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*Mental health symptoms in children with and without migration background
within a low-income sample*

HOVEDOPPGAVE

Profesjonsstudiet i psykologi

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Abstract

Background: The number of children from families with and without migration background living in persistent poverty in Norway has steadily increased for the last decade. Poverty appears to be detrimental to children's mental health. The aim of our thesis is to investigate why there were reported more mental health problems among children without migration background compared to children with migration background in a study from the New Pattern-project. **Methods:** The participants in the study included 209 children or adolescents aged 11-17 from low-income families in Southern Norway, who needed long-standing health- and welfare services. Strengths and Difficulties Questionnaire (SDQ) was used for measurement of mental problems. Through regression analyses we investigated whether various covariates could account for differing self-reported mental health scores between the children with and without migration background. **Results:** The migration background variable showed significant coefficients across all SDQ scales in the bivariate analyses: total difficulties ($b=3.56, se=.86$), emotional problems ($b=1.19, se=.35$), conduct problems ($b=.65, se=.22$), peer problems ($b=.58, se=.26$), and hyperactivity/inattention ($b=1.14, se=.38$). In the fully adjusted analyses, all coefficients remained significant for the migration background variable, except for hyperactivity/inattention. **Conclusion:** Our chosen covariates could not explain the difference in self-reported total problems between the groups. Future research should explore additional variables beyond our dataset, like cultural factors and social support. This could contribute to enhancing mental health in children from low-income families.

Keywords: mental health problems, migration background, low income, children and adolescents, Strengths and Difficulties Questionnaire

Sammendrag

Bakgrunn: Antall barn i familier med og uten migrasjonsbakgrunn som lever i vedvarende fattigdom i Norge har økt stabilt siste tiåret. Fattigdom virker å være skadelig for barn sin psykiske helse. Målet i vår oppgave er å undersøke hvorfor det ble rapportert mer psykiske vansker hos barn uten migrasjonsbakgrunn sammenlignet med barn med migrasjonsbakgrunn i en studie fra Nye mønstre-prosjektet. **Metode:** Deltakerne i studien inkluderte 209 barn og ungdom i alderen 11-17 år fra lavinntektsfamilier i Agder, i behov av langvarige helse- og velferdstjenester. Strengths and Difficulties Questionnaire (SDQ) ble brukt for å måle psykiske vansker. Ved hjelp av regresjonsanalyser undersøkte vi om ulike kovariater fra vårt datasett kunne forklare forskjellig skår i selvrapporterte psykiske vansker blant barna med og uten migrasjonsbakgrunn. **Resultater:** Migrasjonsbakgrunnsvariabelen viste signifikante koeffisienter på alle SDQ-skalaene i de bivariate analysene: totale vansker ($b=3.56, se=.86$), emosjonelle problemer ($b=1.19, se=.35$), atferdsproblemer ($b=.65, se=.22$), problemer med jevnaldrende ($b=.58, se=.26$), og hyperaktivitet/uoppmerksomhet ($b=1.14, se=.38$). I de fullt justerte analysene forble alle koeffisienter signifikante for migrasjonsbakgrunnsvariabelen, bortsett fra hyperaktivitet/uoppmerksomhet. **Konklusjon:** Våre utvalgte kovariater kunne ikke forklare forskjellen i selvrapporterte totale vansker mellom de to gruppene. Fremtidig forskning burde utforske ytterligere variabler utover vårt datasett, som kulturelle faktorer og sosial støtte. Dette kan bidra til å forbedre psykisk helse blant barn i lavinntektsfamilier.

Nøkkelord: psykiske helsevansker, migrasjonsbakgrunn, lavinntekt, barn og ungdom, Strengths and Difficulties Questionnaire

Table of contents

Acknowledgements	3
Abstract	4
Sammendrag	5
Table of contents	6
Introduction	9
Mental health problems	9
Mental health problems among children and adolescents	10
Risk factors for mental health problems	12
Low income as a risk factor	13
The low-income population in Norway	15
Consequences of child poverty	16
Ethnicity and migration background	17
Double jeopardy – Low income and migration background	18
Sociodemographic factors	19
Migration background	19
Children’s gender	21
Children’s age	21
Having work-related income	22
Parents’ mental health	22
Children’s living situation	23

Parents' level of education	23
Moving and changing schools	24
Participation in organized leisure activities	24
Family receiving housing allowance	25
Family receiving financial assistance	25
Parent receiving work assessment allowance	26
Parent receiving disability benefits.....	26
Family receiving child protective services	27
Our thesis.....	27
Methods.....	28
Participants and procedures	28
Instruments	29
Mental health	29
Migration background	29
Covariates	29
Statistical analyses.....	30
Recoding.....	30
Regression analyses	31
Ethical considerations.....	32
Results	32
Descriptive statistics.....	32

Bivariate analysis.....	33
The four problem areas.....	33
Total difficulties.....	34
Fully adjusted analysis	34
The four problem areas.....	34
Total difficulties.....	35
Discussion	35
The healthy migrant effect.....	38
The influence of culture.....	41
Collectivism versus individualism.....	42
Cultural differences in attitudes towards mental health problems.....	45
Different social support networks for the groups	48
The influence of social comparison.....	52
Strengths and limitations	55
Conclusion.....	56
References	59
Table 1	83
Table 2.....	84
Table 3	85
Figure 1	86
Figure 2	87

Introduction

The proportion of children living in persistent low-income households has risen steadily in the last 15 years, reaching 11.7% in 2019 (Epland & Normann, 2021). There has also been a significant increase in the proportion of children with migration background among low-income families in the 2000s (Grødem, 2011). Both having low-income and migration background are associated with a higher risk for mental health problems, suggesting a potential double jeopardy for those belonging to both marginalized groups. Contrary to expectations due to existing literature, a recent study by Bøe and colleagues (2023) reveals that the youth without migration background reported more mental health problems than their peers with migration background. This thesis examines this finding further, aiming to uncover the factors contributing to this difference between the groups. We will first outline the frameworks and the current context regarding mental health among youth within the low-income population, and among those with migration background.

Mental health problems

Mental health problems comprise issues such as persistent low mood, worry and restlessness (Tesli et al., 2023). These problems distinguish from mental disorders, with the former reflecting normal fluctuations in feelings and behavior, often related to specific experiences. Mental health problems can be associated with conditions of upbringing, physical health, quality of life, sleep, as well as violence and abuse (Tesli et al., 2023). Many individuals may encounter significant problems related to their mental health without necessarily requiring follow-up in healthcare services. However, for some people, mental health problems can develop into mental disorders. Severe mental disorders are associated with physical diseases, reduced life expectancy, as well as disability (Tesli et al., 2023). Hence

mental health problems can be problematic for the individual, affecting their living situation significantly.

According to the Norwegian Public Health Report of 2023 (“Folkehelse rapporten” in Norwegian), mental health problems and disorders are prevalent in the Norwegian population, especially among young adults (Tesli et al., 2023). Between one in six and one in four individuals will meet the criteria for a mental disorder within a year. Since the 1990’s there has been a rise in high levels of symptoms of depression and anxiety among children and adolescents, particularly among girls (Bang et al., 2023). All surveys reviewed in the report demonstrate that a high level of self-reported mental health problems is more prevalent among girls than boys (Bakken, 2022; Krokstad et al., 2022; von Soest & Wichstrøm, 2014). According to the Norwegian Public Health Report there has also been an increase in the proportion of children and adolescents who have sought contact with primary and specialist healthcare services in Norway due to mental health problems (Bang et al., 2023).

In this thesis we will focus on mental health symptoms rather than disorders. More specifically we will focus on mental health symptoms of children and adolescents.

Mental health problems among children and adolescents

A way of categorizing mental health problems among children and adolescents could be to divide them into emotional problems, conduct problems, peer problems, and hyperactivity/inattention. Among adolescents, emotional symptoms appear highly prevalent (Currie et al., 2012; Harden et al., 2001), especially among girls (Moksnes et al., 2014). Emotional symptoms can be defined as feeling nervous, having difficulties falling asleep, feeling irritable, feeling low, or bad tempered (Haugland & Wold, 2001; Hetland et al., 2002; Ravens-Sieberer et al., 2008). Depressive- and anxiety symptoms are often viewed as a form of emotional problems (Moksnes et al., 2014).

Conduct problems among children and adolescents are characterized by various forms of rule-breaking or disruptive behavior, such as defiance, argumentativeness, temper outbursts, physical aggression, destructiveness, and stealing (Wolff & Ollendick, 2010). These problems have been linked to various adverse long-term psychosocial consequences, including challenges in interpersonal relationships, academic performance, economic stability, and the presence of co-occurring psychological disorders (Colman et al., 2009; Propp et al., 2020). The prevalence of conduct disorders seems to be higher among boys (Georgiades et al., 2019; Lawrence et al., 2016; Wichstrøm et al., 2012).

Peer problems are difficulties in peer relationships that derive from dislike and negative attitudes by a peer group towards a person (Yip et al., 2013). The following literature suggests peer victimization and peer rejection to be two types of peer problems. Peer victimization can be explained as peers repeatedly targeting a child, including actions that inflict psychological and physical harm, for instance maltreatment, aggression, and abuse (Chen & Santo, 2016; Ladd, 2009). Peer rejection, on the other hand, reflects an individual receiving negative attitudes from an entire peer group, encompassing ignoring, rejecting, or refusing another person (Chen & Santo, 2016; Ladd, 2009). Ladd (2005) also found that children that experience peer problems are at greater risk of numerous developmental issues.

Children and adolescents that struggle with hyperactivity or inattention typically have difficulties with staying still, inner restlessness, impulsivity and challenges with self-regulation (Norwegian Health Informatics, 2021). Hyperkinetic disorder (ADHD) is the most common of the development disorders among children (Bang et al., 2023) and is generally perceived to be more prevalent among boys than among girls (Georgiades et al., 2019; Lawrence et al., 2016). Children with hyperactivity- and/or inattention problems face a higher likelihood of academic underachievement, conduct issues, problematic peer relationships, low

self-esteem, and negative interactions with parents and teachers (Frick & Lahey, 1991; Loeber et al., 2000).

Risk factors for mental health problems

According to the socioecological model by Bronfenbrenner (1986), several different environmental factors contribute as risk factors for developing mental health disorders for individuals at all ages. This encompasses influence from close family members and peers as well as the local community and society at large. The environmental impact encompasses both societal, structural, economical, and interpersonal conditions (Bronfenbrenner, 1986). Numerous risk factors regarding mental health can be associated with interpersonal relationships. For instance, an increased risk for developing emotional problems is seen in individuals who have experienced bullying, intense interpersonal conflicts, and humiliations (Breivik et al., 2017; Kendler et al., 2003; Segrin, 2001; Sourander et al., 2007). Meilstrup and colleagues (2015) also found different similar significant predictors of emotional symptoms; exposure to bullying, high frequency of bullying in the classroom, living in a single parent family, low occupational social class, and being a girl.

In a review of longitudinal studies on conduct problems, Murray and Farrington (2010) found important risk factors to be impulsiveness, low IQ and low school achievement, poor parental supervision, punitive or erratic parental discipline, cold parental attitude, child physical abuse, parental conflict, disrupted families, antisocial parents, large family size, antisocial peers, high delinquency rate schools, high crime neighborhoods and low family income.

