4.0]

4.2 Multicultural Attitudes, Self-Efficacy, and Wellbeing among Mainstream and Reception Class Teachers (Study II)

Teachers' positive multicultural attitudes were significantly associated with higher level of work dedication ($\beta = .30$, $p < .001$), but not with lower work exhaustion ($\beta = -.11$, $p = .189$) (for more details on measurement fits, please see the original

publication of Study II). When self-efficacy was added as mediator, positive multicultural attitudes were significantly associated with high level of self-efficacy ($\beta = .32, p < .001$), which was further associated with lower level of work exhaustion ($\beta = -.17, p = .010$) and higher work dedication ($\beta = .40, p < .001$) (Figure 4). The significant indirect path coefficients further supported the mediating role of self-efficacy in the relationship between multicultural attitudes and work-related wellbeing. The direct path from multicultural attitudes to work exhaustion remained nonsignificant ($\beta = -.06, p = .430$) in the mediated model, signifying that teacher self-efficacy completely mediated the association between positive multicultural attitudes and low work exhaustion (Zhao et al., 2010). However, the direct path from multicultural attitudes to work dedication remained significant ($\beta = .18, p = .001$), suggesting complementary mediation (Zhao et al., 2010).

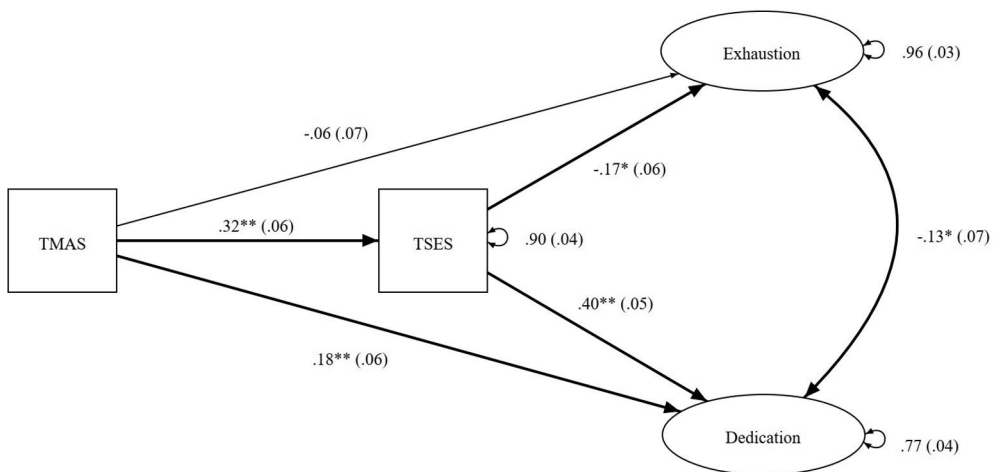


Figure 4. The mediated structural equation model for reception class and mainstream education teachers. *Note.* The SEM using factors scores of TMAS and TSES and Work exhaustion and Work dedication as latent constructs. Numbers depict standardized regression coefficients, correlations, residual variances, and their standard errors in parentheses. The statistically significant associations are shown in bold with * $p < .05$ and ** $p < .001$. TMAS = Teacher multicultural attitudes; TSES = Teacher Self-Efficacy; Exhaustion = Work exhaustion; Dedication = Work dedication. [Figure reproduced from: Aalto et al. (2024). The effect of teacher multicultural attitudes on self-efficacy and wellbeing at work. *Social Psychology of Education*, 27. Licensed under CC BY 4.0]

Further, the moderating role of class type was explored, namely whether the association between multicultural attitudes, self-efficacy, and wellbeing differed between teachers of reception classes and teachers of multiethnic mainstream education. Among *teachers of reception classes*, positive multicultural attitudes were associated with higher self-efficacy ($\beta = .27, p < .001$), which further associated with higher work dedication ($\beta = .27, p < .001$). The significant indirect path

coefficient further supported the mediating role of self-efficacy between multicultural attitudes and work dedication. However, also the direct path from multicultural attitudes to work dedication remained significant in the mediated model. Teacher multicultural attitudes were not associated with work exhaustion ($\beta = .02$, $p = .819$), and self-efficacy did not mediate the association.

