Mental Health of Non-Western Immigrant Youth; Risk and Protective Factors

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Innhold

1 Abstract

Introduction: The increasing number of migrants with non-western background, in Europe has changed these societies from homogeneous to heterogeneous ones, in a few decades. Mental health of migrant children and adolescents with non-western culture is of huge interests for the migrant populations on one hand, and the whole society on the other hand. This might indicate a need to evaluate and study mental health of this population.

Method: This paper is based on literature review. The search was carried out in Medline database, by two medical students, in sept. 2014. Most of the studies included in this paper are based on self-, parents- and teachers-reports, by using standardized questionnaires. A few studies are based on diagnostics criteria, psychiatric examinations, interviews and self-developed questionnaires.

Results: the amount of literature on this subject is scarce. In total 23 studies and 2 systematic reviews satisfied our inclusion criteria for this paper. Most of the studies found a similar level of mental health between migrant children and adolescents with non-western background, and their non-migrant peers. However great inter-ethnic differences were found in most of the studies. The results showed that socioeconomic status, family structure, social support, school situation, acculturation strategy and the characteristics of the receiving society has at least as much impact on mental health of migrant children and adolescents, as ‘’migrant status” risk factor does.

Conclusion: From the available literature, we find that there is a complex pattern in psychological adaptation and mental well-being of migrant children and adolescents, who live in Europe. In addition, there are inter-ethnic, gender and individual differences among the migrant population as well. The field is still in need of more research.

2 Introduction

2.1 Background for choosing the topic

It has been assumed that migration constitute a risk factor for developing mental health problems. Using common logic, even without assessing systematic studies, one could argue that migration might have an overall negative effect on the mental health of individuals. The huge changes that happen so abruptly in the life of a migrant might lead to a lower threshold for developing mental health problems. However, it is of outmost interest to examine this theory by the help of systematic studies. Identifying high-risk groups and effective communication with them may save the patients for pain and illness, and save the society for many resources.

Having a basic knowledge about the effects of migration on mental health of individuals might become quite helpful in clinical settings as well. With this knowledge, we can make a cognitive schema to use when meeting with a patient from this population.

Moreover, this paper is written by two medical students who are also first-generation migrants. Being migrants ourselves, we have experienced some of the difficulties that come with migration. These first hand experiences have further motivated us to study the effect of migration on the individual's mental health, in order to achieve a better understanding of this process.

The aim of this paper is to review studies into risk and protective factors for mental health problems, among migrant children and adolescents, with a non-western culture, living in Europe. The question is limited to voluntary migrants (as opposed to refugees and asylum seekers).

We decided to focus on migrant children and adolescents, rather than on the adult population because of the following points:

- Children and adolescents are not fully developed. They are physically, cognitively, emotionally and socially immature. This might indicate that this population is more vulnerable for developing mental health problems.
- Once a child or adolescent develops mental problems, it can be long lasting and affect life chances, as well as being costly for the individual and the society.
- It seems more logical to prevent mental health problems among children and adolescents, rather than waiting until the problem has become chronic and profound.
- Promoting mental health of children and adolescents might in turn lower the chance of somatic diseases later in their lives. In addition to promotion of health, this might have economic advantages for the society as well.

When possible, we will look into different subgroups, depending on their age, if they are first or second-generation migrants, ethnicity / country of origin, reasons for migration, and the characteristics of the host country.

2.2 Background:

Migrants from non-western cultures come from settings quite different from the host country. They usually had lived according to different social, political and cultural norms prior to migration. Some of them may have other values than the host country in which she/he may experience a normal behavior (according to the receiving culture) as stressing or hurting.

Once a migrant has arrived to the host country, he/she has to adapt new cultural conditions, different moral values and different standards. In addition, migrants face different family values, social values, interaction styles and social roles in the host society, and have to learn a new language (10).

One might think that migrant children and adolescents would experience more challenges in their developmental tasks, than their non-migrant peers would. For instance, integration in a peer group and practicing peer relations adequately, would seem much harder if the individual does not have enough language skills, or host-culture competency. Another example of such developmental task is forming a personal identity for adolescents (23), which would be a hard task to fulfill provided the migrant is confused between the two cultures.

A publication from the Norwegian Central Statistics Bureau (SSB) (30), on the levels of child protection services' use in Oslo (on the group level), gives us an indirect window into the life situation of migrant children and adolescents. According to this publication, first- and second generation migrant children and adolescents in Oslo have respectively 2,67 and 1,85 times higher rates of child protection services' use, than their native peers. This might indicate the need to study this population, in order to find out more about migrant children and adolescents' life and mental health situation in Norway and Europe.

2.3 Mental Health, merely absence of a disorder?

WHO defines health as "A state of complete physical, mental and social well-being, and not merely the absence of disease". This definition covers many aspects of an individual's life, which are hard to study, particularly among children and adolescents and across different cultures.

In order to avoid this problem, most of the studies, which are included in this paper, evaluate mental problems, as a negative indicator of mental well-being. The studies divide mental health of children and adolescents into internalizing problems (e.g. emotional problems, depression, anxiety) and externalizing problems (e.g. ADHD, conduct problems, peer problems), and each study focuses on a different (set of) problem(s).

Most of the studies have used self-report as one of the means of collecting data, which seems in harmony with the WHO's definition of health. In the absence of serious mental illness, the individual itself is normally a valuable source of information concerning own mental (as well as physical) well-being.

2.4 Types of migration and life experiences prior to migration

Involuntary migration: By involuntary migration, we mean the migration that takes place as a result of fleeing a situation, which could end up in death, imprisonment, physical or psychological torture, fighting in wars, or any other situation, which is an immediate danger to the individuals or their family/friend's life and health.

Voluntary migration however, is usually because of perusing better opportunities (work, education, social and economic issues). One could argue that migration in order to pursue better opportunities than the home country is not a voluntary act either, as the individual should make the decision on the background of balanced opportunities in both places. However, the definition we used here helps us to compare these two groups of migrants, in a way that is more practical to our purposes. Because of the huge differences that exist between the situations of these two groups of migrants, this paper covers primarily mental health of those who migrated voluntarily.

According to a publication from the Norwegian Central Statistics Bureau (SSB), half of the migrants (With background from Bosnia-Herzegovina, Serbia-Montenegro, Turkey, Iraq, Iran, Pakistan, Vietnam, Sri Lanka, Somalia and Chile) who had lived at least two years in Norway, had fled from their homelands and these cases were granted on humanitarian ground (28).

It might be reasonable to think that fleeing from one's homeland might have more negative influences on migrants, than the voluntary migration. Life experiences prior to migration and the journey itself is possibly perceived more dramatic, when migrating involuntarily. In addition, the element of control and free choice is completely eliminated when an individual migrates involuntarily.

2.5 Inter-ethnic differences

Non-western migrant population is far from a homogeneous group. Different ethnic groups may have different levels of socioeconomic status, different cultures, values, religions, in addition to the differences in their adaptation strategies.

These differences may lead to inequalities in the levels of mental health, between different ethnic groups. Thus, it is crucial to be aware of these differences when assessing migrant populations.

3 Some risk factors for mental health of migrant children and adolescents

3.1 Low socioeconomic status

Socioeconomic status is believed to have a strong correlation with both mental and physical health of individuals. The higher the socioeconomic status the better the level of (mental) health. Definition of socioeconomic status involves social factors, economic factors and the education levels of family members.

Migrants usually belong to a lower socioeconomic status than the members of the receiving country (33). Eight percent of children and adolescents in the general population in Norway lived in low-income families, in the period of 2010-2012. The corresponding percentage for migrant population in the same period was 34% (more than four times, as much as for the general population). Most of children and adolescents who lived in low-income families in the same period had Somalian, Iraqis, Pakistanis and Afghanis background (31).

