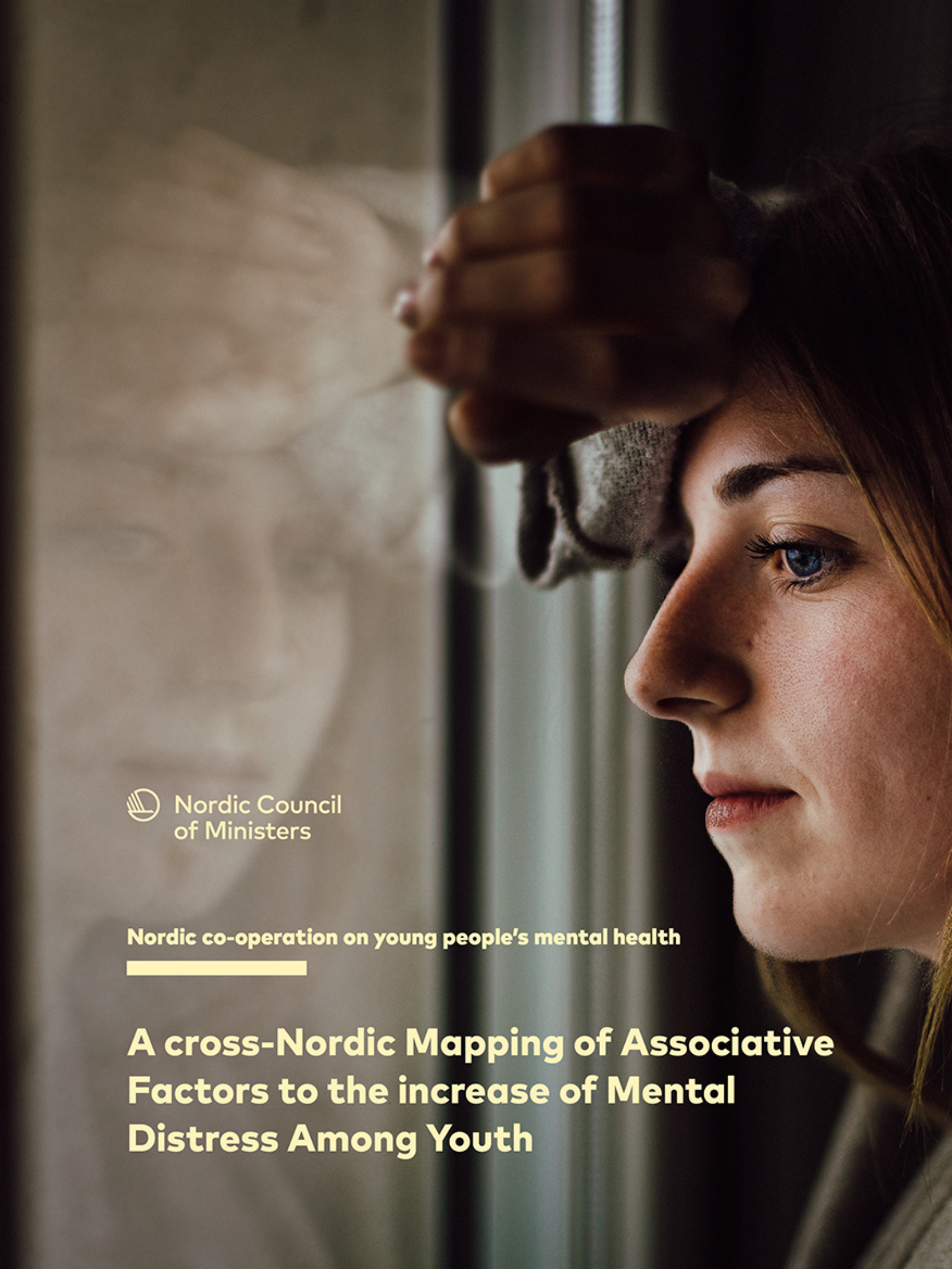

Nordic Council of Ministers

Nordic co-operation on young people's mental health

A cross-Nordic Mapping of Associative Factors to the increase of Mental Distress Among Youth

Contents

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Preface

Generally, the Nordic Region is a good place for children and young people to grow up. The vast majority of young people in the Nordic countries have a high degree of trust in the public system, a high level of education, and a high degree of welfare and equality. Nevertheless, in recent years we have seen a concerning increase in the number of young people with mental distress across all of the Nordic countries. This mental distress not only affects the well-being of young people in their day-to-day lives, but there is also a risk that, in the absence of early intervention, it may lead to more serious mental health problems and to social marginalization in late adolescence and in adulthood. In other words, circumstances, which may hold individuals back in relation to their education, employment, social relationships and their quality of life.

As part of the project *Mental Distress Among Nordic Youth,* under the Danish Presidency of the Nordic Council of Ministers, in 2020 the National Board of Social Services in Denmark established a Nordic network consisting of representatives from Denmark, Finland, Iceland, Norway and Sweden, the Faroe Islands and Greenland. Among other things, the network has been tasked with mapping out relevant knowledge across the Nordic Region on the causes behind an increase in mental distress among children and young people, including knowledge relating to risk and protective factors for mental distress. A literature search has therefore been undertaken for each country in order to find knowledge about the causes which lie behind this increase in mental distress among young people aged 13–25. This paper sets out the results of these literature searches as well as findings and conclusions which cut across national borders.

The National Board of Social Services in Denmark would like to thank the local representatives in the network for their contribution to the paper. Moreover, they have also contributed towards a positive and constructive dialogue around mental distress in Nordic youth. In addition, the Danish Center for Social Science Research (VIVE) and the Center for Youth Research at Aalborg University have also made academic contributions to this paper.

The National Board of Social Services in Denmark (Socialstyrelsen)

December 2021

Summary

This paper is based on Nordic research studies, which focus on the associating factors to mental distress among young people across the Nordic region. The studies deal with connections or correlations between different risk factors and mental distress, and not the causes. This means that, based on the included and excluded studies, we cannot determine cause-effect with sigficant for example, a poor social environment in school, an unhealthy lifestyle, or the use of social media necessarily leads to mental distress. What the studies show is solely that there is a connection between the various risk factors and young people's mental well-being.

Focus (the dependent variable) for this paper is mental distress amongst young people. Within research, different terms describe distress, such as low mental well-being, (poor/ill) mental health, health-related complaints, etc. and with varying degrees of focus on symptoms of well-being or distress. Throughout this paper, we will primarily use the term 'mental distress'. In order to gain a precise understanding as to what symptoms or variables have been investigated in each case, we recommend the reader to go in and look at the methodology behind the individual study concerned.

The paper includes seven topics of associating factors to mental distress among young people in the Nordic region. The identified topics are:

- Factors related to school and education
- Lifestyle factors
- Psychosocial problems
- Ethnicity and migration
- Culture and indigenous youth
- Use of digital media among young people
- Socio-economic factors

Some of the studies identified are suited to more than one topic depending on what the study investigates. For the sake of the reader, each study is only presented under one topic.

Factors related to school and education

Good well-being at school and being a part of an inclusive fellowship are significant to the desire and ability of students to learn. The studies show that there is a tight degree of mutual influence between academic outcomes, the educational environment, and student well-being. Several different factors related to school and education have impact on young people´s mental well-being. The studies highlight the psychosocial environment in school, school children´s academic skills, and the importance of financial savings. The studies point to a range of different factors related to school and education, which can have an impact on the mental well-being of children and young people. The studies show that a good social environment can have positive impact on youth mental health. Conversely, a poor social environment will have a negative impact on the mental health of students. Other studies highlight that grades, academic performance and motivation at school are all associated with

mental well-being. Just as budget cuts of schools may affect the subsequent development of psychiatric disorders and the risk of being on welfare in those children affected by the cuts.