Among *teachers of multiethnic mainstream education*, multicultural attitudes were associated with higher self-efficacy ($\beta = .36$, $p < .001$), which was further associated with higher work dedication ($\beta = .45$, $p < .001$) and lower work exhaustion ($\beta = -.22$, $p = .010$). The significant indirect path coefficients from multicultural attitudes to work dedication and work exhaustion indicated that self-efficacy mediated both relationships. The direct path from multicultural attitudes to work dedication was significant ($\beta = .16$, $p = 0.025$), but the direct path from multicultural attitudes to work exhaustion was not ($\beta = -.10$, $p = 0.256$). The type of teaching experience thus appears to partly moderate how multicultural attitudes relate to work-related wellbeing. Among teachers of multiethnic mainstream education, self-efficacy mediated the relationship between multicultural attitudes and both work dedication and exhaustion. In contrast, for reception class teachers, self-efficacy only mediated the link between multicultural attitudes and work dedication and not work exhaustion. Additionally, in both teacher groups, positive multicultural attitudes were directly associated with greater work dedication.

4.3 Effectiveness of Psychosocial Interventions in Improving Students' Mental Health (Study IV)

Due to problems in implementation and insufficient sample size, the analyses could not be carried out exactly as outlined in the study protocol (Study III, please see section 3.3.3). Thus, the analyses differ from those outlined in the study protocol in the following ways. First, in the main analyses the effectiveness of TRT intervention could not be analysed due to small sample size. Regarding INSETT intervention, refugees could not be analysed separately from immigrants due to low sample size of migrant students. In PIER intervention, only the combined sample of natives and migrants could be analysed due to restricted sample size. Second, mediation analyses could not be conducted due to low response rate of teachers in the INSETT intervention and migrant students in the PIER intervention. Third, moderation analyses concerning parents could not be conducted due to low parental participation rate.

The results showed that neither INSETT nor PIER intervention were generally effective in decreasing internalizing or externalizing problems or increasing resilience and prosocial behaviour among native or migrant students (Table 3).

However, the adolescent-related factors did show significant moderating interaction effects among native and migrant students in both interventions (Table 3).

In INSETT intervention, students' age, daily stressors, and discrimination experiences were associated with the intervention's effectiveness, but the moderating effects were different among native and migrant students. For *natives*, among older students internalizing problems decreased ($\beta = -0.014$, $p < 0.000$), and among students with high levels of discrimination experiences prosocial behaviour decreased ($\beta = -0.016$, $p < 0.05$) more in the intervention than control group. Further, for native students exposed to high levels of daily stressors, internalizing problems increased ($\beta = 0.016$, $p < 0.05$), while among *migrant students* exposed to high levels of daily stressors, externalizing problems increased ($\beta = 0.048$, $p < 0.000$). The intervention effectiveness was not dependent on gender (Table 3).

The results from the PIER intervention were combined across native and migrant students, due to low number of participants. The nonsignificant migrant status and intervention interaction effects indicate, however, that the PIER intervention's effectiveness did not differ between native and migrant students and was thus not effective in either group (p-values for outcome variables ranging between 0.187 and 0.771). In the moderation analyses, adolescents' age, gender, and discrimination experiences but not daily stressors, were associated with the PIER intervention's effectiveness. Gender significantly moderated the outcomes of the PIER intervention on externalizing symptoms and resilience. Specifically, the intervention was ineffective for girls, as girls in the intervention group showed a significant increase in externalizing symptoms ($\beta = 0.010$, $p < .01$) and a decrease in resilience ($\beta = -0.084$, $p < .05$), compared to the control group. Age also moderated intervention effects: among older students, the intervention led to greater reductions in internalizing ($\beta = -0.018$, $p < .000$) and externalizing symptoms ($\beta = -0.015$, $p < .01$), and a greater increase in resilience ($\beta = 0.025$, $p < .000$) compared to the control group. For students reporting high levels of discrimination, the intervention was associated with a significant increase in prosocial behaviour ($\beta = 0.027$, $p < .001$), but also a rise in externalizing symptoms ($\beta = 0.015$, $p < .05$)¹.

¹ In the original manuscript (Study IV), these discrimination and intervention interactions were mistakenly reported concerning INSETT intervention.

Table 3. Direct and moderation effects of unstructured growth curve models.