Wüstner and colleagues' (2019) longitudinal study of 11- to 17-year-old children and adolescents, revealed that initial ADHD symptoms were influenced by factors such as male gender, younger age, aggressive behavior, and parental mental health problems. Over time, increasing ADHD symptoms were associated with female gender, migration status, increasing

generalized anxiety, increasing aggressive behavior, and increasing parental mental health problems. However, a positive change in family dynamics correlated with a decline in ADHD symptoms. In a separate Danish study conducted by Brikell and colleagues (2023), it was found that ADHD risk scores were significantly linked to various psychosocial factors, including limited education, living in single-parent households during early childhood, parental history of mental disorders, young parental age at the birth of the child, and low income.

One common risk factor mentioned in this section is low income or low socioeconomic status, which appears linked to several mental health problems. We will now further elaborate on this factor, as our thesis focuses on a low-income population.

Low income as a risk factor

A systematic review found indications that children and adolescents that were socioeconomically disadvantaged were two to three times inclined to evolve problems related to mental health (Reiss, 2013). Cheng and colleagues (2020) examined several national population registers in Sweden, and found that volatility in childhood family income has negative implications for mental well-being in early adulthood. This finding applied to several psychiatric outcomes, such as ADHD, anxiety, depression, mood disorders, and substance abuse. There are consistent findings from Norway as well, for instance, Bøe and colleagues (2012) used data from Norwegian children in Bergen, and found that family economy was a significant predictor of mental health problems.

Due and colleagues (2009) investigated whether self-reported bullying in early childhood appears equally harmful for rich and poor children. They conducted a longitudinal study on adolescents and young adults using data from a representative baseline sample in Denmark in 1990. The findings indicated that exposure to bullying significantly increased the risk of depression among the individuals with a low socioeconomic position, compared to a

weaker association for the children with a higher socioeconomic position. Additionally, an increased risk of peer victimization has been found in children that grew up in families with low- or middle socioeconomic status (Wolke et al., 2001).

Several studies suggest that youth residing in low-income urban areas face an elevated risk of developing conduct problems (Goodnight et al., 2012; Leventhal & Brooks-Gunn, 2003; Romero et al., 2015). This heightened risk is likely attributable to factors associated with limited opportunities resulting from both current and historical trauma, systemic oppression, and low socioeconomic status. These factors include physical and psychosocial stressors, low social cohesion, community and interpersonal violence, and exposure to delinquent peers (Bringewatt & Gershoff, 2010; Cotter & Smokowski, 2017; Devenish et al., 2017; Mohatt et al., 2014; Piotrowska et al., 2015; Price et al., 2019).

A study by Dodge and colleagues (1994) suggests that parents with low income experience heightened stress, leading to coercive parenting styles and increased externalizing behaviors in children. This underscores the possible mediating role of socioeconomic status in children's aggressive development. Furthermore, some experts propose that ADHD symptoms, such as agitation, hyperactivity, concentration difficulties, and impulsivity, stem from living in stressful and unpredictable environments (Barbarin & Soler, 1993).

There are different ideas and perspectives regarding low income as a risk factor for mental health, and it is difficult to study in an experimental way. The perspective of *social selection* suggests that individual characteristics lead to the person's socioeconomic status (Dohrenwend et al., 1992). For example, being depressed has negative consequences for social skills, making it more difficult for them to establish and maintain a social position (Libet & Lewinsohn, 1973). On the other hand, we can consider the *social causation* perspective that proposes that the socioeconomic conditions lead to mental health implications (Dohrenwend et al., 1992). For example, a population study from Norway found

an intergenerational effect where individuals from families with lower income had lower earnings themselves, as well as lower scores on other quality-of-life indicators (Markussen & Røed, 2020). Furthermore, social selection and social causation are not necessarily mutually exclusive and are presumably interacting in different ways for different groups or individuals (Schoon et al., 2003).

The family stress model proposed by Conger and colleagues (1994) describes how difficulties regarding low-income or low socioeconomic status may lead to stress, and therefore emotional and behavioral problems for the parents. This may have implications for how they raise their children and what the children witness at home, which as well can increase likelihood of mental health problems for the children. This model is supported by well documented findings that demonstrate a connection between economic difficulties and adult mental health problems, with higher levels of conflict and more adversity in the parents' relationship (Conger et al., 1994). *The family investment perspective* suggests that parents' economic and educational advantages lead to parents increasingly investing in their children. This again will have positive implications for their children's well-being and mental health. On the contrary, lower economy and less education may restrict parents' investment in their children, which then may lead to negative consequences (Xiaofeng et al., 2018).

McLaughlin and colleagues (2012) examined the different aspects of low socioeconomic status and how it affects mental health in adolescents. They concluded that the correlation between adolescents' mental health problems and socioeconomic status is directly influenced by the perceived social status, and not necessarily the objective aspects regarding for example having lower income.

The low-income population in Norway

There is no clear global definition of low income or being poor. The most common definition used by Statistics Norway (2023), however, is that a person has low income if they

earn 60% or less than the median income in the population. The European Union uses the same measure to define who is at risk of poverty (Eurostat, 2021). With this definition 10.7% of the Norwegian population was considered with low income in 2021 (Statistics Norway, 2023). Statistics Norway also conducts regular surveys where the population report how they experience their financial flexibility, payment difficulties and whether they lack social and material goods. Here fewer people consider themselves as “poor” than what is defined by the measure of 60% or less income (Statistics Norway, 2023). The subjective experience does therefore not represent the same as the objective common definition.

Around the year 2000, research reports showed that a significant number of Norwegian children could be characterized as poor (Fløtten, 2013). These reports were unexpected for the politicians due to the many benefits of the Norwegian welfare state; a family friendly policy, great social security benefits, a free health care system and the comprehensive school system (Fløtten, 2013). In just a few years, poverty among the Norwegian population transformed from being a non-issue into one of the most discussed social issues (Fløtten, 2013). All three national poverty plans (White Paper No. 6, 2002-2003; Annex to Proposition No. 1, 2006-2007; National Budget, 2007; Annex to Proposition No.1, 2008-2009; National Budget, 2009), have emphasized child poverty as a particularly challenging issue (Annex to Prop. 1 (2006-2007); Annex to Prop. 1 (2008-2009); White Paper No. 6 (2002-2003)). The proportion of children living in persistent low-income households has steadily increased since 2011, reaching 11.7% in 2019 (Epland & Normann, 2021). Dahl and Tøge (2019) demonstrated that income inequality in Norway has increased between the years 1995 and 2015, with the relative Gini coefficient rising from 0.231 to 0.263.

Consequences of child poverty

Consequences related to child poverty concern both the development of the children as well as their future life opportunities (Fløtten, 2013). Children living in low-income families

experience worse material living conditions compared to other children (Fløtten, 1999; Fløtten & Pedersen, 2008; Sandbæk, 2004; Sandbæk et al., 2008). Furthermore, children from low-income families are more likely to become impoverished as adults. An important explanation for this is that poor children have had fewer opportunities than their peers to develop their skills and competencies through kindergarten and the educational systems (Lorentzen & Nielsen, 2008). A study of Sandsør and colleagues (2023) additionally found a substantial socioeconomic gap in school achievement based on the education and income of their parents. As a result, poor children more often than others end up outside the labor market or develop only a weak attachment to the labor market (NOU 2009:10).

Ethnicity and migration background

According to Fløtten (2013), some groups in the Norwegian society are systematically overrepresented among the socioeconomically disadvantaged. This encompasses children of parents with no stable attachment to the labor market, children of sole-providers, children in families where transfers constitute a significant portion of family income, in addition to children with background from non-western countries (Epland & Kirkeberg, 2007; Nadim & Nielsen, 2009).

A report by Grødem (2011) found that the development of poverty in Norway was increasingly acquiring a distinct ethnic dimension, and the proportion of immigrant children in low-income families has seen a significant rise throughout the 2000s. The statistical data concerning children in low-income households in 2019 indicates that six out of every ten children in this category had a migration background (Epland & Normann, 2021). Most children in Norway with migration background in low-income families have backgrounds from developing non-Western countries (Epland & Normann, 2021; Kirkeberg & Lunde, 2023), often with collectivistic cultural values that differ clearly from the individualistic welfare state that Norway is (Hofstede et al., 2010).

Statistics Norway conducted an analysis in 2021, revealing that how vulnerable a child is to persistent low income, is clearly connected to the number of employed individuals in the family as well as the number of children. Children in families with migration background appeared especially vulnerable due to large households (with three or more children) and a weak occupational attachment among the family members. This is because, naturally, the household income has to be divided among more individuals in large households (Epland & Normann, 2021).

Double jeopardy – Low income and migration background

As mentioned, having low income is, in the existing literature, associated with a higher risk of mental health problems. Furthermore, one can assume that having both low income and then being affected by other risk factors as discussed above, is associated with some form of “double jeopardy” or intersectionality. Intersectionality is a term meant to encompass the intersecting effects of marginalizing characteristics, where being part of marginalized groups can yield different consequences than often presumed for most people (Crenshaw, 1991; Seng et al., 2012).

In our thesis, we investigate the mental health of a group of individuals that are simultaneously socioeconomically disadvantaged in a high-income country and have migration background; both representing marginalized groups. As earlier discussed, having low income makes an individual more vulnerable to mental health problems. Additionally, a huge amount of research indicates that having migration background itself constitutes a risk factor for developing mental health problems. Abebe and colleagues (2014) peer-reviewed about 41 original articles from 1990 to 2009. This was the first review including results of mental health studies among immigrants in Norway. According to the results, adults from low- and middle-income countries appeared to have more mental health problems than the Norwegian population without migration backgrounds. Most studies also reported higher

levels of mental health problems among adolescent immigrants than among adolescent natives in Norway (Abebe et al., 2014). One could assume that being part of both marginalized groups, having a low income and migration background, would yield even worse mental health than being part of only one. However, this thesis is based on a finding where children without migration background reported more mental health difficulties than their peers with migration background.

Sociodemographic factors

Although many studies have identified associations between low-income, migration background and mental health, there are several other factors that could contribute to this association. In order to further improve our understanding of this, we included several covariates that had previously emerged as potential explanatory variables from the literature. In the following paragraphs we elaborate on how these variables are understood in the existing literature, starting with the main factor of our thesis: migration background.

Migration background

An internationally comparative study of emotional and behavioral symptoms among adolescents found more behavioral and emotional problems among immigrants in comparison to native adolescents (Stevens et al., 2015). Abebe and colleagues (2014) also found mental health problems to be more prevalent among refugees, where part of the explanation for this could be more traumatic and adverse life events both in the origin country, such as war, torture and violence, and in the extreme stress during the refuge to the new country. Also having a background from low- to middle-income countries appears to be a risk factor for mental health (Thapa & Hauff, 2005). In Abebe and colleagues' review (2014) possible reasons for this was suggested to be past traumatic experiences, multiple negative life events, poor social support, and deprived economic conditions. Parental war experience also appeared linked to increased mental health problems for children and adolescents (Lien et al., 2006).

Being from a Middle-Eastern country was also reported as a risk factor in another study (Thapa & Hauff, 2005). Consistent with this, another study found no significant difference between immigrants from high-income countries and non-immigrants in Norway (Dalgard et al., 2006). Kouider and colleagues (2014), however, found in their review that children and youth with migration background did not have an increased risk of emotional and behavioral problems, no matter the background they had. They found that low socioeconomic status or a low level of education was found to be a risk factor for behavioral or emotional problems in both native and immigrant children.