Lifestyle factors and mental distress

An unhealthy lifestyle based on fatty foods, excessive alcohol consumption and little exercise can exert a negative impact on both physical and mental health. On the other hand, a healthy lifestyle can benefit not just physical health but even mental health as well. The studies show that physical activity, body perception, sleep, smoking, alcohol, and drugs are all associating factors to mental distress among youth. The majority of the studies on physical activity show that there is a clear link between level of physical activity and mental health in young people at an individual level. However, two of the studies do not show such a correlation. Studies on body perceptions among young people show that there is a link between dissatisfaction with one's appearance and having symptoms of mental distress. Especially for young women to a particularly high degree but also for young men as well. Late bedtimes, poor sleep quality and short sleep durations are important risk factors for mental distress in young people. Just as young people who drink alcohol and who smoke cigarettes and/or cannabis, have more depressive symptoms and a lower quality of life than their peers who abstain from such things.

Psychosocial problems and mental distress

Young people with psychosocial problems are a group which is often characterized both by the stage they are at in life – the transition from child to young adult – and by the fact that their lives differ from those of other young people in disparate ways. The studies look at psychosocial problems such as loneliness, negative life events, depressive symptoms, sexual abuse, the risk of psychiatric diagnoses among children in care, the link between the life satisfaction of parents and their children, emotional well-being, sexual orientation, and transgenderism. Looking at the individual link between loneliness, negative life event, and mental health, the studies show how the stage between adolescence and adulthood is particularly vulnerable. Young people are also vulnerable to negative life events such as physical violence in the home, divorce, rejection by friends and illness. Several studies also show that there is a rising incidence of young people with depressive symptoms and that this may be linked to various different risk factors. Just as relational factors are of significance in regard to mental health. Among other things, the studies highlight the importance of parent support for their children right from early childhood, throughout their teenage years and into adulthood. Studies show that protective factors such as how support from family, friends and society are crucial for the mental health of LGBT youth. Children taken into care are often at the risk of mental distress. Such distress can manifest itself in different ways such as, alcohol and substance abuse, criminality and psychiatric disorders as well as depression and anxiety.

Ethnicity, migration and mental distress

Migration may lead to loss of social relations and create challenges related to acculturation in the new country. Time in the receiving country as well as cultural orientation influence the well-being of young people. The sense of belonging and post-migration issues are factors associated with mental distress. The studies show that social and ethnic identification and the importance of social support from family and friends has an impact to mental well-being among minorities. The results also show that refugees who experience high levels of discrimination experience higher levels of social anxiety.

Culture, indigenous youth and mental distress

Indigenous youth in communities across the Circumpolar North experience significant health disparities and poorer mental health, irrespective of the measurement method, than non-indigenous youth. Children and young people from the Inuit and Sami populations in the Nordic countries are identified as vulnerable groups. The studies find evidence of indigenous youth in communities across the Circumpolar North experiencing, but also a transition in research to emphasizing resilience and supporting protective factors to enhancing indigenous youth mental health.

Use of digital media and mental distress

Developments in digital technology in recent decades has affected the population's - and thus also young people's - access to information and social interaction in both the public and private space. The studies look at young people's use of social media, gaming and gambling patterns and behavior, cyberbullying and exposure to online information as associative factors to young people's mental distress. The results indicate that young people's online gaming/gambling and gaming/gambling behavior in general can explain a number of psychological, social, and physical symptoms. In addition gaming/gambling behavior can negatively influence young people's sleep, which can lead to depressive symptoms. The studies show association between cyberbullying, harassment, use of social media and cybercrime and young people's mental well-being. One study shows that the incidence of reported cyberbullying is higher among girls than among boys. Studies show that internet use can have consequences for young people's mental well-being. The abundance of information online about this can reduce young people's self-confidence and adaptability and weaken their decision-making process, which is slower than among young people who spend less time online. The exposure to online content can also be harmful and thereby affect young people's mental well-being.

Socio-economic factors to mental distress

Several studies provide knowledge on social inequality and socio-economic background and their association with the development of the prevalence of mental distress among Nordic youth. Childhood poverty is, among other factors, a significant risk factor for mental distress for youth. Research indicates that a low parental socio-economic status combined with parental psychiatric problems is associated with youth mental health. We have also identified family affluence and childhood poverty as associative factors to youth mental distress. Youth unemployment is associated with mental distress, but there are not enough findings from the literature search to reach a determination on whether unemployment has been researched as an explanatory factor on the increase in mental distress among youth in the years 2010 through 2020. Several studies indicate gender differences in the self-reported prevalence of mental distress, where females reported a higher prevalence and are more at risk of suffering from depression and socio-economic factors than males.

1.0 Nordic youth in sustainable communities

The Nordic Council of Ministers is an official forum for cooperation between the Nordic governments and covers Denmark, Finland, Iceland, Norway and Sweden, the Faroe Islands, Greenland and Åland. The Nordic prime ministers bear overarching responsibility for Nordic cooperation and their vision is for the Nordic Region to become the most sustainable and integrated region in the world by the year 2030. The Nordic Council of Ministers exists to serve that purpose. To this end, the Action Plan for Vision 2030[1] describes how the Nordic Council of Ministers shall work in order to attain the goals of the vision through a range of initiatives, which all relate to the vision's three strategic priorities: a green Nordic Region, a competitive Nordic Region and a socially sustainable Nordic Region.

The Presidency of the Nordic Council of Ministers alternates between the five member countries and lasts for one year at a time. As a core part of the presidency, three priority projects are launched under each term in order to support the vision of the Nordic Council of Ministers. Denmark held the presidency in 2020 and initiated an interdisciplinary priority project entitled *Nordic Youth in Sustainable Communities* (Nordens Unge i Bæredygtige Fællesskaber). The project runs from 2020 to 2022 and consists of three tracks:

1. An analysis of how competencies for active citizenship and student participation appear in legislation and curricula for primary and lower secondary schools, upper secondary education and vocational education in the Nordic countries. Furthermore, methods and tools for teachers' work with student participation in teaching are gathered and disseminated across the Nordic region.
2. A framework for dialogue, joint projects, and sustainable communities between young people across the Nordic region is established. This involves annual meetings where young people meet to exchange ideas, take part in joint activities, and cultural exchange. It also involves a pool to fund cross-Nordic projects planned and carried out by young people.
3. A common Nordic collaboration around preventing distress among young men and women in the Nordic Region, partly by addressing the causes of distress and partly through coherent healthcare and social interventions, which target mental distress in children and young people.

The Danish National Agency for Education and Quality bears overarching project responsibility for all three tracks and leads the work on the first two tracks. Track three is anchored with the Danish Ministry of Social Affairs and Senior Citizens under the project management of the National Board of Social Services in Denmark. The present paper is focused on track three, *Mental Distress Among Nordic Youth*, which shall now be covered in more detail by the following section.

1. https://www.norden.org/en/information/action-plan-vision-2030

1.1 The purpose of "Mental distress among Nordic youth"

The purpose of the project entitled *Mental Distress Among Nordic Youth* is to generate more knowledge around the causes to the increase in mental distress among young people in the Nordic Region and to boost knowledge on best practices in relation to efforts and interventions aimed at the target group which cut across both the healthcare and social service sectors. In the long term, the purpose is thus to create a stronger knowledge base for future efforts which target mental distress in young people so that social service and healthcare efforts can, to a greater extent, be based on effective actions which are better able to create a cohesive effort across the two sectors.

Focus (the dependent variable) for this paper is mental distress among young people. Within research, various different terms are used to describe well-being and distress such as low mental well-being, poor/ill mental health, health-related complaints, etc. and with varying degrees of focus on symptoms of well-being or distress. Throughout this paper, we will primarily use the term mental distress. In order to gain a precise understanding as to what symptoms or variables have been investigated in each case, it will be necessary for the reader to go in and look at the methodology behind the individual study concerned.

1.2 The Nordic network

As a part of *Mental Distress Among Nordic Youth*, a Nordic network was established in 2020 consisting of representatives from Denmark, Finland, Iceland, Norway and Sweden, the Faroe Islands and Greenland. At its own request, Åland does not participate in the network due to a lack of resources. The network will run until 2022 and is currently comprised of representatives from the national boards of health, welfare and social services from Denmark, Finland, Iceland, Norway and Sweden, the Faroe Islands and Greenland.