	Internalizing			Externalizing			Prosocial			Resilience		
	β	SE	p	β	SE	p	β	SE	p	β	SE	p
Direct effects												
INSETT migrant	0.006	0.013	0.641	0.029	0.018	0.096	-0.023	0.014	0.106	0.005	0.054	0.931
INSETT native	-0.006	0.008	0.428	0.000	0.004	0.932	0.001	0.002	0.651	-0.009	0.013	0.456
PIER	0.001	0.013	0.911	0.008	0.009	0.348	0.000	0.002	0.828	0.013	0.031	0.674
Moderation effects												
Gender												
INSETT migrant	0.002	0.015	0.884	0.000	0.025	0.993	0.018	0.011	0.122	0.064	0.053	0.224
INSETT native	-0.006	0.008	0.446	0.003	0.012	0.769	0.001	0.007	0.848	0.013	0.013	0.317
PIER	0.010	0.033	0.767	0.010	0.004	0.008	0.002	0.008	0.799	-0.084	0.037	0.023
Age												
INSETT migrant	0.004	0.013	0.793	0.021	0.021	0.321	0.008	0.011	0.496	0.013	0.030	0.679
INSETT native	-0.014	0.003	0.000	-0.002	0.003	0.544	-0.004	0.004	0.334	0.007	0.014	0.597
PIER	-0.018	0.002	0.000	-0.015	0.008	0.043	0.001	0.003	0.681	0.025	0.005	0.000
Daily Stressors												
INSETT migrant	0.015	0.009	0.087	0.048	0.008	0.000	0.009	0.019	0.639	-0.087	0.051	0.090
INSETT native	0.016	0.007	0.021	0.007	0.007	0.308	-0.008	0.007	0.245	-0.016	0.022	0.469
PIER	-0.013	0.013	0.298	-0.012	0.010	0.232	0.005	0.008	0.510	-0.004	0.052	0.934
Discrimination												
INSETT migrant	0.007	0.016	0.651	0.039	0.029	0.175	-0.031	0.025	0.208	0.028	0.032	0.382
INSETT native	-0.022	0.017	0.176	-0.016	0.016	0.334	-0.016	0.007	0.026	0.000	0.026	0.994
PIER	-0.010	0.011	0.338	0.015	0.007	0.021	0.027	0.008	0.001	0.015	0.020	0.467

Note. Significant interactions in bold.

5 Discussion

The overall aim of this thesis was to increase understanding of the complex interplay between individual and contextual factors shaping the wellbeing of immigrant and refugee youth, and offer new insights into the role of teachers and psychosocial interventions in multicultural school settings. Notably, this dissertation examined the wellbeing of migrant students, evaluated the effectiveness of two distinct psychosocial interventions in enhancing their wellbeing, and analysed the role of schools, particularly teacher multicultural attitudes for their self-efficacy and wellbeing in multiethnic schools. Migration continues to rise both in Europe and globally, and it is crucial both from humane and societal perspectives, to understand how to better support the adaptation and wellbeing of the newcomers. To date, understanding of the dynamic interplay of mental health symptoms and resources among immigrant and refugee youth has virtually been lacking, and studies on the effectiveness of psychosocial interventions to enhance their wellbeing have shown mixed results. Further, the role of teachers' multicultural attitudes for their professional competence and wellbeing needed a more comprehensive understanding. Next, I will discuss the overall contribution of the thesis' results to the research field, with the aim of positioning them within the larger ecological, acculturation and resilience theoretical frameworks.

5.1 Wellbeing Emerging through the Interplay of Individual and Contextual Factors

We identified four distinct wellbeing profiles among immigrant and refugee youth, revealing both quantitative differences in mental health symptoms and qualitative variation especially in PTSD symptom structure and resilience. These profiles were grouped into two overarching categories: *Flourishing* and *Languishing*, with an intriguing divergence between avoidance and intrusion symptoms of PTSD between these categories. Overall, the majority of adolescents (62.5%) were flourishing despite the additional challenges brought by migration experience. However, the rest (37.5%) exhibited languishing and the occurrence of more substantial mental health symptoms. A closer look at the distinct profiles shows that the flourishing and

languishing youth were not homogenous, but rather the categories were composed of distinct subgroups.

Within the flourishing youth, two distinct patterns emerged. One subgroup of adolescents reported consistently low levels of mental health symptoms alongside average resilience (Low symptoms profile; 49.7% of all participants), suggesting that low symptomatology can be considered as a sign of adaptive adjustment. Another subgroup of adolescents, while similarly low in overall symptomatology, exhibited elevated avoidance symptoms and higher resilience (Resilient avoidant profile; 12.8%). Among these adolescents, avoidance could potentially reflect a more general coping strategy to adversity rather than trauma-specific avoidance, as trauma exposure was not explicitly inquired in the study. Avoidance as a more general tendency to adversity could also lead to individuals underreporting their psychological distress and highlighting resilience. In contrast to the flourishing groups, the adolescents in the languishing groups reported more pronounced distress. The group of adolescents who reported the highest levels of mental health symptoms across all domains also had particularly salient intrusive symptoms (High Symptoms with Intrusion profile; 10.6%), consistent with intrusions' role as a core indicator of PTSD and general psychological vulnerability (Bar-Haim et al., 2021; Lawrence-Wood et al., 2016). Further, the other languishing adolescents reported moderately elevated symptom levels and lower resilience (Moderate symptoms profile; 26.9%), indicating distress coupled with lack of resources.