A Finnish study by Strohmeier and Kärnä (2011) found that both first- and second-generation immigrants experienced more sexual and racist victimization than the native Finns (Strohmeier et al., 2011). There also exists evidence indicating that peer victimization, is related to generalized and social anxiety, depression, low social- and global self-worth (Hawker & Boulton, 2000). Sam and colleagues (2008) conducted a study with a huge cross-national sample of native and immigrant youth from several European countries. The findings indicated that being a first-generation immigrant is related to elevated levels of intrapersonal problems, in comparison to being a native.

A significant difference between adolescents who are first-generation immigrants and second-generation immigrants has also been found. Abebe and colleagues (2014) found that the former appears to be at higher risk for mental health problems, while second-generation immigrants seem to have better psychological adaptation. They also report significantly fewer peer- and emotional problems than first-generation adolescent immigrants (Abebe et al., 2014).

Literature has also found individuals with migration background to report better mental health than the health of the majority population. For instance, findings from the study of Beiser and colleagues (2002) indicated lower levels of behavioral and emotional problems

among immigrant children compared to their native Canadian peers. This improved health among immigrants could be explained by the phenomenon called *the healthy migrant effect (HME)*. This effect describes a mental health advantage among newly arrived immigrants compared to the health of the host population. The HME has been verified in numerous European countries, like Spain, England, Sweden and Norway, as well as the US (Dhadda & Greene, 2018; Haugrud, 2022; Helgesson et al., 2019; Rivera et al., 2016; Ruhnke et al., 2022). Several studies have also found social support to be an important protective factor for immigrants mental health (Farahani et al., 2021; Fazel et al., 2012; Mohamed & Thomas, 2017).

Children's gender

Fazel and colleagues (2012) did a systematic review of risk and protective factors for mental health of displaced and refugee children resettled in high-income countries. In about half of the 44 studies there was reported higher prevalence of mental health disorders, in particular depression and internalizing difficulties, in girls than in boys. A study from Finland, Sweden and the UK found that male adolescents scored lower than females regarding PTSD, emotional distress, and hyperactivity, and reported significantly higher well-being than girls (Verelst et al., 2022). In Abebe and colleagues' review (2014) from the Norwegian context, it was found that gender is a significant factor for immigrants and mental health. In several studies, they found that immigrant girls reported more internalized mental health problems, poorer psychological adaptation, and more depressive symptoms than immigrant boys and non-immigrant peers (Abebe et al., 2014). On the other hand, immigrant boys reported increased conduct problems.

Children's age

There is broad agreement that different psychological disorders and mental health symptoms are more common in certain age groups. For example, anxiety disorders and depression are

more common among older adolescents than younger children, while behavioral disorders are more common for younger adolescents than older (World Health Organization, 2021). In Norway in 2022, 8% of boys in secondary school versus 11% of boys in tertiary school reported high levels of mental health problems. A similar increase with age appears for girls, where 23% in secondary school versus 29% in tertiary school reported high levels of mental health problems (Bang et al., 2023).

Having work-related income

Whether parents have a job with income seems to be a relevant factor for children's mental health, though with lack of strong evidence to make conclusions and interpret causal pathways (Fazel et al., 2012). Tousignant and colleagues (1999) found that parental unemployment for 6 months or more the first year after resettlement in a new country, was predictive for psychological problems for their children. However, Rousseau and colleagues (2000) did not find such a predictive effect comparing immigrant youth and native-born youth in Quebec. In Kaltenbach and colleagues' cross-sectional study (2018) of refugees in Germany, they found that unemployment during integration in the host country was associated with emotional distress for the unemployed. Stillman and colleagues (2009) also found, in a natural experiment of Tongan immigrants to New Zealand, that employment status has a strong relationship with women's mental health in particular, where unemployment is a risk factor. Abebe and colleagues' review (2014) also identified «lacking a paid job or unemployment» as a risk factor for mental health problems for immigrants in Norway. We will further discuss how parents' psychological problems can be associated with children's mental health.

Parents' mental health

In a study of Bosnian refugees in Sweden, it was found that children with parents in need of psychiatric treatment scored higher on mental health problems, particularly anxiety (Angel et

al., 2001). This association was however attributable to shared stressors, e.g. talking about the war seemed to heighten negative stress in the children worst affected, but not in the least affected children (Angel et al., 2001). Also, in a study of Chilean and Middle-Eastern refugees in Sweden they found an association between having a parent in psychiatric treatment and higher symptom scores (Hjern et al., 1998). A study of rural children and adolescents with different ethnicities, found that poverty was weakly associated with child psychiatric disorders, and considered family history of psychiatric disorder as a powerful risk factor, potentially involving genetic predisposition, challenges associated with living with affected family members, or a combination thereof (Costello et al., 2001). In Fazel's review (2012) of risk and protective factors for refugee children, there were several studies that found that parents, particularly mothers, having good mental health is an important protective factor, which is consistent with evidence from the general population (Fazel et al., 2012).

Children's living situation

Fazel and colleagues (2012) describe parents' marital status and living arrangement as an important factor for refugee children's mental health, for example finding that living with both parents would lower rates five times for the boys' psychological symptoms than in other family arrangements. They also found that living with both parents was linked with lower internalizing scores in mid-adolescence (Fazel et al., 2012). Costello and colleagues (2001) did not find that living in a single-parent household played a significant role in explaining differences in mental health between ethnicities. However, Yang and Mutchler (2020) found that among refugees in the United States, a larger household size was a protective factor against depression.

Parents' level of education

A study from Spain found a strong association between parental education and their children's mental health, reported by their parents (Sonogo et al., 2013). In Fazel and colleagues review

(2012), they found that parental education had variable effects for refugee children in the literature; it might be protective or have no significant effect (Fazel et al., 2012). At the same time, one can assume that higher education increases chances of getting a job and income. As discussed earlier in the introduction there are different hypotheses and perspectives that argue for income being linked to mental health, like the family investment perspective and the family stress model. Therefore, we find this factor interesting to further examine in this thesis yet being aware of the lack of strong evidence in the existing literature when it comes to the immigrant population.

Moving and changing schools

Costello and colleagues (2001) found that one critical risk factor in the relationship between poverty and negative mental health implications, was multiple relocations, especially four or more moves within the past five years. Such frequent changes in residence often results in attending several different schools. A study Danish study found that attending several different schools was a predictive factor for externalizing behavior in young refugees (Montgomery, 2008). On the other hand, a study comparing experiences of unaccompanied and accompanied refugee minors, did not find that changes in school was associated with decreased psychological functioning (Bean et al., 2007).

Participation in organized leisure activities

Several studies suggest participating in organized activities as a relevant factor for children- and adolescent well-being. Darling (2005) did cross-sectional studies with a Californian sample consisting of adolescents with different ethnicities, and found that participation is associated with positive adolescent outcomes like higher grades, academic aspirations and positive attitudes toward school. Bohnert (2008) found that urban African American adolescents involved in active, structured activities experienced more positive emotions. A study by Fredricks and Eccles (2008) also found that organized activity was linked to higher

self-esteem, resiliency, and prosocial peers for African American youth. Wong (2010) describes community-based youth centers as being «... able to offer the following kinds of social and emotional support: sense of trust and caring, sense of ethnic self and identity, sense of home and safe space, serving as role models, and sense of being a teenager.» (Wong, 2010, p. 709).

Family receiving housing allowance

Housing allowance (“bostøtte” in Norwegian) is a government-funded, income-based subsidy designed to assist individuals with limited income and substantial housing costs (The Norwegian State Housing Bank, 2023). According to a report from Statistics Norway, households including individuals with migration background and individuals that rent receive more housing allowance compared to households with ethnic Norwegians and individuals that own a house (Revold & With, 2019). Smedsvik and colleagues (2022) also found that immigrants in Norway receive more housing allowance than native Norwegians. A report on immigrant children and housing (Grødem, 2011) said that the most common residential issue of families in Norway with migration background was crowded living conditions. Other common issues, concerning nearly half of the families with migration background, were draft, mold or fungal damage or traffic noises. The accumulation of residential issues also increased exponentially with the number of children (Grødem, 2011). Increasing residential issues results in more housing costs, and we therefore assume that this heightens the chance of receiving housing allowance.

Family receiving financial assistance

Financial assistance (“økonomisk sosialhjelp” in Norwegian) is a temporary economical support for individuals unable to cover necessary expenses themselves (NAV, 2023a). Individuals can apply for assistance for different purposes: deposit for a home, electricity bills, health and dental work, as well as other living expenses. Financial assistance would be

essential for households that lack fundamental resources, and further providing these resources would contribute to improving the health of the family members. The well-established association between income and mental health, pinpointed earlier in this thesis, can be understood through numerous mechanisms. Financial resources enable individuals to purchase health promoting goods like nutritious food as well as facilitating their engagement in social networks and broader societal activities, including access to educational and social events (Broadbent et al., 2023). Smedsvik and colleagues (2022) found that individuals with migration backgrounds received more financial assistance than native Norwegians.

Parent receiving work assessment allowance

Work assessment allowance («Arbeidsavklaringspenger, AAP» in Norwegian) ensures income during periods of illness or injury while finding out work options and opportunities together with NAV (NAV, 2023b). In 2023 43.1% of the people receiving AAP are not working because of mental illness, and 28.8% have muscle- and skeleton illnesses (NAV, 2023b). In Hisle-Gorman and Susi's study (2021) it was observed that children with parents suffering from illness or injury had a significant rise in visits to mental health services. Specifically, post-parental injury visits related to suicidal ideation, alcohol abuse, mood disorders, and anxiety disorders were all doubled. Across all age groups, parental injury correlated with heightened utilization of various classes of psychiatric medications. A study from Northern Finland, found associations between parental physical illness and children's behavioral problems, in particular male behavioral problems (Lotta et al., 2021).

Parent receiving disability benefits

The disability benefit is meant to secure income for those whose earning capacity is reduced by at least 50% due to illness or injury. One must have completed appropriate treatment for improving the ability to work, and clarified how much you are able to work (NAV, 2023c). The same literature mentioned in the paragraph regarding work assessment allowance can be

applied to disability benefits as well. The difference between the two is that working capacity has been assessed and finally considered as reduced by 50% or more when receiving disability benefits.

Family receiving child protective services

The aim of child protective services is to safeguard the most vulnerable children. Their primary objectives comprise shielding children from neglectful care and ensuring their safety, as well as fostering their growth opportunities (The Norwegian Directorate for Children, Youth and Family Affairs, n.d.). The relationship between the child protection services and socioeconomic conditions were investigated in a report from 2021 (Kojan & Storhaug, 2021). One main finding was that children in families with low socioeconomic status showed overrepresentation in the child protection services. Further, the likelihood of receiving child protection services was twice as high for children and youth with South American, Asian, and African background compared to children and youth with Norwegian background (Kojan & Storhaug, 2021).

Our thesis

In conclusion, the escalating prevalence of children residing in persistent low-income households in Norway, has raised profound concerns about the developmental trajectories and future opportunities of these children. The ramifications extend beyond economic constraints and include significant implications for their mental health. Notably, mental health problems among children and adolescents have become increasingly prevalent, with a rise in symptoms of depression and anxiety since the 1990s, particularly among girls. The link between low socioeconomic status and adverse mental health outcomes is well-established in literature. Furthermore, the overrepresentation of children with migration backgrounds among the socioeconomically disadvantaged adds another layer to the intricate dynamics, given that migration background also is considered as a risk factor for mental health problems.