Low socioeconomic status might have an additional and hidden effect on migrants' mental health. These individuals might had belonged to a high socioeconomic status in their homelands, prior to migration. However once migrated to the new society, most of the individuals lose their economical privileges they used to have. Furthermore, education certificates from non-western countries often lose their validities in the receiving country. This would give a sense of loss, in addition to actuality that they belong to low socioeconomic status.

3.2 Low levels of social support

Social support is the perception and actuality that one is cared for, has assistance available from other people, and that individual is part of a supportive social network. The assistance could be in form of emotional care, financial support, information, advice and companionship in which the individual has a sense of belonging.

When migration do take place the migrant individual/ family loses the whole social network which had been earned over many years and generations, almost over the night. Thereafter, the migrant needs to build a new social network in the receiving country. At arrival, the easiest way to achieve social network might be through other migrants who have either the same or a similar culture and language. Thus, own-ethnic social network might be the first social network a migrant has post-migration. This may indicate the importance of own-ethnic social network for individual's mental health in a new community.

3.3 Perceived discrimination and the characteristics of the receiving country

Discrimination is distinguishing treatment of individuals who belong to, or are perceived to belong to a certain group, based on prejudice. The discriminating treatment is usually worse than the treatment that the rest of the people get.

Historically, discrimination has happened on those who have less resource, less power and subsequently low levels of influence in the society. There are many countries in the world, which systematically practice discrimination. Even in the countries, which are trying to eliminate discrimination, some groups are either discriminated, or perceive that they are exposed to discrimination.

The characteristics of the host society may influence the levels of discrimination on migrant population (10). The selection criteria for accepting migrants in each country is one such characteristic. European countries such as Germany, Netherland, Sweden and Norway are considered as countries, which attract and select mainly unskilled labor migrants (as opposed to Australia, Canada and New Zealand, which select migrants to satisfy current needs for highly skilled workers). This in turn might lead to a change in attitudes of members of the

receiving society/community towards migrants and possibly higher or lower levels of discrimination (10). Other characteristics of the host country, which might influence mental health of migrant children and adolescents are, attitudes and behaviors towards immigrants, economic and political issues.

3.4 War experiences

War experiences is considered to be a risk factor for developing mental health problems. Children and women are thought to be more vulnerable to the destructive effects of war. War can also indirectly deteriorate mental health of individuals through social, economic and structural damages done in the communities. These negative effects may persist for many years and in some cases might be transmitted to the next generations.

The prevalence of migrant adolescents with own war experience in Norway, according to a Norwegian study in 2006, was 14% (17). The highest prevalence was found among Eastern European migrants (who are excluded in this paper) and migrant adolescents from Sub-Saharan countries. The prevalence of adolescents with at least one parent who has war experiences was 33%, with the highest prevalence among adolescent migrants from Sub-Saharan countries.

4 Some protective factors for mental health of migrant children and adolescents

4.1 Family structure, living situation and the original culture of migrant family

Family structure is the composition and membership of the family and organization and patterning of relationships among individual family members. Some examples of family structures are traditional two-parent families, unisex two-parent families (which is quite rare among migrants with non-western cultures, because of cultural norms), one-parent families, and reconstituted families (with stepparents and stepsiblings).

Moreover, different roles that members of a family have, might varies across different families and cultures. In some families, relationships and roles blend in with each other without clear boundaries, while other families might have rigid and clear roles. The quality of the relationships in the families differ as well. In some families decision-making power and the strength of relationships are equally/logically distributed, while in some other families, only one or few of the members possess these positions.

Other aspects in which families in different cultures may differ are communication patterns within families, affective styles, personal control and religiosity. In addition, each family may differ in what moral, ethical and social values they maintain and affirm, better known as ‘’family values’’.

One of the most important cultural dimensions that differs between families with non-western and western background is dimension of collectivistic vs individualistic values (10):

In collectivistic cultures, the self is viewed as embedded within relationships, goals are phrased in terms of communal responsibilities, and relationships stress the cohesion of group members.

In individualistic cultures however, the self is viewed as an autonomous entity, its goals are phrased in terms of self-fulfillment and competence and relationships are viewed as evolving between separate individuals.

4.2 Verbal and non-verbal communication skills and the role of school

It seems obvious that communication barrier might be distressing to individuals. Not being able to communicate with others in community/at school, might lead to development of lower levels of mental health. On the other hand, not being able to communicate properly would lead to loss of social support from the host society, which in turn can have negative effects on the individuals' mental health.

Non-verbal communication happens through non-verbal clues. In order to register and understand these clues, one needs to have a good knowledge about the host culture. This knowledge can not be learned by simply reading books and newspapers, but through high levels of constant proximity with members of the host culture.

School might be one of the most important domains where migrant children and adolescents have the opportunity to learn both verbal and non-verbal communication, in addition to other important skills. Children and adolescents use many hours a day, many days each week at school. This presence indicates another important aspect of school in the life of children and adolescents. The quality of time passed at the school on one hand, and the quality of the results children and adolescents achieve at the school on the other hand, might be of outmost importance with respect to their mental health.

4.3 Studies of adaptation and acculturation processes

When assessing risk and protective factor for developing mental health problems among migrants, we come across the terms "acculturation" and "cultural adaptation" quite often. It seems reasonable that at this point of our review, we take a closer look at acculturation and adaptive processes.

Oxford dictionary of psychology, defines acculturation as «The process of assimilating the ideas, beliefs, customs, values and knowledge of another culture through direct contact with it, usually after migration from one place to another. »

"The psychological processes that take place in an individual of a cultural minority who gets into continuous first-hand contact with representatives of a cultural majority, are generally referred to as acculturation Changes" (4), (21).

It has been suggested that one element which is central to the adaptation of acculturating individuals, is the manner in which they cope simultaneously with two issues:

1. *Cultural maintenance*; the extent to which they consider their ethnic cultural characteristics important and strive to maintain them.

2. *Contact participation;* the extent to which they consider contact with the host society important and participate in its ways of life (26), (32).

It has been further suggested that a migrant individual would practice a strategy, better known as acculturation strategy, to balance the above-mentioned two processes. Accordingly, four different types of acculturation strategies are as follows:

-*Assimilation* is an acculturation strategy in which the individual devalues maintenance of his or her own cultural values and instead seeks almost exclusive interactions with member of host society.

-*Marginalization*. Devaluation and rejection of own culture as well as avoidance of interaction with members of host society.

-*Integration* entails a positive attitude toward maintenance of own culture heritage, as well as towards members of host society.

-*Separation*. Individual places a higher value on maintenance of own culture and minimal interaction with other groups, particularly with members of the host society.

5 Method

This paper is a review of the available literature on the mental health status of migrant children and adolescents. The search was carried out in the Medline database, by two medical students, in September 2014.

The key words used to find studies on mental health were as follows:

- Emotional problems
- Problem behaviors
- Mental health
- Mental health problems
- Mental health advantage
- Psychosocial adaptation
- Cognitive factors
- Psychological disorders
- Psychiatric disorders
- Mental disorder
- Conduct problems

The search was limited to migrants by the following key words:

- Immigrant
- Migrant
- Migration
- Ethnic minorities
- Ethnic group
- Ethnic origin

The search was further limited to children and adolescents by using the following keywords:

- Preadolescents
- Adolescents
- Juvenile
- Young people

Studies from Scandinavian countries were included, since this paper is written in Norway and there are huge economic, political, social and historical similarities among Scandinavian

countries. Then to gain a better overview on the situation in Europe, we included articles from Great Britain, Netherlands and Germany because of their long history regarding migration.