The findings further suggest that an individual adolescent's experience of wellbeing is closely tied to their broader life context. Adolescents who were immigrants (rather than refugees), younger, and had resided longer in the host country were more likely to report less mental health symptoms and belong to the Low Symptoms profile. Similarly, adolescents who experienced strong family support, had access to adequate material resources, and encountered less discrimination were more likely to feel that they were doing well and belong to either of the flourishing profiles. These findings align with the ecological theory, and illustrate how adolescent wellbeing emerges from the dynamic interplay between individual characteristics and multi-layered environmental contexts (Bronfenbrenner, 1979). The greater likelihood of belonging to a flourishing profile among those with better material resources, fewer experiences of discrimination, and stronger family support underscores the critical role of proximal and structural factors particularly within the adolescent's microsystem and exosystem in shaping wellbeing. The results also align with prior research showing that prolonged exposure to a stable environment, social integration, and reduced daily stressors promote wellbeing among immigrant and refugee youth (Betancourt et al., 2017; Spaas et al., 2021), whereas socioeconomic hardship and discrimination pose major threats to wellbeing (Benner et al., 2018; Hynie, 2018). This thesis further highlights

the importance of material resources, as Study IV revealed that material strain may also hinder adolescents' from benefitting from psychosocial interventions.

From an acculturation theory perspective, the variation between flourishing and languishing profiles can be seen as reflecting differing degrees of successful psychological adaptation (Berry et al., 2006). The flourishing youth who reported fewer stressors, discrimination, and greater family cohesion were thus surrounded by a more supportive acculturation context, whereas those in the languishing groups experienced less favourable context for acculturation, and potentially struggled with individual-level pre-migration hardships and unresolved trauma, further complicating acculturation. Moreover, the finding that younger age and longer residence in the host country were associated with more favourable profiles suggests from the ecological perspective that the developmental timing of migration and increasing familiarity with the new cultural context may facilitate psychological adaptation, as youth become more embedded in the social and institutional environments. In terms of acculturation research, the finding supports the suggestion that age and length of residence as individual-level factors have the potential to affect acculturation outcomes both prior to and during acculturation (Berry et al., 2006; Chun et al., 2006).

The interesting finding of avoidance being associated with higher resilience also warrants an examination of the potential cultural and contextual meanings of coping (Kuo, 2014). Avoidance has generally been suggested to predict maladaptive adjustment in long-term, although it may protect individual's functioning with stressors in short-term (Brooks et al., 2019). However, studies on coping have mostly been conducted in Western countries that are high in individualistic orientation (Ungar, 2013). It is suggested that cultural values affect coping goals, i.e. the outcome one wishes to achieve after a stressful situation, and coping strategies are chosen to align with these goals (Chun et al., 2006). Avoidance as coping has been found more prevalent in collectivistic cultures, adhering to maintaining interpersonal harmony as the main goal of coping (Chun et al., 2006; Kuo, 2014). Therefore, it is possible that controlling an internal state by avoidance may be more in line with the collectivistic coping goals, indicating a more adaptive coping in this cultural context compared to what has been suggested in individually oriented research (Chun et al., 2006). Considering from resilience framework, avoidance could also represent a culturally congruent resilience building capacity of the individual to attain culturally adaptive outcomes in the specific context (Ungar, 2008, 2013). However, to better elucidate the role of avoidance and resilience for adaptation and wellbeing, longitudinal cross-cultural study designs would be required. Further, resilience did not align linearly with symptom severity, but instead emerged as a distinct capacity shaped by contextual protective factors such as family support, more inclusive social relations and material resources. This results aligns with resilience theory

positioning that resilience is a separate, yet interdependent set of processes associated with mental health (Ungar, 2013). Taken together, these findings support a multidimensional and interactional understanding of wellbeing among immigrant and refugee youth in shaping distinct developmental pathways.