Surprisingly, other results have been shown in a study from Southern Norway. Bøe and colleagues (2023) found that children without migration background reported more mental health symptoms than their counterparts with migration background. Our thesis aims to examine which potential factors that could explain this difference between the groups, employing regression analysis on a dataset that includes various variables related to the children and their families. By incorporating previously identified covariates from the existing literature, we seek to uncover the factors contributing to the observed difference between these two groups. Further we aim to provide valuable insights to the current discussions surrounding child poverty and mental health.

Methods

Participants and procedures

In this thesis we have used data from *New Patterns*, that is an intervention study for families with children aged 0-17 living in Southern Norway. The families targeted have persistent low household income, as well as additional challenges, therefore with longstanding need for integrated services. The families were referred to the project through different services in the municipalities, like kindergartens, schools, public health clinics, general practitioners, the Norwegian Labor and Welfare Administration (NAV), child protective services and mental health services. The intake team then discussed each referral and how in need the families were for the project with coordinated long-term follow-up or if their challenges could be handled at a lower level. In this thesis we will focus on the self-reported scores from the children and adolescents themselves, aged 10 to 18 (number of participants=218, age mean=13.37, standard deviation=2.13). The reports were gathered within 360 days after admission to the project, with a median time of 82 days. Reports were made through the self-report version of Strengths and Difficulties Questionnaire (SDQ).

Instruments

Mental health

Symptoms of mental health were assessed with the self-report version of the Strengths and Difficulties Questionnaire (SDQ-S), an extended and Norwegian translated version. The questionnaire contains 25 items, which can be answered with “certainly true”, “somewhat true”, or “not true”. The answers can then be summed up to five subscales with scores from 0 to 10. The first four are the problem scales: conduct problems, hyperactivity/inattention, emotional problems, peer relationship problems, and lastly a scale for prosocial behavior. The subscales are furthermore summed to a total difficulties scale, ranging from 0 to 40. This thesis examines the four problem scales and total difficulties. Numerous studies have investigated the psychometric properties of SDQ and it has been well documented in terms of reliability (Muris et al., 2003; Ortuño-Sierra et al., 2015).

Migration background

Migration background is here defined as either having migration background or not having migration background. In our dataset having migration background encompasses all children with at least one parent who is a migrant, and if the child is a migrant themselves.

Covariates

Background characteristics were assessed when the families were included in the project. In this thesis we will focus on the sociodemographic variables described earlier in the introduction, where we mainly focus on how the covariates affect the difference between the groups with and without migration background and their mental health. In the analyses we centered the age variable based on the mean age, to ease the interpretability of the regression coefficients. The children's living situation is here defined as whether they are living with one or more parents. The variable was originally measured using the options residence with mother and visitation with father, residence with father and visitation with mother, shared

custody, sole-custodial mother, sole-custodial father, and lastly mother and father living together. We recoded this variable to make the first five options living with a single parent, where the alternative is living with both parents. The educational level of parents was originally measured using the options not completing primary and secondary school, completing primary and secondary school, completing tertiary school, and having higher education (university level). The parent with the highest level of education counts. The variable was recoded into lower education, including not completing primary and secondary school (first to tenth grade) and completing only primary and secondary school, while higher education included completing tertiary school (eleventh to thirteenth grade) and having higher education at for example university level. Parental employment status is defined as at least one adult in the family having a job with income within the last year before entering the program. When it comes to moving and changing schools, we included the number of moves in the last three years. Regarding housing allowance and financial support, they are defined by if the family was receiving these services in the last year before joining the program. The variable regarding child welfare services is defined by whether the family are in contact with them today (i.e., when filling out SDQ) or not. Work assessment allowance and disability benefits are defined by whether an adult in the family received this the last year before joining the program. Participation in organized leisure activities is defined by participating today or no participation today. The variable regarding parents' mental health is defined by whether at least one adult in the family reports receiving services related to substance use and/or psychiatry at the start of the program.

Statistical analyses

Recoding

We decided to recode several variables in STATA to make the results more interpretable. In our thesis we focus on risk factors for mental health symptoms and how they affect the two

different groups. Therefore, we recoded several of the variables to dichotomous variables where the code “1” would solely equal the risk factor within the variable. After each recoding of the variables, we controlled for potential mistakes in the recoding. We did this by generating a summarized table for both the original and the new variable. This way we could compare the scores in the tables and make sure that they correspond. The rest of our variables were already coded with the risk factor having the value «1», while age and number of moves were used as continuous variables.

Regression analyses

To answer our research question, we conducted multiple regression analyses of migration background and relevant covariates in our dataset, comparing the variables to each of the problem areas and lastly total problems. 9 values are missing on the sociodemographic variables regarding the parents, so the fully adjusted analyses included 209 participants. We did all analyses for each of the problem areas; emotional symptoms, conduct problems, peer problems, and hyperactivity/inattention, as well as the total difficulties scale. We first conducted bivariate analyses between each problem area and each covariate, and lastly a fully adjusted analysis with all covariates for each problem scale.

In the bivariate regression analyses, we investigated the relationship between the sociodemographic variables and the four different problem areas in addition to the total difficulties scale, one variable at a time. In the fully adjusted analyses, we adjusted for all covariates at the same time, examining how the migration background coefficient changed for each problem area and total difficulties. We consistently adjusted for cluster effects on a family level, because the children had their own ID as well as being a part of a family ID, which would be similar to their siblings' family ID. To help interpret the results, we also did analyses of the total difficulties scale with migration background adjusted for one covariate at a time and examined how the migration coefficient changed. We did however not find

anything significant that could explain the difference between with and without migration background, and these analyses are therefore not included in the results.

Ethical considerations

This study involves human participants, and the study is conducted according to recommendations from the Norwegian Data Protection Services (record number 27435) and approved by the Regional Ethics Committee of Western Norway (approval number 249507). Participants gave informed consent to participate in the study before taking part.

Results

Descriptive statistics

In Table 1, we depict the distribution of groups across the relevant covariates and assess whether the distribution indicates a significant difference between the groups or not. We found that there were significant differences between the groups on six of the thirteen covariates. Significantly more children without migration background are living with a single parent, lives with an adult receiving work assessment allowance, and an adult in contact with mental health services. Significantly more children with migration background had no adult in the family with work-related income and are in a family receiving housing allowance and financial support.

----- *Table 1 here* -----

Figure 1 and 2 shows the differences between the groups with and without migration background on self-reported total difficulties and the four problem areas. We found significant differences in the means of all scales. The largest differences between the two groups were found for total problems and emotional problems. Generally, both groups reported more symptoms of hyperactivity/inattention than the other problem areas.

----- *Figure 1 + 2 here* -----

Bivariate analysis

Table 2 presents the results of our bivariate analyses for all scales, where we conducted simple linear regression of each problem area and each covariate.

----- *Table 2 here* -----

The four problem areas

Through bivariate regression analyses, five variables were found having a significant relationship with emotional problems: migration background, gender, age, living with a single parent, and having an adult in the family in contact with mental health services. One factor was significantly associated with less emotional problems; the male gender was a significant predictor for having less emotional problems ($b=-.94$, $se=.31$). Thus, being female was significantly associated with more emotional problems. Four other variables were found to significantly predict more emotional problems; having no migration background ($b=1.19$, $se=.35$), mean centered age ($b=.18$, $se=.07$), living with a single parent ($b=.80$, $se=.32$) and living with an adult receiving psychiatric/substance abuse services ($b=.77$, $se=.36$).

We only found the variable no migration background to be significantly associated with having more conduct problems ($b=.65$, $se=.22$). No other variables were significantly associated with conduct problems.

In the bivariate analyses of peer problems, we found two significant variables: migration background and having work-related income. Having no migration background had a significant association with reporting more peer problems ($b=.58$, $se=.26$). Also having no adult in the family who had work-related income was positively associated with peer problems ($b=.78$, $se=.35$).

Further we found four variables to have a significant relationship with symptoms of hyperactivity and inattention: migration background, living with a single parent, receiving financial support, and being in contact with child welfare services. Having no migration

background was positively associated with more symptoms ($b=1.14, se=.38$), as was living with a single parent ($b=.87, se=.34$) and using child welfare services ($b=.88, se=.33$).

Receiving financial support, however, was negatively associated with hyperactivity/inattention ($b=-.74, se=.34$).

Total difficulties

For total difficulties, we found four variables to have a significant positive association with the total problem scale. The variables that significantly predicted more total problems were having no migration background ($b=3.56, se=.86$), mean centered age ($b=.37, se=.18$), living with a single parent ($b=2.00, se=.80$) and living with an adult receiving psychiatric/substance abuse services ($b=1.85, se=.89$).

Fully adjusted analysis

Table 3 depicts results from the fully adjusted regression analyses for each problem area and total difficulties. Here we adjusted for all covariates at the same time for each problem area and total difficulties.

----- *Table 3 here* -----

The four problem areas

Two variables were significantly associated with emotional problems: gender and migration background, when all other variables were held constant. Having no migration background was associated with more emotional problems ($b=1.00, se=.44$), while being male was associated with less emotional problems ($b=-.60, se=.27$), which is in line with the bivariate regression analyses.

Only having no migration background was positively correlated with conduct problems ($b=.61, se=.27$) when controlling for all variables.

Migration background and work-related income had a significant relationship with peer problems. No migration background was positively associated with peer problems ($b=.74, se=.35$), as was no work-related income in the family ($b=.93, se=.37$).

Even though we found four variables to be significant in the bivariate analyses for hyperactivity/inattention, only using child welfare services ($b=.76, se=.37$) was significant after adjusting for all the variables. However, the variable regarding migration background was no longer significant.

Total difficulties

When controlling for all covariates, only one variable was significant: Having no migration background was significantly associated with a higher score on the total difficulties scale ($b=3.07, se=1.15$). The coefficient was only slightly reduced compared to the bivariate analyses of total difficulties adjusted for just migration background ($b=3.56, se=.86$). In other words, none of the covariates could explain the difference between having migration background and not having migration background on self-reported total difficulties.

Discussion

Using a sample of 218 participants who participated in New Patterns, an intervention study for low-income families, we investigated differences in mental health between participants with and without migration background. The results suggested that participants without migration background reported significantly more emotional-, conduct-, peer-problems and symptoms of hyperactivity and inattention compared to participants with migration background. Using a rich set of relevant covariates, we explored whether any of these could explain the difference in mental health problems between the two groups, but mental health differences remained significant also in models fully adjusted for covariates. Based on the literature we initially examined, the fact that none of these covariates could explain the difference was surprising to us. As earlier pinpointed in this thesis, most of the

existing literature on the theme supports that individuals with migration background have an increased risk for mental health problems, compared to the individuals of the host nation. However, in our sample from Southern Norway, the Norwegian children without migration background reported worse mental health on SDQ than the children with migration background. The fact that none of our chosen variables could explain the difference in mental health leaves us with one question; what can then explain the mental health advantage of the children with migration background in our sample?

Before discussing alternative explanations for the mental health advantage of the children and adolescents with migration background in our study, we will now discuss other noteworthy findings from our analyses. In the fully adjusted analyses, we identified a significant association between gender, particularly being male, and a lower incidence of emotional problems. This aligns with our expectations based on the preliminary literature search conducted at the onset of the study. Contrary to our anticipation, we did not observe a corresponding association between male gender and increased symptoms on the conduct problems scale. However, we refrain from considering gender as a variable that can explain differences between groups with and without migration background, given its' generally even distribution across various backgrounds.