Key words used to find studies from above-mentioned countries:

- Norway
- Sweden
- Finland
- Denmark
- Great Britain
- Nederland
- Germany

The search with the mentioned key words gave 802articles. After excluding articles, which were written before 1995, 632 articles were left. Both authors examined the titles of the articles. Many articles were excluded on the ground of being irrelevant to our topic, being conducted on the adult population or conducted on migrants with western cultures. After this step, we had 77 articles left.

Then the first author examined methods, and the second author examined the results. Twenty-three articles meet the inclusion criteria.

In addition, one survey (20) and three articles were selected, from psychinfo. and google scholar, due to their high relevancy and the high number of articles and systematic reviews, which refer to these sources (4), (16), (32).

Inclusion criteria for articles in this paper:

- Articles since 1995.
- Articles written in English.
- Relevancy to the topic.
- Studies with at least 94 participants.
- Studies on non-western migrants.
- The articles that are available on internet from scientific libraries.

5.1 Exclusion criteria:

- Studies that were conducted on Adult population.
- Studies that focused on general health.
- Studies specific to refuges and asylum seekers. Because this population does not represent the general population of migrants.
- Studies with a primary focus on disorders that are to specific, such as sleep problems, suicide, drinking habits, smoking, eating disorders, drug taking behavior, psychosis, autism, schizophrenia, mania, developmental problems, physical and intellectual disabilities.
- Intervention studies on mental health problems. Since the quest of our search is to find out about the general mental health, and not the interventions, these studies were excluded as well.
- Studies that focus on help-seeking behavior, utilization of psychiatric care, treatment or use of psychiatric intensive care unit. These studies cannot directly show the real difference in mental health, as migrants might seek help from health sector in lesser extents than natives.

- Studies comparing migrants with natives who are receiving psychiatric help from either primary or secondary psychiatric care units. These studies are conducted on a population that is already facing mental health problems and receives health assistance. This population can not present the general population of migrants.
- Illegal migrants. This group of migrants face several additional challenges because of the extraordinary circumstances around their lives. This population is not representative for the general migrant population.
- Articles that study the validity of different questionnaires and other measuring instruments.

5.2 Description of included studies

In total 23 studies, two systematic reviews, one survey and one lead article are included in this paper.

Seven of these studies are from Norway (1), (17), (21), (22), (24), (25), (26), three from Sweden (6), (7), (14), two articles are written in cooperation between Norway and Sweden (27), (32), one study from Finland (16), one study from Germany (9), two from Nederland (33), (34) and seven studies from UK (2), (5), (8), (11), (15), (18), (19). No study from Denmark satisfied our inclusion criteria.

Two systematic reviews (3), (10), 13 cross-sectional studies (6),(7),(8),(11),(14),(15),(17),(18),(19),(21),(22),(25),(27), three comparative studies (16), (26), (32), five longitudinal studies (1), (2), (5), (24), (33), one retrospective analysis study (9) and one epidemiological study are reviewed in this paper (34).

Twelve studies have used standardized questionnaires (2), (5), (6), (7), (8), (14), (17), (19), (21), (22), (24), (33), five studies have used own developed questionnaires (16), (25), (26), (27), (32), one study have used diagnostic criteria (9) and five studies have used interviews in addition to using standardized questionnaires (1), (11), (15), (18), (34).

Four studies used self-, parents- and teachers reports (6), (11), (33), (34). Seventeen studies have used only self-report (1), (2), (5), (7), (8), (14), (15), (16), (17), (18), (19), (21), (22), (24), (25), (26), (32) and one study used parents- and self-reports (27).

Number of participants in the included articles varies from 94 to 3565 persons. Response rate varies from 46% to 93%.

The instruments used to evaluate mental health of migrant children and adolescents in the studies, which are reviewed in this paper, are as follows:

- CBCL: Child Behavior Check List
- CIS-R: Clinical Interview Schedule-Revised
- DISC-P: Diagnostic Interview Schedule for Children-Parent Version
- ECBI: Eyberg Child Behavior Inventory
- FSS: Family Satisfaction Survey
- HSCL: Hopkins Symptoms Check List
- ICD-10: The 10th revision of the International Statistical Classification of Diseases and Related Health Problems.

- ICD-9: The ninth revision of the International Statistical Classification of Diseases and Related Health Problems.
- MSPSS: Multidimensional Scale of Perceived Social Support.
- PBI: Parent Banding Instrument.
- PDR: Parent Daily Report
- PPI: Parent Practices Interview
- PSQ: Psychosis Screening Questionnaire
- SCIC: Semi-structured Clinical Interview for Children and Adolescents
- SCL-90-R: Symptom Check List Revised
- SCOFF: acronym for Sick Control One Fat Food
- SDQ: Strength and Difficulties Questionnaire
- SMFQ: Short Mood and Feelings Questionnaire
- SMFQ: Short Moods and Feelings Questionnaire.
- SSRS: Social Skills Ratting System
- TCP: Teacher Checklist for Psychopathology
- TDS: Total Difficulties Score.
- TRF: Teacher Report Form
- YSR: Youth Self-Report

As we started to write this paper our aim was to narrow our question to a specific risk factor in relation to a specific symptom or mental problem to minimize the diversity which lies within the definition of (mental) health. Quite early in our search for studies in this field we found out that this subject has a scarce amount of literature available. It is very hard to find a few articles, which study the same factors and outcomes. Even the definition of ethnicity, first- and second- generation migrants varies from study to study. Thus, we were obliged to widen the range of our question in order to gain a meaningful amount of evidence. On the other hand, we lost the accuracy we were wishing for.

For a more detailed overview of studies, see appendix I.

6 Results

6.1 Do migrant youth have more mental health problems than their non-migrant peers?

The prevalence of mental health problems in Norway among 8-10 years old children in the general population is 7%, which is quite similar to other Nordic countries, but lower than many other European countries (13).

In a study conducted in Norway based on self-report (21), they found no difference between mental health of migrant 10th grade students, compared with their Norwegian peers. However, when taking gender differences in consideration a rather interesting phenomenon unfolded itself. First-generation migrant girls and second-generation boys with non-western background were shown to be particularly vulnerable to psychiatric problems compared with their Norwegian counterparts.

First-generation girls showed higher rates of overall peer, emotional and hyperactivity problems, compared with second-generation migrant girls. Second-generation migrant boys

had more symptoms of overall conduct and hyperactivity problems than first generation migrant boys (21).

A longitudinal Norwegian study conducted on migrant adolescents aged 15-18 years, on self-report (without differentiating between first-and second-generation), shows that ethnic minority boys and girls, reported poorer mental health at both base line and follow up after three years. Both migrant boys and girls reported more emotional symptoms, mental distress, conduct and peer problems than ethnic Norwegians. However, the rates of hyperactivity-inattention problems and prosocial behavior were the same for migrants and native Norwegians (24).

This finding is in line with the results from another Norwegian article on this topic, which showed higher levels of psychological distress among migrant adolescents, compared with their native peers (22).

In a cross-sectional study conducted in Sweden the mental health of migrants aged 12 years old, based on report from the child, parents and teachers were found to be similar to the non-migrant population. Parents reported more internalizing problems for their daughters, but girls reported less internalizing problems themselves than the native Swedish 12 years old girls did. However, this disappeared when family factors like living arrangements and parental education were adjusted for (6).

This is in line with the findings from another Swedish study, on self-report, conducted on 12-years old second-generation migrants, which showed no difference in the levels of mental health of migrant and non-migrant 12-years-old children (7).