5.2 Teachers' Multicultural Attitudes in Shaping Self-Efficacy and Wellbeing

The results indicated that teachers' positive multicultural attitudes, i.e. appreciation of cultural diversity within the classroom, promoted work dedication but were not sufficient alone to mitigate work exhaustion. The finding partially supported our hypotheses. Aligning with previous research, positive multicultural attitudes were associated with greater work dedication (Chwastek et al., 2021; Hachfeld et al., 2015). However, contrary to expectations, multicultural attitudes were not directly linked to exhaustion experienced at work (Gutentag et al., 2018; Tatar & Horenczyk, 2003). From an ecological perspective, teachers' attitudes represent individual-level characteristics, yet embedded in broader sociocultural contexts. These attitudes may serve as motivational resources that align with professional values and promote meaning-making in culturally diverse settings, thereby fostering work dedication, i.e. the component of work engagement characterized by enthusiasm, pride, and inspiration. However, multicultural attitudes alone may not buffer against work exhaustion and the emotional toll of teaching in diverse settings. This aligns both with ecological and resilience theories, positing that individual beliefs, while important, must be supported by conducive environments in order to translate into positive outcomes.

In addition, self-efficacy as an individual-level resilience building capacity emerged as pivotal in enabling positive outcomes. Self-efficacy mediated the association between multicultural attitudes and work-related wellbeing, suggesting that teachers' confidence in their ability to manage the demands of culturally diverse classrooms is central to reducing exhaustion and enhancing dedication. This finding also aligns with the hypotheses and previous research, highlighting the role of self-efficacy in wellbeing of teachers in multicultural education (Granziera & Perera, 2019; Gutentag et al., 2018; Skaalvik & Skaalvik, 2014). Self-efficacy can be seen as a protective cognitive resource that enables adaptive coping in challenging work environments. Also consistent with acculturation theory, when teachers are able to adapt their teaching to multicultural settings and the need of diverse student population, the resulting outcome is more favorable not only to the students but also for the teachers (Parkhouse et al., 2019). Teachers with positive multicultural attitudes may thus adopt an integration strategy, embracing cultural diversity and perceiving it as a source of enrichment rather than threat. Such a stance may foster

more adaptive interpretations of intercultural challenges, thereby enhancing efficacy beliefs and enabling more resilient responses to workplace stressors. Teachers are thus central agents within the school systems, where their values and competencies can influence not only student integration and engagement, but also their own wellbeing (Schachner et al., 2019; Zee & Koomen, 2016).

It is important to acknowledge that, while the directional relationships proposed in this thesis are theoretically grounded, as multicultural awareness may serve as a source of mastery experiences that enhance self-efficacy (Bandura, 1977; Gutentag et al., 2018), and self-efficacy has been identified as a predictor of work satisfaction in prior research (Lent & Brown, 2006), the cross-sectional nature of the data limits causal inference. This leaves open the possibility of reverse causality (Bandura, 1978), whereby elevated self-efficacy among teachers could contribute to greater multicultural awareness, and high levels of work-related wellbeing might provide the psychological resources necessary to reinforce self-efficacy beliefs (Granziera & Perera, 2019). Consequently, within the multifaceted dynamics of the school environment, these teacher attributes are likely to operate at least somewhat in a reciprocal and interdependent manner, interacting with other risk and protective factors embedded in the broader educational ecosystem.

This study also identified divergent patterns according to teaching context, which reinforces the significance of ecological and contextual factors. Among mainstream teachers, positive multicultural attitudes associated both with increased dedication and decreased exhaustion through self-efficacy. In contrast, among reception class teachers, multicultural attitudes associated only with dedication, with no significant association on exhaustion via self-efficacy. This divergence may be understood through the ecological perspective, where reception classes represent a more specialized microsystem with distinct demands. Teachers in reception classes often face challenges related to language barriers, possible pre- and post-migration stressors of the students, and the social integration of newly arrived students. In such settings, multicultural attitudes and self-efficacy may be insufficient to buffer the emotional strain, as broader mesosystem and exosystem influences (e.g., institutional support, policy frameworks, access to mental health resources) may play a more substantial role in shaping the teaching context. The finding also aligns with resilience theory, emphasizing the context-specific nature of resilience. While self-efficacy supports work dedication across both contexts, its protective function against exhaustion may be constrained in reception classes unless supplemented by additional contextual supports (e.g., extensive network of professionals or training in trauma-informed pedagogy).