Our analyses revealed that absence of work-related income among adults in the family was linked to a higher prevalence of peer problems. The literature initially reviewed lacked sufficient evidence to draw conclusions regarding the impact of paternal employment status on children's mental health in families with migration background (Fazel et al., 2012). Nonetheless, certain studies hinted at the adverse effects of unemployment on mental health for the unemployed individuals (Abebe et al., 2014; Kaltenbach et al., 2018; Stillman et al., 2009), in this case, the parents. Additionally, we found literature that supported the notion that

parents' mental health is relevant to their children's mental health (Angel et al., 2001; Costello et al., 2001; Fazel et al., 2012; Hjern et al., 1998).

We examined the covariate of adults in the family receiving mental health services, though no significant associations were found in the fully adjusted analyses. However, it is not certain that our data captured all mental health problems the parents might have. A survey by the Office of the Auditor General in Norway (2021) found prolonged waiting times and unequal access to mental health services, that poses a significant concern for already vulnerable individuals. Therefore, we can reasonably assume that our variable does not encompass all parents with mental health problems. Consequently, given the limited evidence regarding parents with no work-related income, and its impact on children's mental health, it is plausible that parental mental health serves as a mediating factor between parental employment status and children's mental health that is not fully captured by our data.

In the fully adjusted analysis of hyperactivity and inattention, we found that the difference between the groups with and without migration background was no longer significant when adjusting for all the variables together. From this we can assume that the differences can be explained by one or some of the variables in our analyses. This does, however, not happen with emotional problems, peer problems, conduct problems and lastly not with the total difficulties scale, which therefore seems to be mostly explained by the differences in three of the problem areas excluding hyperactivity/inattention.

Further we will discuss different alternative explanations for the mental health advantage of children with migration background. The following alternative explanations we will discuss are the healthy migrant hypothesis, the influence of cultural factors, different social support networks for the groups and social comparison effects.

The healthy migrant effect

Initially in our thesis we presented the healthy migrant effect (HME), an effect that has not been measured in our study. However, we find the HME relevant to discuss in relation to our findings because of the amount of literature supporting the effect, including in a Norwegian context (Haugrud, 2022). Research shows that 5-10 years after immigration, the healthy migrant effect would diminish, and after these years their health status becomes equal to or worse than the native population (Rivera et al., 2016). This decrease in mental health advantage could be due to a combination of the following factors: increased health awareness among immigrants, acclimatization, and a wider diagnosis of health problems among this group (Rivera et al., 2016).

Whether the HME would apply to our participants with migration background is unclear. We don't have exact data on how long the families with migration background have lived in Norway. However, for those who have immigrated, a prerequisite for participating in the New Pattern project is a residential permit. According to the Norwegian Directorate of Immigration, an immigrant must have lived continuously in Norway for 3 to 5 years to receive residential permit (The Norwegian Directorate of Immigration, n.d.). Based on this, we can assume that they have lived in Norway for at least 3 years. For the families living in Norway for 5 years and longer, we could, however, expect the HME to gradually diminish.

The literature that has examined the HME in different countries appear to be consistent in the assumption that the effect is due to characteristics of the personality of the migrants. For instance, a mental health advantage due to the HME was found in England among immigrants from Bangladesh, Pakistan, and India (Dhadda & Greene, 2018). The researchers suggested that the explanation for the effect, after balancing for all potential confounders, had to be personality factors that would select them to migrate. An assumption Dhadda and Greene (2018) made about selection effects for migrants, was a more resilient

personality that could enable them to manage unfavorable factors such as adjusting to a new environment and social stresses. Other studies that have investigated the HME also support this assumption (Chiswick et al., 2008; Guillot et al., 2018). According to their findings, the individuals in which the HME was found, constituted of a selection of healthy and robust individuals who can handle the social and psychological hardships of uprooting, travel, and resettlement.

Based on this literature, it appears the individuals who migrate consist of a more resilient and robust group of individuals compared to their native peers. This could be applicable to our findings, since robustness can be associated with better health as mentioned above. Haugrud (2022) have investigated the HME in a Norwegian context, with the focus on the mortality advantage of people migrating to Norway. In the literature, the mortality advantage of immigrants has been one of the measures of the HME (Guillot et al., 2018). The findings of Haugrud (2022) were consistent with the international literature: the immigrants in Norway were at lower risk of mortality compared to the non-immigrant population. The groups with the greatest mortality advantage were immigrants from Africa, Asia, South- and Central America, immigrants who have lived in Norway for 10-40 years, and labor migrants. A key limitation in this master thesis, however, was that the mortality level may not display the well-being of the individuals (Haugrud, 2022).

Despite the presence of the HME among migrants, the literature diverges on which specific immigrant groups exhibit this effect. In the study of Helgesson (2019), health outcomes were compared between a group of labor migrants from Western countries and family reunion or refugee migrants from non-Western countries, as well as compared to the native Swedish population. Their findings indicated less proof of the effect among immigrants from non-western countries, while HME among immigrants from Western countries was found (Helgesson et al., 2019). The same tendency was found in Australia (Chiswick et al.,

2008) and Norway (Haugrud, 2022). Our study has data on the reason for migration; 62 of the families are refugees and 35 have immigrated due to family reunification. These characteristics then speak against the HME to be an explanation for the mental health advantage. However, a finding from Haugrud (2022) could be more applicable for our participants: The HME appeared to be particularly prominent for the migrants with low education in Norway (Haugrud, 2022), and in our sample 58.5% of the children with migration background had parents with low education background

When discussing the abovementioned literature that spoke against our findings, we however must understand the results with caution in terms of generalizability, as with all studies that are experimental. Chiswick (2008) pinpointed the importance of individual factors on positive health selection, which could be hard to generalize due to the complexity of an individual. He suggested that the positive health selection among immigrants was likely more significant for those who migrate for study or work, where individual traits heavily influence the migration process. Conversely, it was less influential for those migrating through family reunification, where individual characteristics would weigh less (Chiswick et al., 2008). To what extent individual characteristics would yield for the reason for migration among our participants would vary. We don't have complete data on the complexity of the reasons for migration, and they might have migrated due to several individual factors not captured by our dataset.

Alternative explanations for the mental health advantage of immigrants have also been discussed in the literature on the HME. Dhadda and colleagues (2018) suggested that the migrants in their sample may also have had a health advantage due to better life conditions in England, compared to their sometimes war-torn and developing country of origin. A better quality of life in England due to this improvement in living conditions could further improve the mental health of the immigrants (Dhadda & Greene, 2018). As for the children with

migration background in our study having escaped from their country of origin, we cannot rule this out as a possible explanation for their enhanced self-reported health. One could assume that the welfare system in Norway could be experienced as an upgrade from the system of their origin country.

When considering the HME as a possible alternative explanation for the mental health advantage of the children with migration background in our study, the age of the participants must be considered. The studies we have investigated had participants of various ages, both children and adults. However, in cases where the HME has been investigated in parents, we assume that their mental health would still have implications for the health of their children. From a socioecological perspective, the family represents an important source of influence on the children (Bronfenbrenner, 1986). Given that personality traits could be hereditary (Bienvenu et al., 2011), the children could also have inherited resilient personality traits from their parents.

This assumption of more resilient personality traits among the parents and children with migration background can be supported by the social causation perspective as initially mentioned. Based on this, one would assume that the immigrant families became impoverished due to socioeconomic conditions and not mental health problems. On the other hand, the social selection perspective could be more suitable as an explanation for their socioeconomic situation among the families without immigration background. Assuming that these families without migration background are less resilient, it could be more likely that their individual characteristics has led to the family's socioeconomic status/economy.

The influence of culture

One unexplored variable between the groups with and without migration background is the cultural aspect. So far, we have discussed mental health on a more individual basis, presenting the possibility for individuals immigrating to Norway possessing more resilient

personality traits than the Norwegian low-income population without migration background. Culture, however, is learned and not innate, and puts the individual in a broader societal context. According to Hofstede and colleagues (2010), culture as a concept can have different meanings, and from a social anthropological standpoint, culture comprises the patterns of feeling, thinking, and acting in certain ways. It encompasses everyday life and mundane aspects of life, everything from eating, making love, expressing, or not expressing feelings, and to what degree individuals keep physical distance from others. The essence of culture is shaped by values, that can be explained by broad-ranging inclinations towards favoring specific situations compared to others (Hofstede et al., 2010). Further, we will discuss whether different cultural aspects could serve as an explanation for the difference in reporting of mental health problems among the groups in our study.

Collectivism versus individualism

Firstly, the cultural aspects of collectivism and individualism will be discussed in the context of our findings. Hofstede (2011) defines individualism and collectivism as the degree to which individuals in a society are connected to groups. In individualistic cultures, interpersonal ties are less binding, and individuals are expected to prioritize self-care and immediate family well-being. In contrast, collectivistic cultures involve individuals being part of strong, cohesive in-groups, providing protection in exchange for loyalty and opposition to other in-groups. An example of these cultural differences is seen in individualistic cultures where expressing one's opinions is encouraged, while in collectivistic cultures, this should not disrupt the essential group harmony. Developed and Western countries tend to exhibit more individualism, while developing and Eastern countries lean towards collectivism (Hofstede et al., 2010).

Based on the data collected from the participants in our study, the distinction of individualism and collectivism could be applicable. As earlier mentioned, our sample of

children with migration background mainly consists of those seeking refuge in Norway or arriving for family reunification. In 2021, the predominant nationalities among asylum-seeking refugees in Norway were from Syria, Afghanistan, and Eritrea (The Norwegian Directorate of Immigration, 2021a). Concerning family reunion cases in 2021, the majority came from Eritrea, India, and Syria (The Norwegian Directorate of Immigration, 2021b). Notably, these nations are commonly associated with collectivistic cultures, while Norway, in contrast, is generally recognized as an individualistic society (Hofstede et al., 2010).

Whether there is a link between cultural dimensions and mental health and psychological well-being remains relatively understudied. Although there are proposed connections, empirical testing is hindered by insufficient data (Collishaw, 2015). Diener and colleagues (1995) examined the influence of individualism versus collectivism on the overall well-being of a society. They discovered that factors associated with individualism, such as higher levels of autonomy, self-determination, and ample wealth, were linked to increased subjective well-being and life satisfaction. Likewise, Veenhoven (1999) found that nations scoring highest in individualism also exhibited the highest quality of life. However, Schyns (1998) found that the positive effect of individualism on well-being disappeared after controlling for income. This can indicate that the positive effects seemingly connected to individualism are in fact due to mediating factors, such as the positive implications of having high income on well-being. According to these findings, a possible explanation for the reported worse mental health among the individuals without migration background in our sample could be the negative implications of having low income, with no protection from individualistic factors that one initially might assume would have positive implications.