Throughout the project period, the network's mission is to:

1. Map out relevant research-based knowledge across the Nordic Region on the associating factors to the increase in mental distress among young people, including knowledge relating to risk and protective factors for mental distress.
2. Describe cross-sectoral areas for collaboration between the healthcare and social service sectors in the Nordic Region relating to mental distress among young people and map out examples of best practice for coherent, cross-sectoral efforts and interventions aimed at young people in mental distress.
3. Communicate the results of the mapping of associating factors to mental distress and describe the best practice examples identified for actors within the healthcare and social service sectors and across the Nordic countries.
4. Investigate the possibilities of initiating a common Nordic research project which would aim to undertake a scientific investigation into the causal relationships behind mental distress and to cast light on effective interventions to reduce mental distress among children and young people in the Nordic Region.

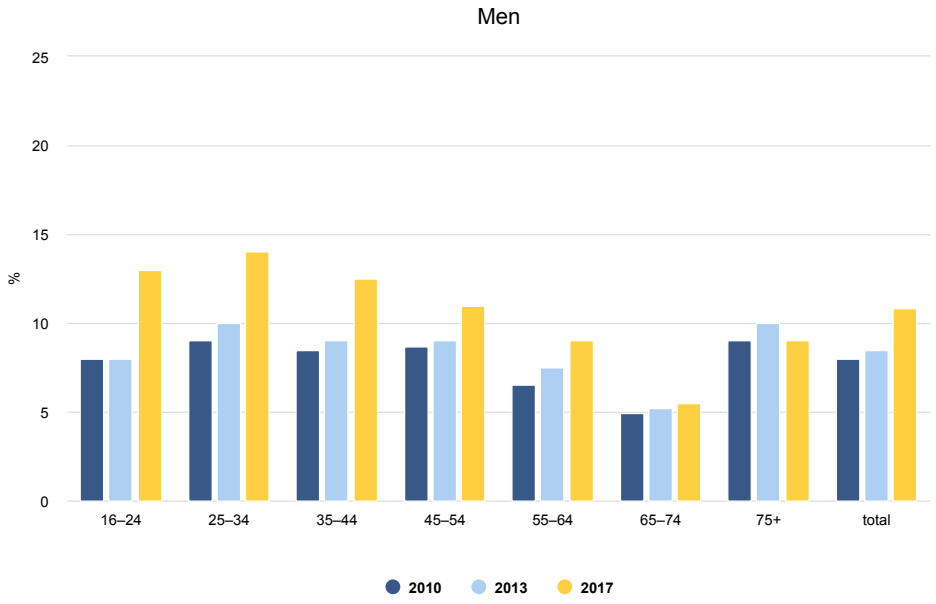
This paper sets, in relation to the missions above, out the results of literature searches from the individual countries as well as findings and conclusions, which cut across national borders.

This paper has been qualified and approved by the network.

1.3 Background to the project

For several years, the five Nordic countries have consistently ranked in top positions on the UN's annual 'World Happiness Report'[2], which has been published every year since 2012. This can be explained in part by factors relating to the countries' low levels of corruption, well-functioning democracies and state institutions and the fact that people in Nordic countries have a high degree of trust in one another, in the state and in their public institutions[3]. This does not mean, however, that everyone in the Nordic Region experiences a high degree of life satisfaction and well-being. A study from 2018 shows that life satisfaction is uneven across different places in Scandinavia and that a considerable number of people in the Nordic Region experience poor mental well-being[4]. This is especially true for elderly citizens over the age of 80 and for young people, and in particular young women. There has been an increase in the number of young people with mental health problems and disorders all across the Nordic Region in recent years, and even if the scale of this problem varies, the overarching pattern is that young women feel affected to a greater extent than young men[5].

The percentage increase in the share of young people aged 16–24 in Denmark with poor mental health is greatest among young men[6]. The figure below shows the proportion of men and women with poor mental health and illustrates the increase in poor mental health among this demographic.



2. https://worldhappiness.report/archive/
3. Helliwell et al., 2020: World Happiness Report
4. Nordic Council of Ministers 2018: In the Shadow of Happiness.
5. Birkjær M.(2018): Skyggen af lykken [In the Shadow of Happiness]. Nordic Council of Ministers 2018
6. *Danskernes sundhed – den Nationale Sundhedsprofil 2017*" The Danish National Health Survey] (The Rockwool Foundation). RFF_Danskernes-mentale-sundhed-2020.pdf (rockwoolfonden.dk)

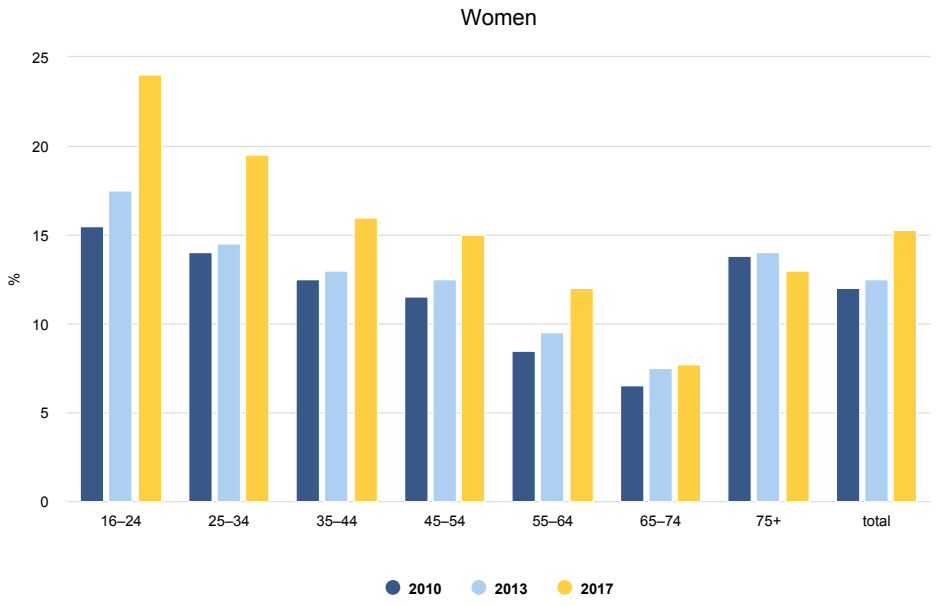


Figure 1. Mental health in Denmark

The figure is constructed using data from Danskernes Sundhed - Den Nationale Sundhedsprofil 2017 - Sundhedsstyrelsen which is taken originally from Danskernes sundhed – den Nationale Sundhedsprofil 2017 [The Danish National Health Survey] (The Rockwool Foundation).

The figure above shows that men aged 16–24 have experienced the largest increase in poor mental health. Between 2010 and 2017, there was an increase of 55.4%. For young women in the same age group, the increase for the same period was 50.6% (The Rockwool Foundation).

The figure below is taken from a report by the Nordic Council of Ministers (2018) and shows the proportion of young people (aged 18–23) from the five Nordic countries who report that they are either unhappy or in mental distress[7].

7. Birkjær M (2018): Skyggen af lykken [In the Shadow of Happiness]. Nordic Council of Ministers 2018

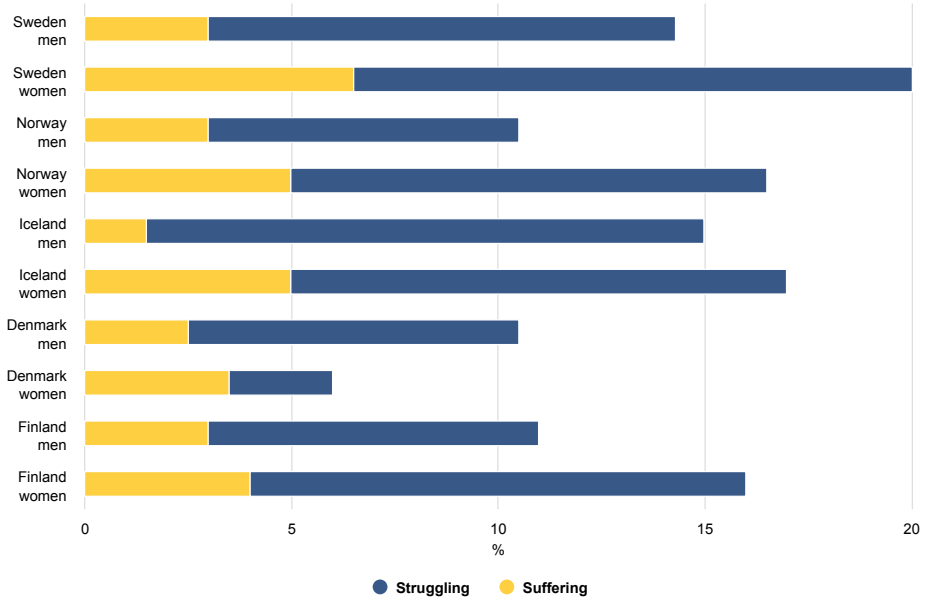


Figure 2. Nordic youth struggling or suffering from mental distress 2012–2016

As the figures illustrate, it is the case in all five countries that a greater share of young women than young men report either that they are in mental distress or that they are unhappy. Overall, 13.5 percent of all young people in the Nordic Region aged 18–23 report either that they are in mental distress or that they are unhappy. Only among those aged 80 and older is there a greater proportion (16%) of people who report being in mental distress or unhappy. According to the report, psychological problems are the main reason why young people describe themselves wither as being unhappy or in mental distress.