In a cross- sectional study in Netherland, based on reports from children, teachers and parents, there was no evidence for more mental problems among migrant 11-year-old children than among native Dutch children. However, parents in migrant families reported more problems in their daughters than the native families. Teachers report less internalizing, social and thought problems particularly in boys, but higher level of externalizing problems in both migrant boys and girls, compared with their non-migrant peers. In line with other studies, a gender difference was discovered during this study, as migrant girls seemed to have more internalizing problems and migrant boys had more externalizing problems (33).

Another Dutch study compared mental health of migrant and non-migrant children who lived in low socioeconomic areas. On the contrary to most of the other studies, this study was not based only on reports and questionnaires, but also on psychiatric examinations and parent interviews. The study showed no difference in prevalence of mental disorders between migrant and non-migrant children who lived in in low socioeconomic status areas. Generally, psychiatric disorders were more prevalent among boys, with the exception of ODD, anxiety disorders and mood disorders, which did not differ much between boys and girls (34).

In an English study conducted on adolescents aged 13-15 years, on self-report, those with ethnic Indian background were compared to native English adolescents at the same age. Ethnic Indian adolescents showed lower rates of all psychiatric problems than native English adolescents. Here also a gender difference was detected, with girls having more emotional problems than boys, and boys having more hyperactivity and conduct problems (8).

Another English study found a very similar pattern when comparing ethnic Indian children with white English children aged 5-16 years, on self-, parents-, and teachers-report. A lower level of externalizing problems (hyperactivity and behavioral problems) was found among ethnic Indians, compared with their English counterparts. However, internalizing problem rates were the same between ethnic Indians and native English adolescents (11).

As we have seen, the studies give contradictory results. Some studies predict better mental health among migrant children and adolescents, some predict worse mental health, while most of the studies find similar mental health between migrant children and adolescents and their non-migrant counterparts.

The results are contradictory when it comes to gender differences as well. Some studies show a gender difference while others show the opposite. Some of the studies show higher levels of mental health problems among migrant girls, while other find higher levels of problems among migrant boys.

We have seen so far that the level of mental health problems among migrant children and adolescents depends highly on the informant used to assess their mental health. In most of the studies, discrepancies exist between the results of self-, parents-, and teachers-reports with teachers scoring more mental problems among migrant children and adolescents than parents and children themselves. One interesting phenomenon observed across many studies is that there are greater discrepancies between teachers-reports and migrant parents-report, than between teachers-reports and non-migrant parents-report (3).

6.2 Inter-ethnic differences

Findings from a Norwegian study on self-report, highlights some inter-ethnic differences between Vietnamese, Pakistanis and Turkish adolescents living in Norway. Adolescents with background from Turkey reported the lowest rates of mental health problems while adolescents with background from Pakistan had the highest rates of mental health problems among all other ethnic groups in the study. Vietnamese adolescents reported the lowest levels of self-esteem and were found to be least satisfied with life (26).

Findings from a cross-sectional Norwegian study, on self-report, show significant inter-ethnic differences in psychiatric problems and acculturation of adolescents. Moroccan, Indian, Somalian and Sri Lankan adolescents were shown to have the lowest scores on total problems. Somalian adolescents reported the highest levels of perceived discrimination while adolescents from Iraq and Sri Lanka reported the highest levels of identity crisis (21).

Results from a similar study conducted in Finland on self-report, show that Somalian adolescents suffer less from stress symptoms than Vietnamese and Turkish adolescents. Vietnamese adolescents reported higher levels of depression than Somalian adolescents. Turkish adolescents reported higher levels of perceived parental support and self-esteem than Vietnamese adolescents. Vietnamese were shown to have better proficiency in Finish than Somalis, while Somalian adolescents expressed greater life satisfaction than Vietnamese adolescents (16).

Results from two Dutch studies, show similar prevalence of psychiatric disorders among ethnic Dutch, Moroccan, Turkish and Surinamese children and adolescents (33), (34).

6.3 Low socioeconomic status

The impact of low socioeconomic status on mental health of adults is well documented in the literature. There is evidence that socioeconomic disadvantage is a major contributing factor for ethnic inequalities in health. Those in better socioeconomic positions have better mental health (18). However, we need to know what kind of influence it might have on the children and adolescents in these families.

In one Norwegian study when comparing migrant 15-16 years old adolescents with ethnic Norwegians, it was shown that both ethnic Norwegian and migrant adolescents had worse mental health, when they were in low socioeconomic status (24). Low socioeconomic status was correlated to poorer self-, parent- and teacher reports.

As impactful as this factor is on the mental health of children and adolescents, the above-mentioned study was the only Norwegian study, on this subject, that satisfied our inclusion criteria.

In a Swedish study, it was found that migrant parents with low education, report more overall and hyperactivity problems among their children than migrant parents with higher education (7).

In a German study (9), a strong correlation between low socioeconomic status and mental health problems was found, among migrant children and adolescents. In addition, low socioeconomic status combined with ‘’migrant status’’ may particularly increase the rate of reactions to severe stress and adjustment disorders.

A study from England focused on the economic aspect of socio-economic status. Results from this study show that inequality in mental health morbidity, between and within ethnic groups is at least partly linked to income (18).

In the 2004 B-CAMHS, (Child and Adolescent Mental Health Services), survey from UK (20), prevalence of mental health problems was estimated according to parental education, parental occupation, family income and the area of residence:

- Parents with no education (17%) compared with degree-level qualification (4%).
- Neither parents working (20%) compared with both parents working (8%).
- In families with gross weekly household income of less than £100(16%) compared with those with income of £600 or more (5%).
- In families were household reference person was in a routine occupational group (15%) compared with those with a reference person in the higher occupational group (4%).
- Living in areas classed as “hard pressed” (15%) compared with areas classed as “wealthy achievers” or urban prosperity (6 and 7%).

Even though migrant status has been considered to constitute a risk factor for developing mental health problems, it seems that socioeconomic status is of greater importance for mental health of migrant children and adolescents (24), (34). Findings from the available literature on this subject show that low socio-economic status is a major risk factor for developing mental health problems among migrant children and adolescents (3).

6.4 Low levels of social support

The positive effect of social support for individual's mental health, in general population, is well documented in the literature (8). Losing the social support could give a feeling of powerlessness and alienation to the migrants, which subsequently would lead to deterioration of the mental health (26).

A Norwegian study showed a lower level of social support among 13-years-old migrant adolescents, compared with their non-migrant peers (22). The study further shows that there is a relationship between social support, life stress and mental health across different ethnicities.

High scores for mental health of migrant adolescents from Somalia in Norway and Finland, despite the high rates of perceived discrimination among them (21), (16), might be partly explained by the mediating effect of intra-ethnic social support. The high level of ethnic culture competency among migrant adolescents from Somalia would facilitate the socialization and support from own ethnic group, which protects them from the destructive influences of discrimination.

Findings from an English study show that low levels of overall social support, increases the levels of psychological distress among migrant adolescents living in London. Social support was observed to have the same effect on mental health of adolescents, regardless of their ethnicity (15).

Another English study showed that migrant children and adolescents who live in neighborhoods with higher concentration of migrants, have lower levels of mental health problems, compared with migrant children and adolescents who live in areas with low own ethnic group density. This might be a result of the higher levels of available social support for migrant children and adolescents in areas with high migrant density (8). This study explains the lower prevalence of mental health problems among ethnic Indian children and adolescents (compared with native English children and adolescents), by the high levels of social support that ethnic Indian children and adolescents have available. In addition, living in neighborhoods, or going to schools with high concentration of migrants, may lead to lower incidence of racism for migrant children and adolescents, according to two longitudinal English studies (2), (14).