There is also literature suggesting that individualistic factors may contribute to poorer emotional health at the individual level. For instance, a study conducted by Scott and colleagues (2004) of young Australians, found that those with higher levels of individualistic

values tended to experience more social and psychological disadvantages. These disadvantages included poorer social support, less satisfying social networks, and diminished mental health indicators. These findings align with the theorizing by Triandis and Gelfand (1998), who argue that the heightened autonomy in individualistic cultures may prompt individuals to prioritize personal achievement over social relationships, fostering competition between individuals. This, in turn, can lead to anxiety related to social comparisons and thoughts of "Am I good enough," as well as heightened frustration when facing opposition, ultimately resulting in poorer emotional health (Triandis & Gelfand, 1998). Comparing oneself to others has been shown to have negative implications for mental health, contributing to feelings of alienation, reduced social support, and decreased community involvement (Sheeran et al., 1995). If this is the case for the participants without migration background, this might be a possible explanation for the difference between the groups in our sample. The children who grew up in the Norwegian individualistic culture without migration background will likely be affected by the negative effects of prioritizing personal achievement, competition, and therefore social comparisons with implications for mental health.

Collectivistic societies tend to foster stable social relationships and high levels of social cooperation by encouraging social cohesion, a sense of obligation to their social responsibilities and a shared set of goals (Ahuvia, 2002). Numerous studies provide robust evidence linking social connectedness to increased well-being (Jetten et al., 2012; Kasser & Ryan, 1996). This instance would support the difference found in the New Patterns project and could be a possible alternative explanation.

However, research often indicates that collectivist societies may experience lower levels of well-being when compared to individualistic societies. While collectivism supports social cohesion, it is not solely based on community affiliation and support (Ahuvia, 2002). Rather, it emphasizes fulfilling roles and meeting responsibilities within the in-group. Despite

being characterized by higher social connectedness, collectivistic societies also exhibit traits such as forced cooperation and dependence, which may not contribute positively to psychological well-being (Ahuvia, 2002). Moreover, developing- and third world-countries also lack sufficient support systems for mental and physical health compared to developed countries, and their economies are generally weaker. These factors may further explain why collectivistic cultures can be associated with poorer well-being. Furthermore, if individuals from collectivistic cultures move to developed countries with a broader array of support systems and the potential for improved economic conditions, it is conceivable that the positive aspects of the collectivistic culture may face fewer hindrances. This could be the case for our sample whom we assume come from collectivistic cultures in developing countries, now moving to a more developed country.

Nevertheless, cross-cultural research on individualism, collectivism and mental health is lacking and somewhat inconclusive. This might be due to the range of other variables present which could mediate the relationship. However, this is a variable that is not captured in our dataset, and we speculate that our participants' cultural background might be an interesting factor to explore in further research on this theme. If our participants with migration background have emigrated from collectivistic cultures, it would be interesting to further explore to what extent they have brought their collectivistic values and way of thinking to Norway. This will furthermore depend on how much they have been influenced by the Norwegian individualistic culture.

Cultural differences in attitudes towards mental health problems

Another alternative explanation for the mental health advantage of the children with migration background, could be a difference in their attitudes towards mental health problems due to their different cultural backgrounds. However, we must consider that we don't have data on the specific countries they have emigrated from. Hence, we can discuss culture only on a

general basis. A huge amount of research has highlighted differences in perception of health and illness across cultures (Biswas et al., 2016; Fernando, 1988; Kirmayer, 2004; Nguyen & Bornheimer, 2014). Thus, it would be interesting to explore whether different cultural attitudes could influence how the children and adolescents with migration background self-report their mental health status.

Gopalkrishnan (2018) explored a few essential considerations found at the intersections of mental health and cultural diversity. He suggested that cultural diversity has considerable influence on health seeking behavior, attitudes of the consumer, as well as how health and illness are perceived by the individual. These assumptions were based on the conceptual model for mental health services of Hernandez and colleagues (2009). According to their model, cultural factors will influence what is defined as an issue, how that issue is perceived, and the variety of solutions considered suitable to handle it. According to Aldwin (2004), which types of stressors being experienced as well as the assessment of these stressors could vary greatly between different cultural groups. Some stressors could be attributed as normative, or as a life event the majority in that culture will experience. If we apply these findings to our own study, it might be that similar stressors in the daily life of the children or adolescents have been perceived differently and further been reported differently in SDQ.

Hechanova and Waelde (2017) identified five essential elements of different cultures that could be of significance for accessing mental health professionals: emotional expression, shame, power distance, collectivism, and spirituality/religion. Gopalkrishnan (2018) suggested these elements to comprise a framework for discussing the relationship between cultural diversity and mental health. Regarding emotional expression, certain cultures may perceive that talking about difficult or painful emotions would result in even more painful emotions, which is found in refugees from Southeast Asia and Africa (Haque, 2010). The element of shame can in this context lead to slower access to mental health professionals due

to, for instance, trying to protect their own dignity as well as protecting the family reputation. It could also be linked to a fear of being perceived as “crazy” or a reluctance towards opening up to strangers (Chen & Mak, 2008; Hechanova et al., 2013; Nguyen & Bornheimer, 2014). Power distance refers to the significant disparities in power between the therapist and patient in Asian countries, while collectivism was understood as protective factor for coping and resilience. The last element, spirituality and religion, was discussed in the context of how individuals attribute their problems and cope with disease (Hechanova & Waelde, 2017).

This framework could be applicable for our participants, given the fact that the individuals with migration background have a different cultural background than their Norwegian peers. To what degree these elements could concern our participants will vary between cultures as well as on an individual level. We assume that these elements could affect the degree of openness on the self-reporting in SDQ. Another factor that could affect openness towards mental health symptoms could be stigma. In some cultures, it appears that stigma surrounding depression and other mental illnesses can be more pronounced, making it harder for these individuals to seek mental health support (Biswas et al., 2016).

Another cultural difference that has been found in the literature, is how an individual distinguishes the mind and body in relation to disease. Where Western therapeutic systems make a clear distinction, Feldman and colleagues (2007) found that Afghan refugees in the Netherlands seemingly failed to differentiate between physical and mental health. This indicates a fundamentally different way of perceiving disease. One could assume that these individuals to a greater extent, than individuals making this distinction, would experience their emotional symptoms more diffuse and further struggle with identifying and categorizing them. Additionally, mental health problems could be experienced as physical problems and the contrary. Given that this phenomenon has not been measured in our participants, we cannot rule out that this is not the case for the children and adolescents with migration

background. An alternative explanation for our findings could therefore be that some of the potential mental health problems the participants with migration background might have, could rather be perceived as physical. Hence, mental health symptoms might be underreported. What type of psychoeducation about the mind and body the children have received from their parents and at school, could vary. What the parents think about this issue could also vary, depending on their cultural background as well as the degree of integration to modern Norwegian values about openness regarding mental health.

In this part of the discussion, we have discussed whether the fact that the participants with migration background reported lower scores on mental health problems, could be related to underreporting due to cultural attitudes. However, the values and attitudes of the children with migration background could in different ways have been influenced by the Norwegian culture. A factor that can influence this is for how long these children have lived in Norway, as well as their parents. It is likely to assume that the children born in Norway, which constitutes 75% of the children with migration background, are more affected by Norwegian cultural values than the children born in the country of origin of their parents.

Different social support networks for the groups

Earlier we discussed social support in the context of collectivistic and individualistic cultures, through social connectedness and cohesion within the in-group. In this part, however, social support will be discussed in relation to social support networks as well as friendships. As initially mentioned, several studies have found social support to be protective for the mental health of immigrants. Our most relevant covariate related to this theme is participation in organized leisure activities. However, we could not find a significant association between the mental health advantage of the children and adolescents with migration background and participation in organized leisure activities today. Our dataset does not necessarily capture how connected our sample is to friends or social networks past

organized leisure activities. With the following discussion we believe that it could be relevant to further examine this. Firstly, we will discuss social support among the population with migration background, followed by a comparison of the social support networks for the groups with and without migration background in Norway. Existing literature that has examined risk and protective factors among immigrants, has found different forms of social support to be significant for their mental health, which we now will further elaborate on.

Mohamed and Thomas (2017) found social support in the form of refugee agencies and organizations to have a positive impact on the lives of children in the UK. Similar findings were found in the review of Farahani and colleagues (2021), where significant protective factors for dealing with mental health problems were social networks and community support. Friendships have also been found of importance for the well-being of the children in the study of Mohamed and Thomas (2017), as well as in the review of Fazel and colleagues (2012). Fazel and colleagues (2012) pinpointed the strength of peer relationships for the healthy psychological development of the children. Mohamed and Thomas (2017) further found that the friendships among children with migration background gave them a sense of belonging, which prevented loneliness and isolation. Sports and recreation activities additionally supported the children through development of their ethnic identity and helped them through the process of acculturation. To deal with the post-migration context, these children had adopted distinct coping strategies, including positive emotions such as hope, gratitude, optimism and happiness (Mohamed & Thomas, 2017).

Findings from these numerous studies indicate that social support in various forms is an important protective factor for immigrants' mental health. While our findings do not support this, it makes us question whether our data has not managed to capture the complexity of social support adequately. According to the literature examined, the importance of friendships and belongingness in a group is highlighted. As initially mentioned, these factors

are not measured in our dataset. The findings of Mohamed and Thomas (2017) could indicate that the children with migration background could provide more social support towards each other, due to the shared experience of acculturation. Another factor our dataset may not have captured is activities arranged by refugee agencies whose description did not fit into the options on the survey of sociodemographic characteristics. To summarize, for future research, friendships, and belongingness to a group, as well as other forms of activities, would be interesting to measure as alternative explanations for the difference in scores between our groups.

Even though literature says social support is protective for the mental health of children and adolescents with migration background, it seems like the protective effect could be dependent on the ethnic composition of the group. *The ethnic density effect* is a phenomenon whereby the health of individuals from an ethnic minority improves when they live in areas with a higher concentration of people from the same ethnic background (Shaw et al., 2012). According to the findings of Shaw and colleagues (2012), possible mechanisms for this protective effect within ethnic dense communities could be better social support, diminished racism, higher self-evaluation, as well as positive identity. These factors could override the adverse effects of material scarcity at a local level (Shaw et al., 2012). One could assume that this ethnic density effect could be applied to smaller groups within a community as well, for instance leisure activities. Concerning our dataset, it will be difficult to say if this effect could explain why the children and adolescents with migration background report better mental health. We do not have the demographic data on the degree of ethnic density in their neighborhoods or in the different leisure activities that have been measured. Because of this, we cannot dismiss this effect as an alternative explanation. When discussing this, it will also be important to take into account that the studies have been somewhat inconclusive on the

potential protective effects of the ethnic density effect (Bécares et al., 2012; Shaw et al., 2012).

To try to understand possible differences in experienced social support between the two groups in our dataset, it could be relevant to investigate possible differences in social support systems on a state level. The Norwegian Government has developed a collaborative strategy for low-income families between the years 2020 and 2023, called Equal opportunities in upbringing (The Norwegian Government, 2020). The aim of this collaborative strategy is to facilitate equal opportunities among all children and youth in Norway, so that they can shape their own future. All children and youth should be able to participate in social communities and establish friendships, live in safe environments, receive good care, in addition to feeling valuable as individuals. The different measures should, according to the strategy, be intended to encompass broadly within the low-income population. Thus, we suppose it will reach out to both groups in our study (The Norwegian Government, 2020). In Norway, the rights of children and adolescents are also legally well taken care of (The Norwegian Government, 2020) and are protected by the Child convention of the United Nations (United Nations, 2022).