These problems manifest themselves among young people in the form of stress, depression, anxiety, self-harm, the use of antidepressants and, in extreme cases, suicide. The latter is a particularly considerable problem in Greenland and Finland. Finland otherwise ranks as the happiest country in the world, according to the 2020 World Happiness Report. Suicide is the cause of a third of all deaths between young people aged 15–24 in the country[8].

The fact that a growing proportion of young people experience mental distress is something which has both human and socioeconomic consequences. It goes without saying that mental distress can be of varying degrees of severity and duration, and that it may come accompanied with different social and health problems of a greater or lesser magnitude. The consequences that mental distress can have on a young person's well-being and development are highly individual. For some, it can become difficult to keep up with school or work, while others may have difficulties structuring their daily lives and participating in social activities with their peers.

Altogether, the evidence speaks to the need for greater political focus on creating the right conditions for young people to thrive. Not only would this be of benefit to young people affected by mental distress and their relatives, but it would also have positive socioeconomic effects more broadly.

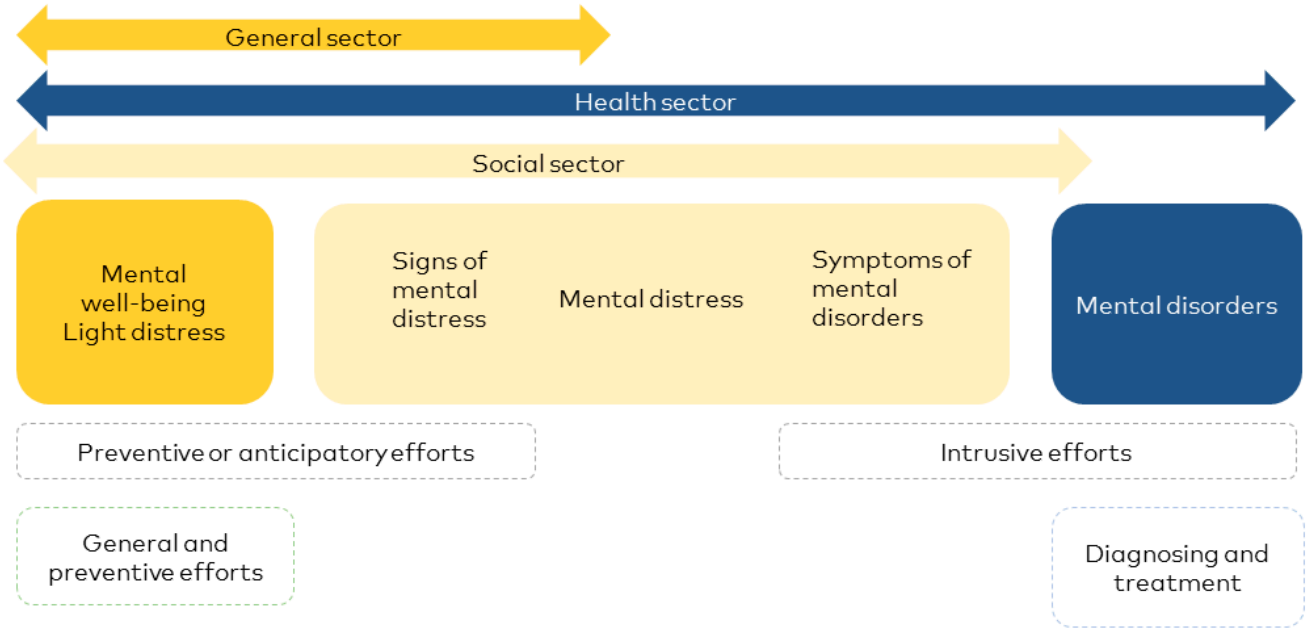
The background to *Mental Distress Among Nordic Youth* is that there is a knowledge

8. Birkjær M (2018): Skyggen af lykken [In the Shadow of Happiness]. Nordic Council of Ministers 2018

gap across the Nordic countries relating to the causes behind the increase in mental distress among young people, and that there exists only a limited degree of research-based knowledge on what efforts can be deployed to improve the mental health of young people and how. Moreover, there exists a challenge in terms of creating cohesive and coordinated actions which cut across the healthcare and social sectors in each individual country, and this hinders young people from being included in their everyday lives at school, training, in part-time employment and in activities with others.

1.4 Target group of the project

The target group for this project is young people aged 13–25 who either show signs of mental distress, are in mental distress and/or show the signs of mental disorders (the light-green target groups).



Model 1. Description of the target group in relation to sector areas

Young people with psychiatric diagnoses are excluded from this study as the focus is aimed at uncovering the causes to the increase in mental distress and not at the increase in the scope and extent of mental disorders. We are conscious, however, that there is a large degree of overlap and that one may be in mental distress and suffer from a psychiatric disorder in much the same way that one can be in a state of mental wellbeing despite having a psychiatric disorder.

2.0 Method and data basis

The Nordic network has been tasked with uncovering relevant knowledge relating to the associating factors to the increase in mental distress among young people in the Nordic Region, including knowledge on risk and protective factors for mental distress.

In order to uncover relevant knowledge, literature searches were undertaken locally in the seven Nordic countries. Before these searches were carried out, a number of selection criteria were established and used as a basis for the searches then subsequently undertaken. Following the literature search process, each country then submitted a literature list and these have subsequently been screened and used to develop the present paper. Due to the Covid-19 pandemic, some countries have had difficulties fulfilling the literature search but have fully completed the task based on the resources provided.

The Nordic Region, both in general and within the specific context of this collaboration, is typically seen as a comparable region in many respects, and in particular with regards to the organization and accessibility of welfare services such as schools, healthcare, etc. This paper has therefore been developed as a cross-Nordic paper in which results from the literature mapping process are based on selected parts of the Nordic population and can be read and used across the Nordic Region. National differences and contexts are only highlighted to the extent required in order to understand a given study or result.

The following is a systematic presentation of the literature mapping process, including the inclusion and exclusion criteria which have been used in the survey. This will then be followed by a presentation of the methodological restrictions and choices that have been made.

2.1 Research question for the literature mapping

In order to uncover knowledge on the associated factors to the increase in mental distress among young people in the Nordic Region and on risk and protective factors, the following research question has been established and used:

What factors are associated with the increase in mental distress among young people aged 13–25 in your country?

2.2 Process and criteria for the selection of studies

The process for the selection of a cross-Nordic literature base is divided into three different phases:

Phase 1: The network approved a method paper with procedures for mapping

Phase 2: Local collection of literature and assessment of the studies' relevance in relation to the inclusion and exclusion criteria (see table 1) was undertaken in the participating countries

Phase 3: A cross-Nordic assessment of the studies' relevance in relation to the inclusion and exclusion criteria was then carried out by Denmark.