6.5 Perceived discrimination and the characteristics of the host country

Discrimination is existent in different degrees in all societies and this have consistently been recognized as a risk factor for developing mental health problems in migrant youth (21), (16).

In a comparative study between Norway and Sweden, migrant adolescents with Turkish background in Norway, reported less self-esteem and more mental problems than Turks in Sweden, even after controlling for socioeconomic status and country of birth (32). This is despite the fact that population of Turks in Norway and Sweden share many common characteristics. Both of these populations migrated to the host countries around the same time as labor migrants, and the host countries share several historical, social and cultural similarities.

A closer assessment of these two populations showed that adolescents with Turkish background in Norway, report more perceived discrimination, more marginalization and less Turkish identity. This finding might partly explain why migrant adolescent with Turkish background in Norway, reported poorer psychosocial adaptation than Turkish adolescents in Sweden.

The authors of the mentioned study argued that perceived discrimination has negative influences on the levels of self-esteem and mental health of adolescent migrants. However, a solid own-ethnic identity, integrated with high levels of host-culture competency, were identified as mediating factors for a good mental health (32).

It was further concluded in the same study that higher levels of perceived discrimination among adolescents with Turkish background in Norway, could be a result of differences in immigration policies and attitudes among host nationals towards migrants in the two countries (32).

Now we can look back at the interesting results of the Norwegian study (21), mentioned earlier in this paper, where they found that second-generation migrant girls had less mental health problems than second-generation migrant boys. Taking a closer look at the study shows an increase in host culture competency and decrease in perceived discrimination among second-generation migrant girls. This could give us a hint about importance of host culture competency and perceived discrimination, and a possible relationship between these two factors.

The boys from the same study were found to be rather more traditional, more ethnic competent and had higher scores on collectivistic family values. This might be partly explained by the higher levels of perceived discrimination among second-generation migrant boys (compared to second-generation migrant girls), which can lead to development of reactive tendencies and loyalty towards own ethnic culture among them. Perceived discrimination was shown to have a strong correlation with externalizing problems among migrant children and adolescents, in another Norwegian study (21).

The destructive influence of discrimination is not observed only in individual levels, but it can also be observed in group-level. It has been postulated that negative stereotypes, prejudice and discrimination of a disparaged group, would lead to low ethnic identity and low self-esteem among the members of these groups (26).

Findings from two English studies show that migrant adolescents living in UK report higher levels of exposure to racism than their non-migrant counterparts. A correlation between racism and poorer psychological well-being was found in these studies (2) (14).

These findings are in line with the study conducted in Finland, which showed a negative relationship between perceived discrimination and psychological well-being among migrant adolescents (16).

The influence of discrimination on mental health of migrant children and adolescents indicates the importance of characteristics of the receiving society (32). In society of resettlement, attitudes and behaviors towards migrants in general, and specific groups in particular, immigration policies, economic and other political issues are among the factors that may influence not only the psychological adaptation of migrants, but also their attitudes towards social participation and contact across ethnic groups (4).

6.6 War experiences

Despite the known negative effects of war on various aspects of individuals' mental health, only one study on this topic has satisfied our inclusion criteria. This is because we did focus on voluntary migrants, as opposed to refugees and asylum-seekers, while most of the studies on the influences of war, are conducted on the latter group.

This Norwegian study shows that migrant adolescents with own war experiences, scored higher on externalizing problems, compared to migrants without own, or parental war experiences (17).

When assessing parental war experiences, migrant adolescents scored higher on both internalizing and externalizing problems. The association remained significant after adjustment for parental education level and adolescents own war experience. This may indicate that parental war experience has a stronger association with mental health problems than own war experiences (17).

Despite the results from this Norwegian study, which could not show s significant correlation between internalizing problems and own-war experiences, we should not forget that some symptoms of dramatic war experiences might develop in individuals in an older age, which this study could not catch. Own-war experiences in childhood and adolescents is a major risk factor for developing PTSD (12).

In addition, one might argue that parental psychopathology caused by war experience, might indirectly have a destructive influence on the children and adolescent's mental health (34), (20). As a result the child might live in an under-stimulating environment or be possibly exposed to maltreatment/neglect. In this way, one could say that the trauma has been transmitted from parents to their children (17).

6.7 Family structure, living situation and the original culture of migrant family

A Norwegian study showed that migrant adolescents who lived without cohabiting parents had more problems than migrant adolescents who lived with cohabiting parents (9). They reported more emotional symptoms, mental distress, conduct problems and peer problems. This disparity seems to stay throughout late teenage.

A positive correlation between adherence to traditional family-related values, and mental well-being of Somali children and adolescents, was shown, in another Norwegian study (21).

This is in line with an older Norwegian study on this topic, which showed a relationship between mental well-being, and adherence to family values among migrant children and adolescents (26).

Another Norwegian study showed that migrant parents are generally more in favor of obligations and less in favor of child's rights (27). This might lead to increased levels of stress for the children, and subsequently a higher chance of developing mental health problems (22).

Results from a Swedish study show that the children who were not living with both parents had more than double the frequency of peer problems than children who lived with cohabiting parents, regardless of their ethnicity (7).

In line with a study conducted in Finland (16), another Swedish study (6) concluded that family factors such as living arrangements and parental education have more impact on reported mental health of migrant children and adolescents, than the ''migrant status'' does.

In the 2004 B-CAMHS, (Child and Adolescent Mental Health Services), survey from UK (20), prevalence of mental health problems was estimated across two different types of family structures:

- In lone-parent (16%) compared with two parent families (8%).
- In reconstituted families (14%) compared with families containing no stepchildren (9%).

Findings from an English study showed that minority adolescents report higher levels of parental control and lower levels of parental care, compared with their non-migrant counterparts (19). An association between low parental care scores, high parental control scores and poorer mental health, was observed across all ethnicities in the same study.

As we have seen, most of the studies found a positive correlation between adequate family structures, family values and better mental health for migrant children and adolescents. However, we should not forget that this could be a two-sided blade. Factors such as parental harsh training, uncertain cultural identity and disharmonious family relations, may have a devastating impact on mental health of children and adolescents. These factors might be expected to be more of a problem for migrant than non-migrant families, as parental harsh training is partly a cultural embedded phenomenon, and uncertain cultural identity is probably a more challenging problem for migrant than non-migrant families (3).

Even considering family values as a purely positive phenomenon might be a wrong conclusion. In some migrant families, with parents who are less acculturated than their children, disagreements and disharmonious family relations can arise, provided the parents force their children to accept and practice exclusively values of the original culture (26).

Most of the studies show that non-migrant families put higher value on autonomy, self-employment and self-regulation (individualistic values), while non-western migrant families put higher value on obedience, solidarity, loyalty, reliability and higher levels of parental control (collectivistic values) (3).

The process of migration might change the structure of migrant families dramatically. This could in turn lead to role confusions in the families and subsequently lower levels of mental

health. Migrant parents, who also have to deal with their own worries and stresses related to migration, might naturally not have the resources to support their children adequately (10).

6.8 Verbal and non-verbal Communication skills and the role of school

Even though the level of communication skills is known to be a important factor for mental health of children and adolescents, no Norwegian study, and only one study from the other countries of our interest, satisfied our inclusion criteria.

A study conducted in Finland, showed that second language skills are positively correlated to increased self-esteem and sense of mastery, among migrant adolescents with non-western background (16). However, in this study, better second-language skills did not decrease stress symptoms or behavioral problems.

On the other hand, communication barriers might lead to learning difficulties and subsequently problems at school. School problems is a major risk factor, which lead to a greatly increased chance of developing mental health problems, among children and adolescents across all ethnic groups (20), (34).