Together, these findings suggest that fostering positive multicultural attitudes is a valuable component of teacher development, but not a standalone solution for promoting teacher wellbeing. Rather, interventions should target both attitudinal and

efficacy-based components, and professional development programs that combine cultural competence training with strategies to strengthen self-efficacy (e.g., providing mastery experiences, and vicarious experiences) are likely to yield more robust benefits for teacher wellbeing and ensuring sustainable outcomes. Moreover, these findings support the design of context-sensitive interventions. In mainstream education settings, boosting multicultural attitudes may have a broader impact across wellbeing domains, as these teachers may initially be less well equipped to meet the need of diverse student populations. In reception classes, however, a more comprehensive approach that addresses systemic stressors may be needed to mitigate exhaustion. This underscores the value of adopting an ecologically informed approach in educational policy.

5.3 Individual and Contextual Factors Moderating Intervention Effectiveness

The findings regarding the psychosocial interventions underscore the complex and multifaceted nature of supporting mental health and wellbeing among migrant and native adolescents. Notably, unlike hypothesized, neither INSETT nor PIER intervention demonstrated overall effectiveness in reducing internalizing or externalizing symptoms or in enhancing resilience and prosocial behaviour among native or migrant students. Instead, the effectiveness varied in terms of students' age, gender, and exposure to discrimination and daily stressors. The core aim of INSETT intervention was to increase teachers' cultural competence and self-efficacy in managing multicultural classrooms, while PIER intervention aimed at supporting successful acculturation at student-level by promoting intergroup understanding, fostering multi-cultural friendships and creating a safer school environment. Due to low response rate of the teachers, it was not possible to examine whether the overall inefficiency of INSETT was due to lack of increase in teacher competence and self-efficacy, or whether the problem was in transmitting this increased competence into student outcomes. Similarly, concerning PIER intervention, due to low number of migrant students, it was not possible to analyse whether the intervention failed to increase their social belonging and support interethnic friendships, or whether these increases failed to translate into better wellbeing. Further, the interventions were implemented by the teachers, constrained by limited resources of the everyday school context. Due to lack of reports on intervention fidelity and dosage, the inefficiency of the interventions could also be attributed to students' limited exposure to the interventions, pointing to the need of fostering the whole school community's commitment to the intervention.

However, subgroup analyses identified significant adolescent-related moderators of intervention effectiveness, whose effects diverged from the

hypothesized patterns. From an ecological perspective, these results illustrate the complexity of intervention processes across multiple interacting systems. Both interventions were implemented within school microsystems but they were simultaneously influenced by meso- and exosystemic factors such as institutional constraints of resources, variability in implementation fidelity, and quality of teachers' and parents' collaboration.

The observed moderation effects related to age, gender, discrimination, and stress exposure, demonstrate that individual-level characteristics interact with contextual variables to shape intervention outcomes. For example, older students appeared to benefit more from both interventions, as evidenced by decreased internalizing symptoms (INSETT natives and PIER), decreased externalizing symptoms and increased resilience (PIER). This may reflect developmental differences in cognitive, emotional, or identity-related processes that influence how adolescents engage with intervention content. Conversely, the finding that girls in the PIER intervention experienced increased externalizing symptoms and decreased resilience suggests that the intervention may not have adequately addressed gender-specific needs or experiences, pointing to a mismatch between the intervention's design and the lived realities of female students in this context.

Among migrant students in the INSETT intervention, only daily stressors moderated intervention effectiveness; migrant students with more stressors exhibited an increase in externalizing symptoms. This result could be interpreted as an unintentional iatrogenic effect of the intervention for the most vulnerable students. The intervention material, implementation procedure, and dosage should thus be carefully reviewed in order to understand what could cause this unfortunate effect. Likewise, in the PIER intervention, the adolescents who experienced more discrimination showed increased externalization symptoms. Interpreted from acculturation theory perspective, although multiculturally oriented interventions have generally been suggested as beneficial to all students (Parkhouse et al., 2019), these interventions were not effective in creating more favorable contexts for integration and adaptive outcomes to take place. Instead, the finding suggests that those migrant students encountering a stressful acculturation context such as lack of primary material resources like proper housing and nutrition may place these individuals in such challenging conditions that interventions taking place merely on the school-level are not sufficient to increase wellbeing. Likewise, discrimination experiences, both among native and migrant students, seemed to hinder individuals from benefitting from intervention content. Thus, interventions should be provided more holistically, spanning also other relevant contexts of the individual and providing targeted components to increase beneficial impacts in a culturally meaningful way.