As part of phase one, a method paper was developed and approved by the network. The network applied the following search criteria:

- Knowledge on risk and protective factors which are *associated with the increase in mental distress among young people aged 13–25*
- The time period for the point of data collection is the last ten years (2010–2020)
- Time of publication is over the last ten years (2010–2020)
- Empirical considerations concern the countries' own populations for the project's target group
- Description of any gender differences for mental distress
- Searches are undertaken for research literature and studies (peer-reviewed) for each country

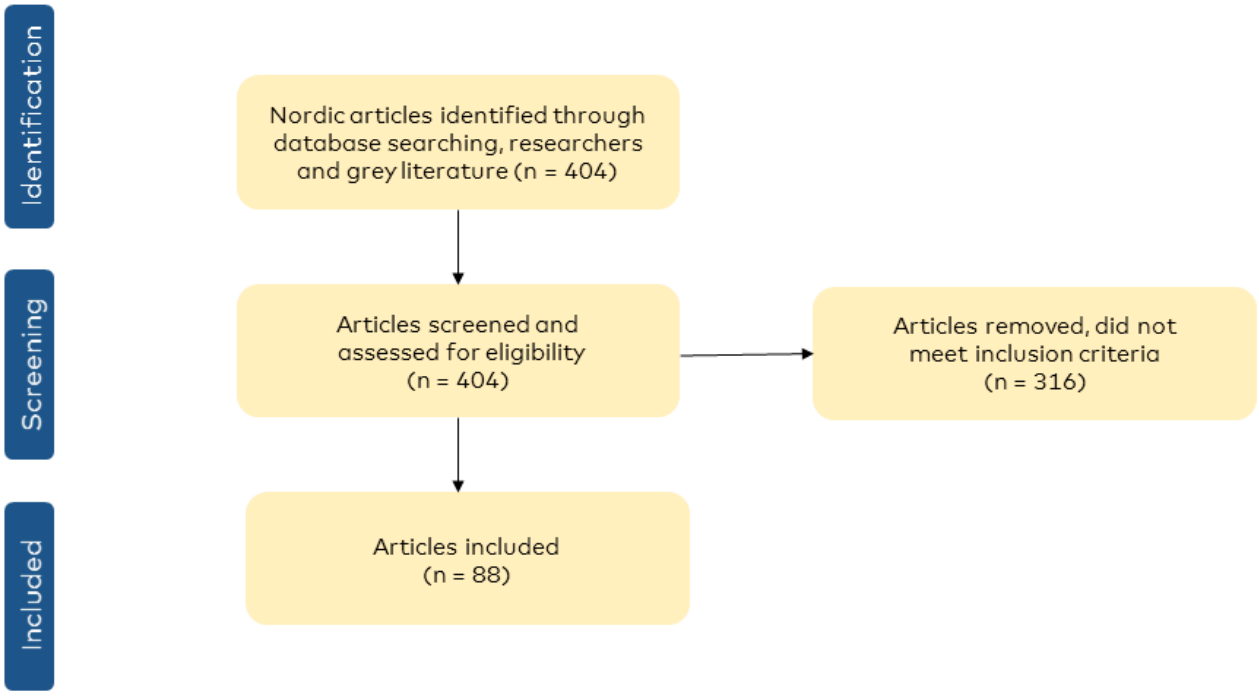
Table 1. Inclusion and exclusion criteria for the literature mapping process

	Inclusion criteria	Exclusion criteria
Date of publication	Date of publication is between 2010 and 2020 Data collected prior to 2010 is included if the publication is based on a time series study. Data from before 2010 can be included if the latest data point is within 2010–2020.	Published before 2010 and from 2021.
Language of the study	English	Studies in other languages
Target group	Young people who • are displaying signs of mental distress • are suffering from mental distress • are displaying the signs of mental disorders	Studies on young people with psychiatric diagnoses
Target group age	Young people aged 13–25 years	Young people under 13 and over 25 Studies in which the majority of the target group are outside the age range of 13–25 are excluded.
Quantitative studies	Peer-reviewed: • Longitudinal studies • Cross-sectional studies • Meta studies and reviews (if one or more of the Nordic countries are included in the study)	Studies which are not based on empirical data or which only report descriptive results.
Qualitative studies		Excluded
Subgroups E.g. Young people with disabilities Young people with a refugee/ immigrantbackground LGBT+ youth	Studies on subgroups are included if there is more than one study on the same subgroup across the network and provided that the study meets the other inclusion criteria.	
Studies with regional data	Included, provided that the study meets other inclusion criteria	
Studies on preventative measures		Excluded
Studies with a particular focus on gender	Included, provided that the study meets other inclusion criteria	

In phase two, local literature was mapped out using relevant electronic databases and websites. The methodological basis was discussed continuously within the network at the same time as local literature was being uncovered. This gave rise to a number of methodological adjustments for the final selection of cross-Nordic literature in phase three[9].

In phase three, the National Board of Social Services in Denmark reviewed all of the Nordic references and systematically evaluated the content of each study on the basis of design and language of publication (English).

The following inclusion criteria were prioritized: 1) Peer-reviewed studies published in scientific journals. Moreover, all of the references were screened and (a) longitudinal studies and (b) cross-sectional studies, which look at the link between mental distress in young people and factors, were included. Additionally, peer-reviewed meta studies and systematic reviews were also included.



Model 2. Flow Chart

The Nordic literature mapping process identified a total of 404 references. These references were screened and assessed based on the criteria below. Table 1 sets out the inclusion and exclusion criteria which were used in the literature mapping process for the final cross-Nordic paper which is comprised of 88 references.

9. The network originally looked also for causes behind the increase in mental distress within grey literature (studies, briefs, articles, reports, etc) either in the local language or in English. Denmark then subsequently screened and narrowed down the literature field, choosing to drop grey literature and publications which were published exclusively in the local language.

2.3 Methodological restrictions on the mapping process

Emphasis for the selection of literature is scientific studies, which cast a light on the associating factors which lie behind the increase in mental distress among Nordic youth. The focus of this paper is therefore scientific studies, which are published in peer-reviewed journals and which, using the scientific method, attempt to investigate causal relationships between different variables.

However, the literature search has revealed a highly limited selection of knowledge on concrete *causes* behind the increase in mental distress among Nordic youth. The findings identified largely demonstrate links or associations between specific parts of the dependent variable (mental distress) and its various different explanatory variables. The field of research is therefore naturally limited to the exact variables which have been considered in each study. This paper is therefore unable to conclude on causal reasons to the increase in mental distress among young people but instead maps out the current state of knowledge in the Nordic Region and presents this knowledge over seven different topics.

The literature search has not been undertaken on the basis of a common search strategy given that the abilities and prerequisites to undertake local literature searches are different in each country. For example, no economic resources have been granted for the task of mapping local literature and so, all other things being equal, there will be disparities in the scope of literature uncovered by each of the individual countries. Denmark shared the Danish search strategy and search protocol and the member countries have followed the Danish example to varying degrees.

Initially, each of the member countries began with a broader literature search which also included literature in the national language as well as in English. A large part of these studies are descriptive in nature and shed a light on (local) risk and protective factors for mental distress within the target group. The national literature searches are relevant in that they can encompass knowledge about mental distress among young people within a local context as well as knowledge on gender and possible gender differences in relation to mental distress among young people.

The purpose of this paper is to present the cross-Nordic literature on the increase in mental distress among young people so only publications in a common language (English) have therefore been included.

The literature list for each member country is therefore longer than the overall, cross-Nordic, English-language literature list which is the foundation of this paper.

3.0 Risk and protective factors

Development and well-being in young people are affected by several simultaneous and diverse risk and protective factors. These factors occur on the individual, social and structural levels. According to research, risk factors are a group term for conditions which can increase the risk of mental distress. Conversely, protective factors serve to promote positive development and to reduce the possible influence of risk factors.[10]

3.1 Protective factors

A number of factors can be protective in relation to mental distress at the individual level. On the level of individual psychology, these are strong cognitive abilities, positive self-perception and good resilience; i.e. the ability to be in and to resist various different challenges[11]. A feeling of belonging and good communication abilities are also examples of protective factors at the individual level.

At the social level, it is factors such as good family ties characterized by clear communication and low levels of stress and conflict, which protect against the development of mental distress. Participation in communities, supportive social relationships and success in education are also protective factors.

At a structural level, protective factors include having a high social and economic background and parents with a higher education. Security and access to education and social support functions are also structural protective factors.