Findings from a Norwegian longitudinal study showed a correlation between school hassles and higher levels of emotional problems, among minority boys (1). School problems of any sort may lead to increased levels of stress and consequently lower levels of mental health problems, among migrant children and adolescents (22).

An English study conducted on ethnic Indian children and adolescents, showed a mental health advantage for ethnic Indian over ethnic English children and adolescents. According to this study, this advantage could be partly explained by the mediating effects of academic abilities of ethnic Indian children and adolescents (11).

Findings from a Dutch study show that there is a relationship between psychiatric disorders and school problems of any sort, among migrant children and adolescents (34).

6.9 Studies of adaptation

Migrant children and adolescents with conduct problems face issues more often at school than at home setting (21). This might indirectly indicate that there is a relationship between host culture competency and conduct problems. Host culture competency facilitates social support from classmates, which could lead to better mental health or satisfaction with school. Another positive influence of host culture competency is feeling of self-efficiency, participating in the majority's culture.

One might think that own-ethnic and host-culture identities are two opposite factors, but in reality, they act as two parallel processes. A need to find a balance between host and own culture and a good integration of the two cultures is a vital step in order to minimize acculturative stress. Thus, taking values from both cultures might seem like a good idea for migrant families, in order to minimize mental health problems among their children. Nevertheless, it is quite predictable that when great discrepancies exist between the old and the new culture, psychological problems arise (26).

The best adaptive acculturation strategy is integration in which the individual needs competency in both own and the host culture (21), (5). Evidence shows that high rate of multiple culture identification of ethnic Indian adolescents in England correlates with better scores for mental health status (8).

The least adaptive acculturation strategy is marginalization (25), (26), (5). When a migrant rejects own culture, as well as the host culture, he/she might miss opportunities to get social support from either own-ethnic or the host community (32). On the other hand, rejecting both cultures means that the individual cannot get into a social role, either at own ethnic setting or in the host society. This could subsequently lead to role confusion and (ethnic) identity crisis, which is a state that the individual has a low sense of both ethnic and host identity, in that it involves difficulties in committing to goals and values and making choices about roles in either or both culture settings. Ethnic-identity crisis in turn can lead to higher rates of internalizing problems (e.g. emotional problems) among migrant children and adolescents (21).

Marginalization seems to have a greater impact on adolescents than on adults, since a major developmental task for adolescents is the development of identity (23). An adolescent's inability to develop identity may result in role confusion, which may subsequently undermine the person's self-esteem and mental health.

Separation is also a maladaptive strategy, as one could argue that a strong sense of own ethnic identity devoid of positive identification with the host culture, may aggravate the psychological conflicts. Nonetheless, one Norwegian study has shown that separation corresponds to higher levels of life satisfaction among migrant children and adolescents (26).

Even though destructive influences of assimilation on mental health of minorities is well documented (e.g. studies on Sami population in Norway), only one of our selected studies, has assessed the effects of assimilation on migrant children and adolescents, with non-western background. This English study, on self-report, finds a better mental health among integrated migrant adolescents than among either assimilated or marginalized migrant groups (5).

Migrant children and adolescents usually acculturate much faster than their parents. This in turn may lead to disharmonious family relationships and subsequently lower levels of mental health problems among migrant children and adolescents, compared with their non-migrant peers (6), (16).

As perceived, there are both risk and protective factors integrated into the acculturation process. Some strategies have almost overall negative effect on the mental health (e.g. marginalization), while others have a set of both protective and risk factors related to different symptoms and outcomes. From a study conducted in Norway, one could conclude that acculturation influences the mental health of migrant adolescents, but other factors are at least as important as the acculturation (21).

7 Discussion

7.1 Discrepancies between self-, parents-, and teachers-reports.

We have seen so far that discrepancies exist between the results of self-, parents-, and teachers-reports. This discrepancy may be a result of:

- *An actual difference in migrant children and adolescents' behavior at home and at the school.* We should not forget that children and adolescents are observed in two different contexts (home setting vs school setting), when parents and teachers report on their mental health status. Children and adolescents may behave differently in different contexts.
- *Cultural sensitivity of teachers*. Teachers usually come from the host country, the levels of their cultural sensitivity may influence quality of the reports on the mental health of migrant children and adolescents.
- *Different thresholds in detecting and accepting un-wanted behavior between teachers and migrant parents*. Migrants with non-western cultures may have other norms regarding culturally acceptable behaviors than teachers with western culture. This might lead to different labeling of child's behavior as normal or abnormal, depending on which culture's point of view is used.
- *Bias in self-, parents, and teachers-reports*. Collecting data through reports has always the possibility of being biased. Teacher's reports might be biased by premature expectations about the child's behavior and prejudice. Migrant parents may be conscious about the low social status that they belong to, and underreport behavioral problems in order to avoid/minimize negative judgments (10).

7.2 Validity:

Reporting mental health across cultures and contexts could give a wrong picture of reality, and collecting data in this fashion might lose its validity. Different mental health problems and symptoms might be interpreted and explained differently according to different cultures.

In some migrant cultures, mental health problems are highly stigmatized. This might lead to under-reporting of mental health problems in studies that are mainly based on self-report.

Most of the studies, which are included in this paper have used SDQ questionnaire, with evidence for good validity across cultures. On the other hand, the sensitivity of SDQ is high only when interpreting the total problem score and not the sub-scale scores. However, many of our selected studies have evaluated sub-scales of the SDQ symptoms, which reduces the quality of these studies.

The validity of the questionnaires other than SDQ have much less evidence. In addition, few studies have evaluated mental health of migrant children and adolescents by the means of self-developed questionnaires. Despite the fact that scholars with long and valuable experiences in this field have developed these questionnaires, yet we can not be absolutely sure about the validity of these questionnaires across different cultures.

Nonetheless, results from the studies that used psychiatric interviews and diagnostic criteria, confirm the results from the studies, which have used the above-mentioned questionnaires.

7.3 Age span of children and adolescents in the literature.

The studies that are reviewed in this paper, have evaluated mental health of children and adolescents with varying ages. Some studies focus only on children, some only on adolescents, some focus on a wide range of age from childhood to adolescence, while other studies assessed individuals with a sharp defined age. This variety in the participants' age might lead to misinterpretation of results, as children and adolescents might react to different stressors differently in different ages.

On the other hand, each age has a set of developmental tasks that children and adolescents have to fulfill (23). Failing to fulfil any of these developmental tasks at specific times might lead to development of different mental health problems among them. Taking this moment into consideration, it would be difficult to be absolutely sure about the representativeness of these studies on the general population of migrant children and adolescents.

7.4 What kind of symptoms and mental health problems are evaluated?

The field lacks a standardized set of symptoms and disorders. The studies evaluate various symptoms and disorders in relation to several different factors that influence mental health of migrant children and adolescents. This diversity in what each study has evaluated makes it hard to draw a solid conclusion on the background of today's available evidence. This could probably lower the quality and the representativeness of these studies on the general population of migrant children and adolescents as well.

7.5 Additional factors that make the interpretation of the data difficult

When assessing the evidence for mental health of migrant children and adolescents, we find that there is a great terminological confusion in this field. Some studies referred to the population of their study as (im)migrants, some as minorities while others used ethnicity (mostly studies from Great Britain).

This is despite the fact that there are fundamental differences is the definitions of these terms. An individual might belong to a certain ethnic group without having a recent history of migration (such as some ethnic Indians who have lived in England over several generations). Belonging to a minority group does not necessarily impose migration background either, as individuals with different religions and sexual orientations are also considered to be minorities. The definition of immigrant varies in different studies as well. Some studies define immigrants as individuals who were born abroad, or individuals whose parents or grandparents were born abroad.