5.3.1 Effectiveness Research on Interventions and Its Future Prospects

Taken together, while in this thesis the INSETT and PIER interventions did not produce the hypothesized improvements in overall student wellbeing, the results offer valuable insights into the conditions under which promotive and preventive school-based psychosocial programs may be more or less effective. Previous empirical evidence suggests that while targeted clinical interventions especially utilizing cognitive-behavioural or creative elements can effectively reduce mental health symptoms and peer problems among refugee adolescents (Sullivan & Simonson, 2016; Tyrer & Fazel, 2014), the efficacy of promotive and preventive interventions implemented at the whole-school or classroom level is less conclusive (Bennouna et al., 2019). The limited success of whole-school approaches among migrant adolescents may be attributed for example to challenges in reaching and recruiting migrant students due to issues related to trust, limited resources of the school staff and resulting inconsistencies in intervention fidelity and dosage, and methodological difficulties in data collection (Bennouna et al., 2019).

The results of this thesis also point to the need of adapting interventions according to the specific needs of the participants and providing culturally meaningful objectives to obtain desirable outcomes, as suggested by previous research (Bennouna et al., 2019; Sullivan & Simonson, 2016). This, however, highlights the limitations of universal promotive and preventive interventions in ecologically heterogeneous school contexts, where adjusting the intervention to suit all students with diverging needs is a difficult task. In sum, these findings call for an increased focus on multilevel intervention strategies that combine universal components with targeted support for high-risk subgroups (Bennouna et al., 2019; IASC, 2007), as also initially planned in this thesis.

5.4 Implications

This dissertation provides several important implications for policy and practice in the fields of education, mental health, and migration. First, the identification of distinct wellbeing profiles among immigrant and refugee youth underscores the need for nuanced, individualized approaches in psychosocial support. The finding that flourishing is associated with both individual and contextual protective factors, such as family support, material resources, and reduced discrimination, emphasizes the necessity of moving beyond symptom-focused approaches to embrace broader, ecologically informed strategies that strengthen resilience and address structural inequalities.

Second, the finding that avoidance coping may be linked to higher resilience invites a re-examination of culturally meaningful coping strategies. This highlights

the importance of incorporating culturally sensitive understandings of adaptation and resilience in both assessment and intervention development. Especially in multicultural contexts, rigid applications of Western psychological models may miss adaptive processes rooted in collectivist norms and experiences of adversity.

Third, the role of teachers' multicultural attitudes and self-efficacy in shaping their wellbeing provides actionable insights for teacher training and professional development. Programs that enhance cultural competence should be coupled with strategies to strengthen teachers' self-efficacy, particularly in reception settings where students may encounter additional stressors and teachers are required to offer more pastoral care. Importantly, such interventions should not be limited to individual capacity building but must also address systemic and institutional stressors that affect teacher wellbeing.

Lastly, the limited overall effectiveness of the INSETT and PIER interventions, alongside the moderating effects of individual and contextual variables, underlines the necessity for multilevel and differentiated intervention strategies. School-based psychosocial programs, while necessary, may be insufficient in isolation, especially for those facing material hardship or discrimination. Interventions should be embedded in wider social systems and be designed to adapt to the needs of specific subgroups, particularly the most vulnerable.

5.5 Strengths and Limitations

This dissertation presents several notable strengths. First, the data collection conducted across multiple European countries and yielding a robust sample size from a hard-to-reach population, provided a comprehensive basis for examining the wellbeing of immigrant and refugee adolescents in Europe. Second, the use of person-centred analytic approaches, particularly latent profile analysis, enabled a more nuanced understanding of the heterogeneity in wellbeing among immigrant and refugee adolescents. This approach moved beyond group averages to identify meaningful subgroups with distinct wellbeing profiles, thus capturing the complexity of vulnerabilities and resources. Third, the integration of multi-informant data combining student and teacher self-reports allowed for a more varied examination of school-level processes. Fourth, the application of an integrated theoretical framework, drawing on ecological, acculturation, and resilience theories, provided a robust conceptual foundation for interpreting the multidimensional nature of wellbeing and adaptation in multicultural school environments.