3.2 Risk factors

At the individual level, the risk factors are impaired cognitive and language abilities, low self-esteem and poor resilience towards stress and challenges. Seeking out risk behaviors and antisocial company are also to be considered risk factors which can lead to a deterioration in well-being.

If the young person is or has been subjected to neglect, raised in a family characterized by violence, substance abuse or in residential care then this may be a risk factor on the social level. The same applies for those raised in families with a high incidence of psychological problems, high levels of stress or in cases where the family is socially marginalized.

Poverty and low living standards are among the most common risk factors at the structural level together with neglect and not attending school[12].

10. Carr, 2006/socialstyrelsen: https://vidensportal.dk/temaer/opsporing-1/risiko-og-beskyttelsesfaktorer
11. Rasmussen et al. 2018/Socialstyrelsen: https://vidensportal.dk/temaer/Opmaerksomhedsforstyrrelser/risiko-og-beskyttelsesfaktorer
12. https://vidensportal.dk/temaer/Opmaerksomhedsforstyrrelser/risiko-og-beskyttelsesfaktorer

3.3 Protective and risk factors linked to the increase in mental distress among young people

Protective and risk factors are considered within the present paper to the extent that the various studies included have focused on them. Factors from the studies included are divided below across three levels – the individual, the social and the structural – in order to illustrate how they impact upon the development of young people.

Table 2.

	Protective factors	Risk factors
Individual level	• Active use of social media e.g. social online interaction • A perception of being socially competent	• Time spent on social media • Passive use of social media, e.g. browsing, reposting links etc. • Excessive time spent playing video games • Negative life events • Loneliness • Low grades at school • Poor performance at school • Dissatisfaction with one's ownappearance • Negative body image • Sedentary behavior • Lack of sleep or poor-quality sleep • Consumption of drugs • Smoking • Unaccompanied minor refugees
Social level	• Strong offline relationships • Parents who show empathy, respect and consideration towards young people • A good social environment in the individual class and at school	• Victim of cyberbullying and traditional bullying • Victim of cybercrime • Problem gambling behavior • Poor social environment at school • Parents with mental health problems
Structural level		• Exposure to harmful content online • Easy access to consumer credit and payday loans • Placement in residential, kinship or foster care • Budget cuts in schools • Lack of work or education • Low socio-economic status in the family

Even if the risk and protective factors are listed across these three levels, several of the factors can occur at the same time or one after the other at different points in a young person's life. The decisive point is the exact composition of factors and the life circumstances which apply to the young person, and what factors are of the greatest significance to the young person's development[13]. Moreover, overlap may occur among the individual factors which means that a single factor can apply at several different levels. The above division is based on an assessment as to where each of the individual factors exerts the greatest impact on the development of young people.

13. Socialstyrelsen, 2016: https://vidensportal.dk/handicap/voksne-med-udviklingshaemning/risiko-og-beskyttelsesfaktorer

4.0 Associative factors to the increase in mental distress among Nordic youth

This section presents the associative factors to the increase in mental distress among Nordic youth. The Nordic literature survey has identified associative risk and protective factors for mental distress in young people within different academic areas.

However, it should be noted that mental well-being is complex. Mental well-being is an interplay of several different element that, in addition to our personal resources, opportunities and challenges, deal with social and societal influences. Therefore, explanations for mental well-being can often not be channeled down into individual topics, but they each carry a part of the explanatory factors.

Based on the explanatory factors identified in the research[14], they will be presented under the following seven topics and in the order given below:

1. Factors related to school and education
2. Lifestyle factors
3. Psychosocial problems
4. Ethnicity and migration
5. Culture and indigenous youth
6. Use of digital media among young people
7. Socio-economic factors

Throughout this publication, the Nordic countries will be considered as a comparable region. We will cite the country of origin for the studies considered. However the national context for each topic or for the investigation is not something that will be considered.

4.1 Factors related to school and education

School is the setting for a large part of a child's life and it is therefore important that school is a positive place for all children. Research suggests that, among other things, friendships at school and the experience of good fellowship are crucial to how students get on and develop at school (Knoop et al. 2017)[15]. At the same time, good well-being at school and being a part of an inclusive fellowship are also of significance to the desire and ability of students to learn. Well-being promotes motivation for learning, learning processes, memory and creativity (Ibid.). In general, existing studies show that there is a tight degree of mutual influence between academic outcomes, the educational environment and student well-being.

Twelve of the studies included investigate the link between different risk factors

14. Some of the studies identified could be considered under several topics depending on what exactly the study investigates. For the sake of the reader, studies will only be presented under a single topic.
15. Knoop et al. 2017: *Elevernes fællesskab og trivsel i skolen. Analyser af Den Nationale Trivselsmåling [Fellowship and Well-being at School: Analyses of the National Well-Being Survey].* Danish Center for Educational Environments (DCUM).

related to school and education such as low grades, bullying, budget cuts, lack of education, etc., and mental distress. The risk factors examined can be divided, respectively, into factors, which concern the social environment at school, factors, which concern the academic competencies of young people and factors, which relate to societal conditions. The following section presents the studies and their results in brief.

4.1.1 The psychosocial environment at school

Seven studies look at the link between factors such as bullying, social support from schoolmates, teachers and parents, school-related stress, confidence in the classroom, etc. and mental distress. In other words, the social environment at school. What the studies all have in common is that they, in different ways, address the social environment at school and its link to the mental health of students (Brandseth et al. 2019; Ringdal et al. 2020; Nielsen et al. 2015; Meilstrup et al. 2015; Uusitalo-Malmivaara 2014; Lönnfjord and Hagquist 2020; Nygren and Hagquist 2017).

One of the studies investigates levels of mental well-being and its relationship with teacher support and class belonging among Norwegian high school students, aged 16–17 (Brandseth et al. 2019). Another study from Norway examined the impact of perceived social support[16], bullying and school-related stress[17] on both positive and negative aspects of mental health in young people (aged 15–21) (Ringdal et al. 2020). According to Brandseth et al. (2019), the study shows significant differences in the mental well-being of students across gender, area of academic specialization and socio-economic status group. Boys reported higher levels of mental well-being and teacher support than girls. Class belonging partially mediated the observed relationship between teacher support and mental well-being. The findings indicate that a supportive teacher may be a significant factor for both the class belonging and mental well-being of students. Results from the other study (Ringdal et al. 2020) shows that social support from friends and family increased mental well-being in young people and decreased their symptoms of anxiety and depression. Young people who had been subjected to bullying reported higher levels of anxiety and depressive symptoms compared with young people who reported that they had no experience of being bullied. School-related stress was weakly associated with anxiety and depressive symptoms but no link was established to well-being. Furthermore, the study shows that girls scored significantly lower on mental well-being compared to boys.

Two other studies (Nielsen et al. 2015; Lönnfjord and Hagquist 2020) examine whether or not there is a link between the socio-economic status of the parents and emotional symptoms in young people (aged 11–15) in relation to confidence in class and links between school and family-related stress and psychosomatic problems. According to Nielsen et al. (2015), the results shows that the prevalence of emotional symptoms was higher among students in classes with low trust compared to classes with high trust. In classes characterized by high and moderate levels of trust, there were no statistically significant differences in emotional symptoms between high and low socio-economic groups. Furthermore, the study shows that the prevalence of daily emotional symptoms is higher among girls compared to boys. The other

16. Perceived social support includes support from three sources: family, friends and significant others. The items concerning social support included statements such as, for example: "My family really tries to help me", "I can count on my friends when things go wrong", "I can talk about my problems with my friends," etc.
17. School-related stress included stress related to teacher interaction and stress related to school performance.

study (Lönnfjord and Hagquist, 2020) shows that girls report having more psychosomatic problems and a higher degree of schoolwork pressure compared to boys. The study identifies schoolwork pressure, living with a single parent or no parent, and low self-efficacy as potential risk factors for mental health problems.