Immigrants' rights are also incorporated in these strategies and laws in Norway. However, specific measures are also established to ensure successful integration to the Norwegian society. As a tool for early integrating the immigrants in Norway and further make them economically independent, The Norwegian Government has established *the Integration Act* ("Integreringsloven" in Norwegian) of 2003. Another tool for integration is numerous state grant schemes for immigrant organizations and networks (Ministry of Labour and Social Inclusion, 2023). The Directorate of Integration and Diversity administers grants for integration work conducted by voluntary organizations that aims at increasing societal involvement and labor market participation among immigrants and their children (The

Directorate of Integration and Diversity, 2023). An important sub-goal within the program is to foster a sense of community, belonging, and trust among immigrants and the broader population, while actively combating social exclusion (The Directorate of Integration and Diversity, 2023).

Comparing the governmental measures aimed at children and adolescents from low-income families with and without migration background, it may seem like there is a difference in prioritization. As a part of the integration policy, immigrants receive several financial benefits, and as initially described, the immigrant group in Norway is a marginalized and vulnerable group more in risk of mental health problems. Therefore, it is necessary and important to prioritize the mental health of this group. On the other hand, one can speculate on whether the social support systems are better or more facilitated towards individuals with migration background compared to their native peers. The measures toward low-income families without migration background might cover too broad of a spectrum. This could, in the worst case, lead to certain individuals slipping through the cracks and being forgotten by the system. Hence, differences in social support networks could be a possible explanation for explaining the difference in mental health between migrants and non-migrants in our sample.

The influence of social comparison

In the section about collectivism and individualism, social comparison was mentioned as a possible consequence of individualism. We will now further discuss the influence of social comparison on mental health as an alternative explanation itself for the mental health disadvantage the native low-income population has reported. In our thesis we examine the differences between two groups, who might have different reference groups, based on the fact that they come from different backgrounds. Having different reference groups might lead to different perceptions of their own situation as well. A study investigated how economic disadvantage relates to socioemotional challenges in children (Heberle & Carter, 2020). The

findings indicated that among children facing economic disadvantages, those who reported higher levels of personal disadvantage exhibited more attention problems and symptoms of anxiety and depression compared to their counterparts, who reported lower levels of personal disadvantage. This pattern did not emerge among children with relative economic advantage (Heberle & Carter, 2020). This discovery suggests that an individual's perception of personal disadvantage plays a mediating role in their psychological well-being, beyond the objective economic disadvantage they may face. It implies that how one perceives oneself is influenced, at least in part, by the societal context in which the individual exists; in other words, perception is relative to the people with whom one surrounds oneself.

If this holds true, it can be assumed that individuals without migration background may compare themselves to the majority population of ethnic Norwegians, where most enjoy ample wealth. As earlier mentioned, native Norwegians who are more likely to have an individualistic way of living, could be more prone to compare themselves to others due to a competitive mindset (Triandis & Gelfand, 1998). Conversely, individuals with migration background may have a reference group that includes others with similar backgrounds, that also might be from the same society/country and a minority as well. In our sample with migration background, this mostly involves societies with generally worse economy than Norway, such as developing countries. In this scenario, individuals without migration background might perceive themselves as more economically disadvantaged than those with migration background due to differences in reference groups. This can be understood in the context of *Social Comparison Theory* by Festinger (1954) which proposes that people evaluate their abilities by comparison with other's abilities, which stems from the drive for self-evaluation and such evaluation being based on comparison with other people. In sum, those without migration background may compare themselves to the majority population as ethnic Norwegians, and therefore view their situation as worse relative to the majority.

Another form of social comparison is comparing one's income to others' income. While the correlation between income and mental health is well-established, the underlying mechanisms driving this association remain unclear. Relative income, whether an individual earns more or less than their peers, may be as influential, if not more influential, than absolute income in predicting life satisfaction, and we will now further discuss this statement.

The relative income hypothesis proposes that an individual's attitudes towards consumption and saving are more influenced by their income relative to other than by an abstract standard of living (Duesenberry, 1949). Support for the relative income hypothesis was found in a study by Luttmer (2005) which investigated the extent to which life satisfaction ratings are influenced by the income of one's neighbors. Luttmer observed a significant and negative coefficient for the neighborhood income effect, indicating that individuals residing in affluent neighborhoods reported lower life satisfaction compared to those with the same income living in poorer neighborhoods (Luttmer, 2005). Relevant findings from Cheung and Lucas (2016) suggested that higher income inequality strengthened the impact of relative income.

In Norway, families with migration backgrounds are notably overrepresented among tenants in municipal housing (Grødem, 2011). Municipal apartments often cluster closely together, creating a concentration of low-income families in these areas. Although exact numbers for our specific sample are unavailable, if this pattern holds true, it is plausible that individuals in our sample may be influenced by the relative income hypothesis. If those with migration backgrounds predominantly reside among neighbors with lower income, while a greater proportion of the non-migrant sample lives among higher-income neighbors, this disparity could potentially account for differences in life satisfaction. This again could have implications for the children's mental health.

Another factor that might increase social comparison effects, could be intergenerational effects on social mobility. As mentioned in the introduction, a study by Markussen and Røed (2020) found such effects in Norway. The post-war increase in educational possibilities is proposed as part of the explanation for this. While these advancements in education have reduced the importance of inherited abilities in determining economic success, they might also have increased the role of the family in providing a social learning environment that influences individuals' outcomes. Having this disparity within the ethnic Norwegian population might also increase social comparison effects, and further explain why this group reports more mental health problems. Our sample of participants without migration background may not be affected in the same way, if their country of origin has not had a similar development. Again, our dataset has limited information regarding this and the other discussed factors leading to social comparison effects. We therefore encourage further research to examine such factors like reference groups, neighbor composition, and country of origin.

Strengths and limitations

One of the notable strengths of the present study lies in the recruitment of a relatively large and hard-to-reach sample of low-income families in Norway. This inclusive sample encompasses participants with diverse backgrounds, including families with and without migration background, and different reasons for migration. Another aspect is the utilization of a validated instrument to assess mental health problems, ensuring the reliability of the data collected.

However, it is important to approach the study's findings with an awareness of certain limitations. Notably, concerns arise regarding the representativeness of the sample. The recruitment process may have inadvertently led to a sample with more pronounced difficulties compared to a typical low-income cohort of Norwegian families. Consequently, caution is

advised when attempting to generalize the results to a broader population of low-income families in Norway. Regarding the literature we have examined and discussed, we must also take into consideration the fact that immigrants are a heterogeneous group in terms of country of origin and reason for migration (Farahani et al., 2021). Thus, the generalizability of the findings would most likely vary.

Furthermore, while the sample size in the current study was relatively large when compared to other studies involving low-income families in Norway, acknowledging the constraints is essential. A more extensive sample would have enhanced the precision of the statistical comparisons, providing more accurate point estimates. Despite these limitations, the study contributes valuable insights into the mental health of low-income families in the Norwegian context.

Conclusion

The key finding that our thesis is based upon, from the New Patterns project, suggests that children without migration background in low-income families report more mental health problems than their counterparts with migration background. This challenges existing literature, which typically points to migration background as a risk factor for young peoples' mental health.

Our thesis employed regression analyses to examine this finding, while adjusting for several relevant covariates. The covariates were chosen based on existing literature regarding children's and adolescents' mental health. The analyses were conducted for emotional problems, conduct problems, peer problems, hyperactivity/inattention, and total difficulties, in line with the Strengths and Difficulties Questionnaire the participants had filled out. Our primary focus was on total difficulties, and despite adjusting for covariates that we thought would be relevant, none emerged as explanatory factors for the observed difference in mental health between the two groups.

The results may contribute to the research and ongoing discourse on children's mental health in the low-income population in Norway. We believe we can say something about a group of people who is hard to reach, at risk, and in need of further attention and help. However, the sample size and representativeness must be considered. Our study underscores the necessity of exploring additional variables not included in our dataset, such as cultural factors that may influence how children relate to mental health problems, support services and self-reporting. Further research should also explore the potential impact of belonging to or originating from a collectivistic culture, which provides a form of social support that may be less available in an individualistic culture. It would also be interesting with studies exploring social comparison effects and how this differs between groups with and without migration background.

From a practical standpoint, our study may contribute to discussions regarding the development and structure of support services for children from low-income families. We propose directing more attention towards children without migration background, despite existing literature suggesting they should experience better mental health outcomes than those with migration background. We also respect literature highlighting migration background as an important risk factor, and why the existing laws, structures and support networks today focuses on this.

In essence, we advocate for continued research on this domain, urging exploration of potential similar trends in larger and more diverse samples. Intriguing avenues for future investigation could be regarding the existence of comparable findings in other regions of Norway or Western countries, along with an exploration of unmeasured factors in our dataset.

With the increasing proportion of children with migration backgrounds in low-income families as well as general rise in mental health challenges among youth, our findings indicates that children without migration background in such families report more difficulties.

This contradicts existing literature on risk factors for youths' mental health. We encourage further research to determine if this is representative and, if so, why.

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Table 1
Sociodemographic characteristics of participants

	N	Migration background (N=161)	No migration background (N=57)	p-value
Children's gender	218			.259
Male		79 (49.1%)	23 (40.4%)	
Children's age (mean)	218	13.39 (2.08)	13.30 (2.29)	.778
Living with a single parent	218			.009*
Single parent		93 (57.8%)	44 (77.2%)	
Lower education	209			.125
Lower education		94 (58.5%)	27 (47.4%)	
No adult with income-generating employment	209	154	55	.021*
No adult		24 (14.9%)	2 (3.5%)	
Moves the last 3 years (mean)	218	1 (1.21)	0.7 (1.06)	.101
Receiving housing allowance	209			<.001***
Receiving		105 (65.2%)	17 (29.8%)	
Receiving work assessment allowance	209			<.001***
Receiving		26 (16.1%)	22 (38.6%)	
Receiving financial support	209			<.001***
Receiving		99 (61.5%)	9 (15.8%)	
Receiving disability benefits	209			.144
Receiving		23 (14.3%)	13 (22.8%)	
Have been using child welfare services	218			.911
Yes		72 (44.7%)	25 (43.9%)	
No participation in organized leisure activities	218			.608
No participation		77 (47.8%)	25 (43.9%)	
Adult in contact with MHS	209			.001**
At least one adult		33 (20.5%)	24 (42.1%)	

Notes: Migration background = at least one migrant parent. N = Number of participants, MHS = Mental health services, *p<0.05, **p<0.01, ***p<0.001