Nevertheless, several limitations must be acknowledged. The cross-sectional design of Studies I and II limits the ability to draw causal inferences or examine developmental trajectories over time. For this end, we have carefully chosen a vocabulary to describe these results that does not assume causality. Longitudinal

designs would be necessary to explore the temporal relationships between mental health symptoms, resilience, and contextual factors, and the pathways in teacher competences. Furthermore, although the sample included students from diverse backgrounds, it may not fully reflect the specific effects that migration histories, legal statuses, or cultural experiences may have in shaping adaptation processes. In Study IV, the native adolescents encompassed also individuals whose parents were born abroad. Although these adolescents have not personally experienced migration, they may nonetheless encounter unique developmental challenges associated with cultural identity, ethnicity, and minority status. These factors can play a significant role in shaping their developmental trajectories and overall wellbeing. Consequently, to adequately capture the nuanced distinctions within both native and migrant populations, in future studies larger sample sizes are necessary to enable more fine-grained subgroup analyses. These more detailed analyses should also be ideally embedded within a mixed-methods design, where qualitative interviews would enrich the understanding of the lived experiences of the migrant adolescents.

Additionally, while the intervention studies explored the potential of school-based psychosocial programs, the lack of systematic assessment of implementation fidelity and dosage presents a significant limitation. These factors may have influenced the observed outcomes and limit the interpretability of the intervention effects. This dissertation also reflects the broader methodological and contextual challenges in evaluating school-based psychosocial interventions among diverse student populations, a concern highlighted in previous literature (Bennouna et al., 2019; Sullivan & Simonson, 2016; Tyrer & Fazel, 2014). In Study IV, due to implementation difficulties and restricted sample sizes, several analyses could not be conducted as outlined in the study protocol (Study III). A large setback included the very limited success in implementation of TRT intervention, prohibiting the analyses on this targeted intervention's effectiveness. These challenges constrain the generalizability of the findings and underscore the complexity of conducting intervention research in ecologically heterogeneous school contexts. Future studies should seek to mitigate these limitations through the use of longitudinal designs, more detailed measurement of migration-related variables, and more robust strategies for monitoring implementation.

5.6 Directions for Future Research

The findings of this dissertation open multiple avenues for future research. First, longitudinal studies are needed to further understand how wellbeing profiles among migrant youth evolve over time, and how individual resilience interacts with systemic factors such as educational support, integration policies, and socio-economic conditions. This would help disentangle the causal pathways between

adversity, adaptation, and psychological wellbeing. Second, the surprising association between avoidance and resilience calls for cross-cultural longitudinal research to explore the role of culturally congruent coping strategies. Future studies should examine how avoidance functions across different cultural groups, contexts, and stages of the acculturation process, and whether it facilitates or hinders long-term adaptation outcomes.

Third, given the complex role of teacher characteristics, more research is needed on how multicultural attitudes and self-efficacy interact with institutional support structures to shape both teacher and student outcomes. Future studies should utilize longitudinal intervention designs to study the effectiveness of multicultural awareness training programs and their long-term impact on classroom dynamics and teacher wellbeing, but as importantly, on student outcomes. Finally, future intervention studies should adopt approaches to examining not only whether interventions work, but how, for whom, and under what conditions. This includes assessing the fidelity of implementation, contextual constraints, and mechanisms of change. Interventions that integrate school, family, and peer components, and that tailor content to the specific needs of subgroups (e.g., by gender, age, or exposure to discrimination) should be prioritized.

5.7 Conclusions

This dissertation advances our understanding of the complex interplay between individual and contextual factors shaping the wellbeing of immigrant and refugee youth, and offers new insights into the role of teachers and psychosocial interventions in multicultural school settings. By identifying distinct wellbeing profiles and contextual factors, the study challenges simplistic or symptom-oriented approaches to migrant youth mental health and calls for a multidimensional and ecologically grounded perspective.

Moreover, the findings highlight the importance of tailoring psychosocial support to the lived realities of diverse student populations. They also underscore the crucial role of teachers as key facilitators of acculturation, wellbeing, and inclusion, and whose own wellbeing must be supported to ensure sustainable outcomes. Taken together, the results of this dissertation argue for more holistic, context-sensitive and culturally aware approaches to promoting mental health and wellbeing in increasingly diverse educational environments. Supporting migrant youth is not merely a pedagogical challenge, but a moral and societal imperative that requires coordinated efforts across educational, mental health, and social systems.

5.8 Declaration of the use of AI in the Writing Process of the Thesis

During the preparation of this thesis ChatGPT and CoPilot were used in improving the quality of and summarizing the text, following the guidelines provided by University of Turku. All text was further edited by the doctoral candidate and final version has been written based on the doctoral candidate's own critical thinking and scientific understanding of the subject.

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