Only a few studies have taken inter-generational differences between first- and second-generation migrants into account.

Some studies have not explained the characteristics of the migrant population properly. Therefore, it remains unclear if the population is composed of labor migrants, refugees, asylum seekers, or a combination of more than one group.

The language capabilities of the participants have not been evaluated, in any of the included studies in this paper. This might raise questions about how well migrant children, adolescents and their parents had understood the items in the questionnaires adequately.

In order to reach an acceptable number of participants, several studies that are reviewed in this paper, evaluate mental health of different ethnic groups as if it is a homogeneous group. Comparing natives with a mixture of migrant children and adolescents, assuming that migration process account for the difference between the levels of mental health between the two groups, is subjected to higher risks of bias and confounding factors.

Inter-ethnic differences can be partly explained by the differences in socioeconomic status, family stress and the differences in the original cultures of different ethnic groups of migrants and the characteristics of the host country (10). However, many of the included studies have not taken these factors into account.

Finally yet importantly, we should not forget that the way in which receiving countries select migrants might confound the results from the included studies. One might reason that countries, which select mostly refugees and asylum-seekers, might find higher levels of mental health problems among their immigrants than countries, which select high skilled and demanded labor immigrants.

Almost none of the selected studies have provided information about the background of participants with respect to voluntary vs involuntary migration. Not knowing the percentage of these two migrant groups in the studies, might lead to misinterpretation of results.

7.6 Conclusion

We have seen that there are inter-ethnic variations with respect to acculturation and adaptation processes, socioeconomic status, mental health, social support, perceived discrimination and family structure. More studies are needed to be conducted on these inter-ethnic variations in order to achieve a better understanding about the impact of these factors.

The prevalence of mental health problems varies according to different studies, but most of studies show that mental health of migrant children and adolescents is very similar to their non-migrant counterparts (6), (7), (27), (33), (34).

Nonetheless the crucial matter most of the studies agreed on, was the fact that each of the factors such as socioeconomic status, family structure, social support, school problems, the characteristics of receiving country and adequate acculturation strategies has at least as much influence on mental health of migrant children and adolescents, as ‘’migrant status’’ does.

The existing variations in what each study is trying to find out, how the data is collected and how it is being measured, makes it hard to draw a solid conclusion with today’s available literature. What we have seen throughout this paper is that migrant children and adolescents generally have fewer resources, compared with non-migrant population. Nonetheless, risk factors for developing mental health problems are very similar between migrant and non-migrant children and adolescents.

7.7 Limitations

Due to limitation of time and resources, we were obliged to focus on internalizing and externalizing problems. Nonetheless, there are many other types of mental disorders or unhealthy behavior such as psychoses, alcohol/drug abuse, suicide, eating disorders or personality disorders, which are not included in the present review. On the other hand, it is

very difficult to assess mental health of individuals with the WHO's definition of health in mind. None of the studies selected for this paper, had WHO's definition in focus when evaluating mental health of migrants.

Due to limitation of time and resources we were obliged to focus on Scandinavian countries, Great Britain, Germany and Netherlands. However, we can not be sure that migrants in these countries are representative for the migrants living in other parts of Europe.

Unfortunately, no study from Denmark fulfilled our inclusion criteria. The amount of evidence on this subject, even from the other included countries is scarce. The selected studies have evaluated different symptoms and disorders in relation to different risk and protective factors, by different assessment methods and questionnaires. Because of this methodological diversity in the literature, some symptoms, disorders, protective and risk factors have more evidence, while evidence on the few others is nearly non-existence. This makes it hard to do a balanced assessment of these factors with today's available literature.

The search for studies was carried out only in Medline database, because of the limitation of time and resources. Provided the search was expanded to other medical and psychological related databases, possibly more studies would have been included. Nevertheless, the selected studies in this paper and the results is very similar to the systematic reviews, which have used other databases in addition to Medline.

We selected one survey and three articles due to their high relevancy and high number of articles, which referred to them. However, this type of selection is highly subjected to publication bias.

Finally, it is possible that some relevant studies have been excluded, because the relevant information was not included in the abstract, while the result section might have had relevant information for this review.

7.8 Implications for Future research

The research in future must target areas were the existing literature only touch upon. Some of the areas where we need more data on are as follows:

- Addressing problems across different ethnicities.(8)
- Addressing problems across different communities and societies (8).
- How immigrant parents communicate with their children and adolescents about psychiatric problems, in order to increase the validity of assessment tools.
- Additional data about role of age, gender, different cultures and individual differences (21).

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9 Appendix- I

First author and year	Study design	Setting	Sample	Generation	Immigrants form/ Ethnicity	Mental health measure	Informants	Outcome
Sam, 1995	Cross-sectional	Norway	Response: 90% Age: 10-17 years Total N=568 Immigrant n=568	Foreign born and born in Norway.	Asia (except Japan), Africa, South America and Turkey.	Global Negative Self-evaluation scale. Psychological and somatic symptoms scale.	Self-report	-Incidence of depressive tendencies, poor self-image, and psychological symptoms were related to close and supportive parents, marginality, integration, gender and the number of friends the child had.
Sam, 2000	Comparative study	High schools in five Norwegian cities.	Response: 85% Age: M 15.34 years Total N=506 Immigrant n=506	Foreign born and born in Norway.	Vietnamese, Pakistani, Turkish and Chilean.	15-item scale made for the study, measuring depression, anxiety and psychosomatic symptoms.	Self-report	Moderate prediction of mental health, life satisfaction and self-esteem from family values, acculturation and social group identity.
Sam, 2003	Cross-sectional	Norway and Sweden	Response from both parents and children: 32% in Norway and 49% in Sweden. Response from adolescents: 85% Age: M 15.52 year Total N=572 Immigrant n=306	Not reported.	Norwegian, Pakistani, Vietnamese, Swedes and Turkish.	15-item scale made for the study, measuring depression, anxiety and psychosomatic symptoms.	Self- and parent-report.	- Immigrant adolescents similar mental health to their non-immigrant counterparts - Immigrant families more in favor of Obligations and less of Children's Rights. - Girls poorer psychological adaptation than boys.
Virta, 2004	Comparative study	Norway and Sweden	Response: 85% Age: M 15 years Total N=840 Immigrant n=407	Ethnic Turks born in Norway/ Sweden and Turkey.	Turkish, Norwegian and Swedish.	15-item scale made for the study, measuring depression, anxiety and psychosomatic symptoms.	Self-report	-Turks in Norway poorer psychological adaptation than Turks in Sweden. - A lower degree of Turkish identity and higher degree of perceived discrimination among Turks in Norway than those in Sweden.
Oppedal, 2005	Cross sectional	Oslo	Response: 88.3% Age: M 15.9 years Total N=7343 Immigrant n=1295	First- and second generation.	Turkey, Morocco, India, Pakistan, Latin-America, Somalia, Yugoslavia, Iraq, Iran, Sri Lanka and Vietnam.	SDQ	Self-report	- First-generation girls and second-generation boys more psychiatric problems. - Significant variation in psychiatric problems and acculturation between ethnic groups. - Ethnic-group level correlation between discrimination and peer problems.
Lien, 2006	Cross-sectional	Oslo	Response: 88.3% Age: 15-16 years Total N=7343 Immigrant n=1758 Two immigrant parents: n=722	Second generation	Balkan, Turkey, Pakistan, Vietnam and Somalia.	HSCL SDQ	Self-report	Parental war exp. related to internalizing problems. Own war exp. related to externalizing problems.