Table 2
Bivariate regression analyses

	<u>Emotional problems</u>			<u>Conduct problems</u>			<u>Peer problems</u>			<u>Hyperactivity/inattention</u>			<u>Total difficulties</u>		
	<i>b</i>	<i>(SE)</i>	<i>p</i>	<i>b</i>	<i>(SE)</i>	<i>p</i>	<i>b</i>	<i>(SE)</i>	<i>p</i>	<i>b</i>	<i>(SE)</i>	<i>p</i>	<i>b</i>	<i>(SE)</i>	<i>p</i>
No migration background	1.19	(.35)	.001**	.65	(.22)	.004**	.58	(.26)	.025*	1.14	(.38)	.003**	3.56	(.86)	<.001***
Age (mean centered)	.18	(.07)	.014*	-.02	(.05)	.653	.10	(.05)	.053	.11	(.08)	.164	.37	(.18)	.041*
Male	-.94	(.31)	.003**	.04	(.20)	.855	.02	(.23)	.940	.28	(.34)	.408	-.60	(.78)	.444
Living with single parent	.80	(.32)	.015*	.17	(.21)	.423	.16	(.24)	.495	.87	(.34)	.012*	2.00	(.80)	.013*
Lower education in adult	-.62	(.32)	.056	-.31	(.21)	.141	.15	(.23)	.532	-.56	(.35)	.106	-1.34	(.80)	.097
No work income in family	-.77	(.48)	.113	-.12	(.31)	.707	.78	(.35)	.026*	-.82	(.52)	.112	-.93	(1.21)	.441
Moves the last 3 years	.13	(.13)	.350	.03	(.09)	.742	.01	(.10)	.923	.19	(.14)	.195	.35	(.33)	.294
Receiving housing allowance	-.46	(.32)	.158	-.06	(.21)	.763	-.17	(.23)	.476	-.36	(.35)	.295	-1.05	(.81)	.193
Receiving work assessment allowance	.41	(.38)	.284	.37	(.24)	.130	.36	(.27)	.188	.54	(.41)	.181	1.69	(.94)	.075
Receiving financial support	-.14	(.32)	.665	-.30	(.21)	.142	-.11	(.23)	.626	-.74	(.34)	.030*	-1.30	(.79)	.104
Receiving disability benefits	.66	(.42)	.122	.17	(.27)	.536	.34	(.31)	.272	.47	(.45)	.297	1.64	(1.05)	.121
In contact with child welfare services	-.14	(.32)	.656	.23	(.20)	.251	-.24	(.23)	.292	.88	(.33)	.009**	.73	(.79)	.354
No organized leisure activities	.56	(.32)	.079	-.13	(.20)	.523	.40	(.23)	.078	-.25	(.34)	.451	.58	(.78)	.462
Adult in contact with MHS	.77	(.36)	.031*	.24	(.23)	.299	.11	(.26)	.667	.72	(.38)	.060	1.85	(.89)	.039*

Notes: MHS = Mental health services, b = coefficient from regression analyses, SE = standard error, p = p-value, *p<.05, **p<.01, ***p<.001.

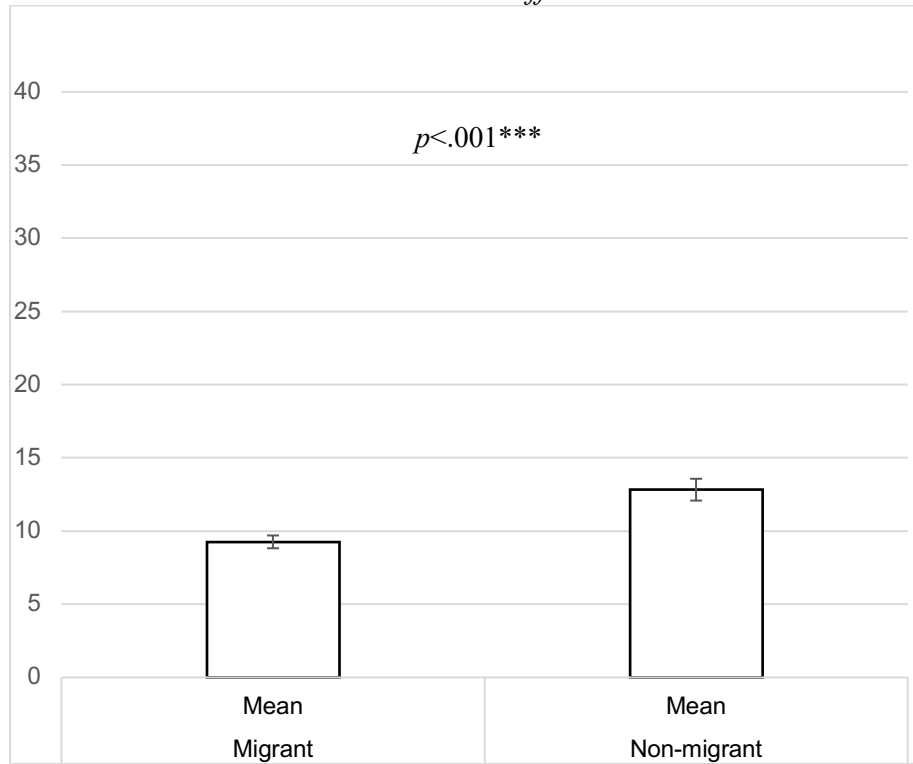
Table 3
Fully adjusted regression analyses

	<u>Emotional problems</u>			<u>Conduct problems</u>			<u>Peer problems</u>			<u>Hyperactivity/inattention</u>			<u>Total problems</u>		
	<i>b</i>	<i>(SE)</i>	<i>p</i>	<i>b</i>	<i>(SE)</i>	<i>p</i>	<i>b</i>	<i>(SE)</i>	<i>p</i>	<i>b</i>	<i>(SE)</i>	<i>p</i>	<i>b</i>	<i>(SE)</i>	<i>p</i>
No migration background	1.00	(.44)	.024*	.61	(.27)	.028*	.74	(.35)	.036*	.72	(.45)	.111	3.07	(1.15)	.009**
Age (mean centered)	.12	(.07)	.069	-.02	(.05)	.693	.08	(.06)	.139	.10	(.08)	.182	.29	(.18)	.106
Male	-.60	(.27)	.025*	.03	(.21)	.882	.21	(.22)	.351	.33	(.32)	.304	-.03	(.72)	.964
Living with single parent	.62	(.37)	.101	.01	(.23)	.965	-.02	(.31)	.950	.51	(.39)	.192	1.12	(.99)	.260
Lower education in adult	-.53	(.36)	.141	-.18	(.22)	.410	.12	(.31)	.701	-.27	(.33)	.422	-.87	(.87)	.323
No work income in family	-.52	(.51)	.305	.11	(.37)	.766	.93	(.37)	.014*	-.47	(.56)	.407	.04	(1.47)	.977
Moves the last 3 years	.09	(.23)	.698	.08	(.10)	.411	-.01	(.13)	.958	.28	(.17)	.100	.45	(.52)	.389
Receiving housing allowance	-.28	(.50)	.572	.31	(.31)	.320	.03	(.26)	.916	.26	(.41)	.523	.32	(1.13)	.777
Receiving work assessment allowance	-.09	(.49)	.857	.24	(.31)	.436	.31	(.33)	.351	.33	(.44)	.456	.79	(1.24)	.526
Receiving financial support	.49	(.44)	.265	-.24	(.30)	.420	.03	(.30)	.922	-.63	(.41)	.122	-.35	(1.04)	.738
Receiving disability benefits	.42	(.48)	.387	.22	(.23)	.345	.51	(.39)	.193	.45	(.44)	.311	1.59	(1.19)	.181
In contact with child welfare services	-.22	(.36)	.550	.20	(.22)	.363	-.21	(.23)	.356	.76	(.37)	.043*	.54	(.90)	.554
No organized leisure activities	.47	(.34)	.167	-.09	(.24)	.715	.16	(.24)	.506	-.23	(.36)	.531	.31	(.90)	.727
Adult in contact with MHS	.26	(.42)	.540	-.00	(.26)	.993	-.02	(.32)	.963	.13	(.39)	.747	.37	(1.01)	.716

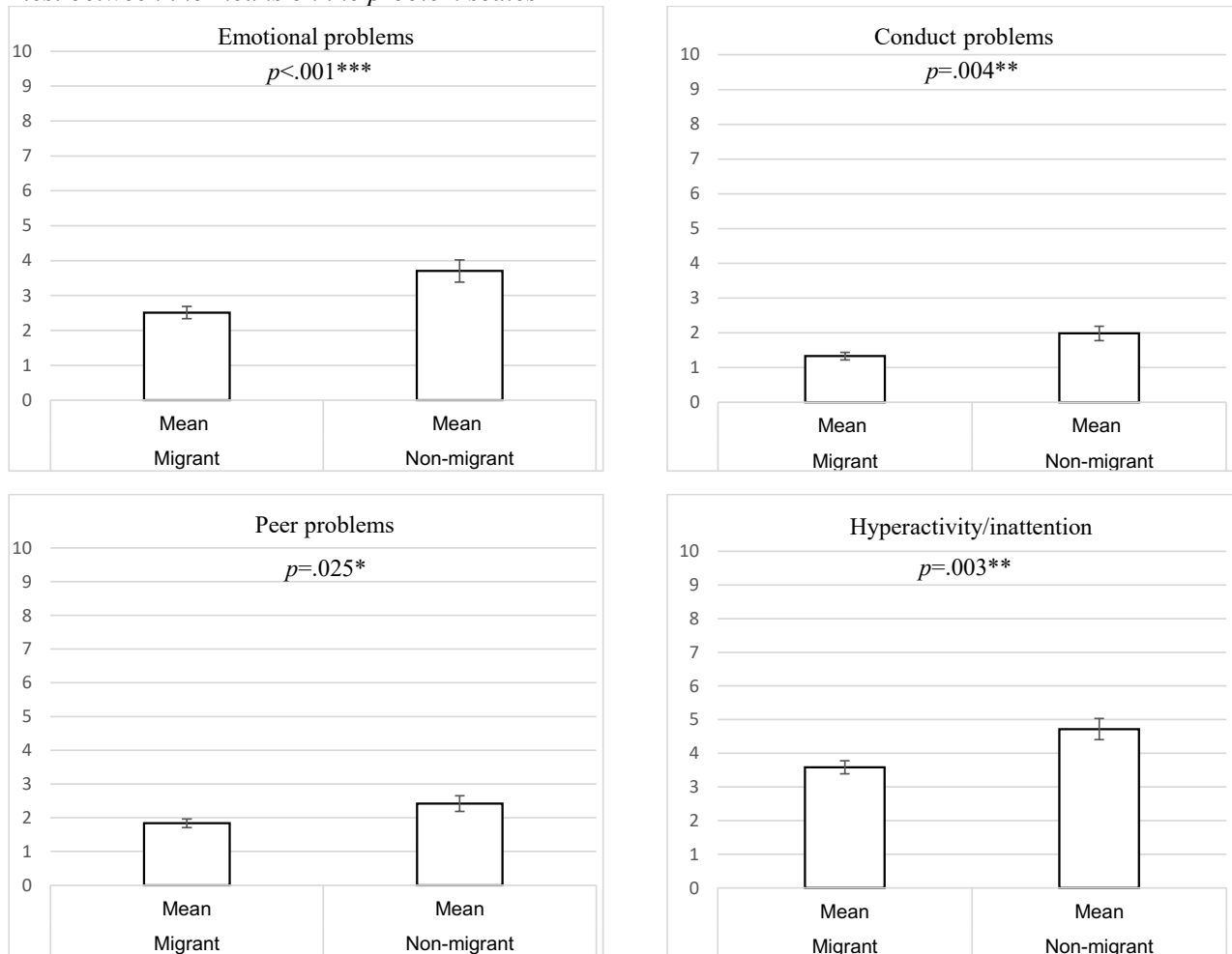
Notes: MHS = Mental health services, b = coefficient from regression analyses, SE = standard error, p = p-value, *p<.05, **p<.01, ***p<.001.

Figure 1

T-test between the means on the Total Difficulties Scale



Notes: The error bar represents standard error. P-value from t-test of mean difference between sample with migration background and without migration background.

Figure 2*T-test between the means on the problem scales*

Notes: The error bar represents standard error. P-value from t-test of mean difference between sample with migration background and without migration background.