With regards to the links between school demands, psychosomatic and emotional symptoms, two studies (Nygren and Hagquist 2017; Meilstrup et al. 2015), show that the proportion of students with a higher degree of PSPs (psychosomatic problems) increased from 1988 to 2011 among students aged 15–16. PSPs increased regardless of level of school demands, and the study concludes that there is no evidence that an increase in PSPs over time can be explained by changes in school demands. The Danish study investigated factors at individual, classroom and school levels associated with emotional symptoms (Meilstrup et al. 2015). It shows that schoolchildren from low and middle occupational social classes (OSC), girls and schoolchildren exposed to bullying were more likely to exhibit emotional symptoms. A negative classroom climate was associated with emotional symptoms and so was being part of classrooms where there is a high prevalence of bullying. The study concludes that efforts to reduce bullying and improve classroom climate are important elements in the promotion of emotional health among schoolchildren. A follow-up study measured global and school-related happiness in Finnish ninth graders (aged 14–16), about 86% of whom had participated in a study on the happiness of sixth graders three years earlier (Uusitalo-Malmivaara 2014). The results showed that both global and school-related happiness had significantly decreased during the three years since which had elapsed since the students were in sixth grade. The decline was particularly dramatic in the case of girls. The decrease in happiness was mostly attributed to bullying, lack of friends, other peer problems and, to a lesser extent, stress at school. The results document a rather steep decline in school-related well-being among girls aged 12–15. School-related happiness also decreased in boys, but not as sharply.

4.1.2 Academic skills

Two Finnish studies look at the links between the academic skills of schoolchildren, including their grades, and their mental health (Metsäpelto et al. 2020; Parhiala et al. 2017).

One of the studies investigates whether developmental changes in internalizing problems can be predicted by school grades and whether these predictive relations are mediated by the self-esteem of students (Metsäpelto et al. 2020). The other study examines profiles of school motivation[18] and emotional well-being[19] and their links to academic skills among adolescents approaching the end of their mandatory schooling (aged 15–16) ((Parhiala et al. 2017).

The study undertaken by Metsäpelto et al. 2020 is based on longitudinal data collected in a follow-up study on a sample of Finnish children over a period of three years from the fourth to the seventh grade. The results showed that self-esteem was significantly higher among boys than girls. Higher math grades in fifth grade predicted higher self-esteem in sixth grade for both genders. Overall, the findings

18. Student self-report scales were used to assess four different aspects of school motivation: math motivation, literacy motivation, task-focused behavior, and school enjoyment.
19. Emotional well-being was assessed using four measures which covered school burnout, low self-esteem, externalizing behavior problems, and internalizing behavior problems.

revealed that low math grades have a negative impact on student self-esteem and predict an increase in internalizing problems during early adolescence. The other study (Parhiala et al. 2017) indicates that weak skills within math and literacy do not in and of themselves have a negative impact on student mental health, but that weak skills within math and literacy in combination with low motivation have a negative impact on the mental health of students.

4.1.3 School budget costs and youth neither in work nor education

Two studies examine whether school budget cuts and being young and neither in work nor education respectively had any significance for the mental health of young people. Although these are two widely different risk factors, what they have in common is that they are both structural. I.e. they are risk factors which are associated with social conditions or structures and which therefore also need to be tackled systematically and structurally within society – and not exclusively in relation to the individual (Huurre et al. 2014; Kivijärvi et al. 2018).

A study from Finland investigated whether cuts to school resources[20] have an impact on use of income support or psychiatric services when the children reach young adulthood (Huurre et al. 2014). Data relating to the individuals studied when they were children aged 12 was collected from teachers and then data on their later use of psychiatric[21] and income benefit service when they were aged 18–28 was collected from national registers. The study showed that a decrease in material resources and a loss of motivation among teachers due to budget cuts predicted the later use of psychiatric services by the children affected. Children receiving special education were at an increased risk of adulthood use of psychiatric services as compared to those who needed, but did not receive, this service due to the budget cuts. As this was contrary to what was expected, a further analysis into these children was then undertaken which showed that those children who received special education had more behavioral problems than those who needed special education but did not receive it. This might explain why these children were at a higher risk of psychiatric problems later in life.

Another Finnish study examined the self-reported quality of life of young adults not in employment or education (aged 16–30) (Kivijärvi et al. 2018). Quality of life (QoL) was measured using a measurement instrument which comprised of four domains: physical[22], psychological[23], social[24] and environmental[25]. The results indicate that young adults not in employment or education score relatively low in all four QoL domains. Loneliness and financial difficulties were the variables most strongly and systematically associated with low QoL.

20. Budget cuts were defined in the study as encompassing a decrease in the availability of teaching material and a reduction in after-school activities, remedial instruction, special education services, and services from school nurses and physicians.
21. The use of psychiatric services in young adulthood was defined in the study as including the use of specialist psychiatric services and psychopharmaceuticals.
22. In the physical domain, somatic health and daily functioning were measured with seven items.
23. The psychological domain included six questions regarding meaning of life, satisfaction with oneself and symptoms such as depression and anxiety.
24. Social QoL was measured using three questions concerning social support and sexuality.
25. The environmental domain included eight items on satisfaction both with one's living surroundings and with one's financial situation.

4.1.4 Summary on factors related to school and education

In summary, the studies considered in this section point to a range of different factors related to school and education which can have an impact on the mental well-being of children and young people. These factors can be divided into individual, social and structural risk factors respectively. On the social level, the studies show that a good social environment both in the individual classroom, and at the school as a whole, can have a positive impact on youth mental health. A good social environment means, among other things, good relationships between students and teachers, confidence and trust in one's classmates and teachers, the sense that teachers are supportive and a focus on preventing bullying at the school. Conversely, a poor social environment will have a negative impact on the mental health of students. That is to say that classes or schools is a high prevalence of bullying and where students feel under pressure or stressed as a result of their school work will also display a higher incidence of students in mental distress compared to classes and schools where there is not a high prevalence of bullying or stress related to schoolwork. Three of the studies show a fall in mental well-being from the age of around 12–13 until the age of around 15–16. Several of the studies also show that more girls than boys display symptoms of mental distress.

At the individual level, two Finnish studies highlight that grades, academic performance and motivation at school are all associated with well-being. Low grades impact self-esteem and this can lead to internalizing problems in young people. In addition, another study shows that the link between poor performance at school and well-being may be conditioned by motivation at school.

On the structural level, one study shows that there is a link between budget cuts at schools and the subsequent development of psychiatric disorders and the risk of being on welfare in those children affected by the cuts. Larger classes, fewer material resources, lacking access to special education, etc. all increase a teacher's risk of losing motivation and becoming stressed, which in turn increases the student's risk of developing psychiatric disorders and being in receipt of welfare payments later in life. Another study shows that young people who are neither in work nor education are at an increased risk of having low quality of life compared to young people in work or education.

4.2 Lifestyle factors and mental distress

It is well known that there exists a link between physical and mental health and that lifestyle factors such as diet, smoking, alcohol, exercise, sleep, etc. can influence both a person's physical and mental health. An unhealthy lifestyle based on fatty foods, excessive alcohol consumption and little exercise, for example, can exert a negative impact on both physical and mental health, just as a healthy lifestyle, on the other hand, can benefit not just physical health but even mental health as well. At the same time, however, research shows that there is not always a link between physical and mental health[26].

This section describes a range of studies which look at the link between various different lifestyle factors and mental health. In total it encompasses 21 studies on

26. https://sund-by-net.dk/det-dobbelte-kram-for-bedre-mental-sundhed/

lifestyle and mental health. Among other things, the studies investigate factors such as the participation of young people in physical activity, their sleeping habits, smoking and alcohol consumption and the link between these habits and mental health. It is important to emphasise that the studies consider links or correlations between different lifestyle factors and mental health rather than causes.

4.2.1 Physical activity

Some studies look at the link between participation in physical activity and depressive symptoms while others look at the link between physical activity and mental health or health-related quality of life. There are differences between how physical activity is measured in the studies and whether it concerns organized physical activity at a sports club/association or non-organized physical activity. Finally, there are also differences concerning the age group focused on in each study and the control variables used. In other words, the studies are all difference and cannot be compared on a like for like basis.

Eight of the studies included look at the link between physical activity and the presence of good or poor mental health among young people. The link between screen time and sedentary behavior and mental health in young people is the subject of investigation in one of the studies (Baldursdottir et al. 2016; Gisladottir et al. 2013; Kleppang et al. 2018; Opdal et al. 2019; Appelqvist-Schmidlechner et al. 2020; Vedøy et al. 2020; Sigvartsen et al. 2016; Opdal et al. 2020).