First author and year	Study design	Setting	Sample	Generation	Immigrants form/ Ethnicity	Mental health measure	Informants	Outcome
Sagatun, 2008	Cohort, longitudinal study	Oslo	Response: 65% Age: 15-16 years F-up 3 years later Total N=2489 Immigrant n=505	Both parents born in a country other than Norway.	Not reported	SDQ HSCL-10	Self-report	Immigrant adolescents more mental health problems at baseline and follow up.
Oppedal, 2004	Cross-sectional	Oslo	Response: 90% host adolescent and 79% immigrant background. Age: 13 years Total N: 633 Immigrant n: 225	Born in Norway or mean length of stay 6, 1 years.	Pakistan, Turkey, Vietnam, other Asian country, other European countries (Yugoslavia, Africa and Latin America).	HSCL-25	Self-report	-Immigrant adolescents higher levels of psychological distress and lower social support -Relationships between life stress, support, and mental health, across gender and culture.
Alves, 2011	Longitudinal study	Oslo and Bergen	Response: 65% Age: 10-12 years Total N=902 Immigrant n=424	First-, second- and third- generation	Europe countries outside of the European Union, the United States, Canada, Australia and New Zealand.	SDQ, DAWBA-psychiatric interview	Self-report	- School hassles may play a role in the higher levels of emotional problems in preadolescent minority boys. - No gender gap among minority preadolescents.
Dekeyser, 2011	Cross-sectional	South of Sweden	Response: 70% Age: 12 years Total N= 1178 Immigrant n=142	Second generation	European and non-European countries.	SDQ	Self-report	No significant difference in mental health between second-generation immigrant and non-immigrant children.
DeKeyser, 2014	Cross-sectional	South of Sweden	Response:46 % Age: 12 years Total N=774 Immigrant n=87	Foreign born and born in Sweden.	European and non-European countries.	SDQ CBCL TRF	Self-, parent- and teacher report.	- Mental health of immigrant children is similar to that of non-immigrant children. - Family factors have a greater impact on the reported mental health than the immigrant status.
Hjern, 2013	Cross-sectional	Sweden	Response: 86.5 % Age: 15 years Total N: 76229 Immigrant n: 29882	First- and second-generation.	Swedish origin, Swedish-born with other migrant origin and foreign born (Lebanon, Turkey, Iran, Iraq, Syria)	KIDSCREEN-52 quality-of-life and KIDSCREEN-10 general well-being index.	Self-report	Pupils born in Africa or Asia are at high risk for being bullied and having impaired well-being in schools with few other migrant children.

First author and year	Study design	Setting	Sample	Generation	Immigrants form/ Ethnicity	Mental health measure	Informants	Outcome
Liebkind,2000	Comparative study	Finland	Response: 93% Vietnamese and 91 % Turkish. Age: 11-20 year Total N= 588 Immigrant n= 588	First- and second-generation.	Former Soviet Union, Turkey, Somalia, & Vietnam.	15-item scale made for the study, measuring depression, anxiety and psychosomatic symptoms.	Self-report	-Psychological well being negatively related to perceived discrimination. -Positive relation with second language proficiency. -Adherence to traditional family-related values positive relation with good mental health.
Vollebergh, 2005	Cohort, longitudinal study	Nederland	Response: 76% Age: M 11.09 years Total N= 2230 Immigrant n=230	At least one parent born in a non-western country.	Surinam, Dutch Antilles, Indonesia, Morocco, Turkey, Iraq, Iran, Somalia, etc.	YSR CBCL TCP	Self-, parent- and teacher-report.	- Immigrant parents report more externalizing problems - Teachers report more externalizing problems among immigrant children, but less internalizing, social and thought problems among immigrant boys. - No difference on child reports
Zwirs, 2007	Epidemiological study	Nederland	Response: 89% Age: 6-10 years Total N=2185 Immigrant n=2185	First- and second-generation.	Dutch, Moroccan, Turkish and Surinamese.	SDQ DISC-P SCICA	Self-, parent- and teacher report.	- The prevalence of psychiatric disorders among non-treated minority and native children in low SES does not differ. - Relation between the prevalence of psychiatric disorders and gender, parental psychopathology, peer problems and school problem.
Goodman, 2010	Cross-sectional	England	Response: 60% Age: 5-16 years Total N=13868 Immigrant n=361	Not reported.	White and Indian.	SDQ, DAWBA-psychiatric interview	Self-, parent- and teacher report.	- Ethnic Indian children lower level of externalizing problems than British children. - Family type and academic abilities mediate part of the advantage. - No socio-economic gradient in mental health of British Indian children.
Mangalore, 2011	Cross-sectional	England	Response: Not reported. Age:16-74 years Total N=3565 Immigrant n= 3565	Not reported.	African Caribbean, Indian, Pakistani, Bangladeshi, Chinese and Irish	Clinical Interview CIS-R, PSQ, SF12 Physical and Mental Health Summary Scales.	Self-report	- Inequality in mental health morbidity between and within ethnic groups is at least partly linked to income
Dogra, 2013	Cross-sectional	London	Response: 71% Age: 13-15 years Total N=2900 Immigrant n=1087	Not reported.	White and Indian.	SDQ SMFQ SCOFF	Self-report	- Ethnic Indian adolescents lower rates of mental health problems than their White counterparts. - Factors related to parenting style and social support networks may be mediating factors.

First author and year	Study design	Setting	Sample	Generation	Immigrants form/ Ethnicity	Mental health measure	Informants	Outcome
Bhui,2012	Longitudinal study	London	Response: 88% Age: 11-13 years. F-up 2 years later. Total N= 4785 Immigrant: Not reported.	At least one parent of that same ethnic group, and having at least three grand-parents born in the country of origin.	Black Caribbean, Black African, Nigerian/Ghanaian, Indian and White.	SDQ TDS PBI	Self-report	Cultural integration was associated with better mental health.
Astell-Burt, 2012	Longitudinal study	London	Response: 72 % Age: 11-16 years F-up 2 years later Total N: 4782 Immigrant n: Not reported.	UK-born or overseas-born.	White UK, Indian, Pakistani, Bangladeshi, Black Caribbean, Nigerian, Ghanaian, and Other African.	SDQ TDS	Self-report	-Ethnic minorities more report for racism than withes -Racism associated with poorer psychological well-being across all cultures. -Less racism in schools/neighborhoods with high own group density.
Maynard, 2010	Cross-sectional	London	Response: 83% Age: 11-13 years Total N:4349 Immigrant n: 3122	At least one parent of that same ethnic group, and having at least three grand-parents born in the country of origin.	White UK, Black Caribbean, Nigerian, Ghanaian, Somalia, Eritreans, Indian, Pakistani and Bangladeshi.	SDQ PBI	Self-report	-Low parental care and high control scores were associated with poorer mental health within each ethnic group, aged 11- to 13-year-olds. -All minority pupils lower mean care and higher mean control. -Correlation between perceive quality of parenting and psychological well-being.
Klineberg, 2006	Cross-sectional	London	Response: 84% Age: 11-14 years Total N:2790 Immigrant n: 2176	Born in UK and live in the UK < 5 years.	White and Non-White.	SDQ, SMFQ, MSPSS and Diagnostic Interview Schedule for children-Depression Scale.	Self-report	-Low family and overall social support increase psychological distress. -Also associated with depressive symptoms. -No ethnic differences.
Gaber, 2013	A retrospective analysis	Germany	67% of sample included Age: < 17 years Total N=5985 Immigrant n=1353	Foreign-born and Germany-born youths.	Not reported.	ICD-9 ICD-10	Diagnostic data were obtained over a period of 20 years from patients who visited a child and adolescent psychiatry mental health service.	Migration background and SES influence the prevalence of various psychiatric disorders in children and adolescents.