Three of the studies look at the link between participation in organized sports and mental well-being among young people, each in different ways. A study from Iceland questions whether there may be a link between participation in organized sport and depressive symptoms among young people aged 10–19 and whether age and gender are of significance to youth participation in organized sports (Baldursdottir et al. 2016). Another study similarly finds that self-reported participation in organized sports clubs has a positive effect on young people (Gisladottir et al. 2013), while a Norwegian study looks at the link between both organized and non-organized physical activity and symptoms of depression among young people (Kleppang et al. 2018). The studies show, to varying extents, a certain correlation between participation in organized sport and mental well-being in young people. According to Baldursdottir et al. (2016), the self-reporting of depressive symptoms increases with age while, conversely, the extent to which young people participate in organized sport decreases with age. The same study also shows that girls participate less in organized sport and report more depressive symptoms compared with boys and that both girls and boys who participate in organized physical activity of a moderate to high intensity report fewer depressive symptoms than young people who do not participate in physical activity (Ibid.). According to Kleppang et al. (2018), the risk of depressive symptoms is significantly lower in young people who do participate in organized physical activity compared with those who are not physically active. However, the risk is only slightly lower among young people who take part in non-organized physical activity. The study thus suggests that it is not only physical activity that has a positive impact on mental health, but also the social interaction between young people who take part in organized physical activity at a sports club or gym. The last of the three studies reports, among other things, that young people who spend a lot of time at organized sports clubs report being in better mental and physical health compared with their peers who do not participate in organized

sports clubs. Furthermore, they tend to have more positive expectations about the future, and believe that they will attain success within arenas such as education, work, etc. (Gisladottir et al. 2013). Two other studies have looked at the link between physical activity and health-related quality of life (Appelqvist-Schmidlechner et al. 2020; Sigvartsen et al. 2016). Both studies show that physical association has a positive association with health-related quality of life.

A study from Norway investigated the association between sedentary time and self-reported screen time[27] with mental distress[28] among young people (Opdal et al. 2020). Data was collected in two stages at the same high schools in two municipalities. The majority of the participating sample was aged 15–17 years old in the first stage and aged 17–19 in the second stage. The results showed no significant relationship between sedentary behavior and mental distress, while self-reported screen time was significantly associated with increased mental distress.

In contrast to the above studies, three other studies do not show any clear or significant links between physical activity and mental distress in young people. One study investigates the link between physical activity in young people, their mental health and their performance at school as represented by their registered grades, in addition to other factors (Vedøy et al. 2020). The study reveals no significant link between physical activity and global self-esteem[29] or self-reported mental health problems in young people, and nor does it reveal any kind of correlation between level of physical activity and grades. Similarly, the two other studies do not show any clear link between physical activity and mental distress (Opdal et al. 2019; Vedøy et al. 2020). One of these studies investigates the link between changes to physical activity level in young people and self-reported mental distress (Opdal et al. 2019). It shows that, despite an increase in physical activity level in the form of more steps per day and several minutes of daily exercise at a moderate to a high intensity, no change was observed in the mental distress of the young people studied. The results therefore indicate that, for the young people in this study, there was no link between level of physical activity and mental distress.

4.2.2 Body image

Wherever young people go, they are surrounded by images of perfect bodies. Young people today are growing up at a time of sculpted and well-groomed body ideals, which have been stripped of visible flaws and imperfections. It can be difficult to develop a positive relationship with one's own body when presented daily with this body ideal (Nielsen et al. 2010[30]). Four studies have looked into links between different lifestyle factors, body image or satisfaction with one's own appearance and symptoms of mental distress (Gestdottir et al. 2017; Hestetun and Svendsen 2019; Eidsdottir et al. 2013; Lankinen et al. 2018).

These studies look at different links between body satisfaction and mental distress among young people. One of the studies examines whether there is a link between participation in physical activity, body image and the presence of depression and

27. Screen time was measured using the question: "How many hours per day do you spend at your PC, watching TV, DVDs etc., outside of school time on weekdays and at weekends?".
28. Mental distress was measured using the Hopkins Symptom Checklist-10 which measures symptoms of anxiety (four items) and depression (six items) over the course of the previous seven days.
29. Global self-esteem relates to generalized feelings of self-worth which are not specific to a particular situation, but which apply to many activities or areas of life.
30. Nielsen et al. 2010: https://www.cefu.dk/media/225966/trivsel_version_6.pdf

anxiety (Gestdottir et al. 2017). A Norwegian study questions whether there might be a link between gender, different lifestyle factors and depressive symptoms, and whether satisfaction with one's own appearance is a mediating factor for the link between lifestyle and depressive symptoms (Hestetun and Svendsen 2019). Another study looks at the link between the BMI of Icelandic youth (aged 16–20) and depressive symptoms, and whether body image among young people is a mediating factor in this link[31] (Eidsdottir et al. 2013). The fourth and final study on body image looks at whether actual overweight, perceived overweight or both are associated with internalizing and externalizing problems among young people (Lankinen et al. 2018).

According to the studies, several symptoms of mental distress appear to have a link with the degree to which young people are satisfied with their own bodies and appearance. A follow-up study (Gestdottir et al. 2017) looked at the same group of young people when they were aged 15 and aged 23 respectively. It found that body satisfaction and the occurrence of anxiety and depression did not change over the course of the study period despite a drop in levels of physical activity and an increase in BMI. Similar results have been found in the work of Hestetun and Svendsen (2019). This study shows a strong correlation between dissatisfaction with one's own appearance and depressive symptoms in both boys and girls, and that dissatisfaction with one's appearance in particular is seen as an important mediating factor for the link between lifestyle factors and depressive symptoms (Hestetun and Svendsen 2019). In line with the aforementioned Norwegian study, a third study shows that there is a significant link between negative body image and depressive symptoms and that negative body image is an important mediating factor for the link between BMI and depressive symptoms. A link between body image and depressive symptoms can be observed among girls in particular (Eidsdottir et al. 2013). In the case of both the participating girls and boys, according to Lankinen et al. (2018), there is a significant correlation between self-perceived overweight, but not actual overweight, and depressive symptoms and behavioral disorders. The study therefore concludes that it is perceived overweight rather than actual overweight which is associated with internalizing and externalizing problems among young people (Lankinen et al. 2018).

4.2.3 Sleep

There is much to suggest that a large proportion of young people get less sleep than is recommended. Quality of sleep is also thought to be adversely affected among children and young people (Ottosen et al. 2018[32]).

Four studies have examined whether there is a link between sleep – including bedtimes, the duration of sleep and sleep quality – and mental health in young people (Koivusilt et al. 2016; Kortesoja et al. 2020; Merikanto et al. 2013; Merikanto et al. 2016).

Two of the studies look at the link between consumption of energy drinks, bedtimes and health problems in young people, as well as emotional and behavioral problems. A Finnish study looks at the link between the consumption of energy drinks in 13-year-olds, their bedtimes and various health problems such as headaches,

31. The study also takes account of socioeconomic status and other background variables.
32. Ottosen et al. 2018: https://www.vive.dk/media/pure/10315/2163082

irritation, outbursts of anger, sleep problems, tiredness, neck and shoulder pain, nervousness, dizziness and other factors (Koivusilt et al. 2016). Another Finnish follow-up study looks at the link between self-reported sleep duration, sleep problems and emotional and behavioral problems in young people over a five-year period (Kortesoja et al. 2020).

Both studies indicate a link between sleep and mental distress in young people. According to Koivusilt et al. (2016), young people who drink energy drinks several times per day have the highest incidence of health problems while those who do not drink energy drinks have the lowest. At the same time, the study also shows that young people who drink energy drinks go to bed later than those who do not, and that this is the case for both girls and boys. Moreover, the study also shows that boys drink energy drinks more often than girls do, but that daily symptoms and health problems are more prevalent among girls than among boys. Overall, approximately half of the respondents in the study drink energy drinks and out of them just under a quarter go to bed after 23:00 (Koivusilt et al. 2016). The second study (Kortesoja et al. 2020) shows that there is a link between sleep problems in young people[33] and emotional[34] and behavioral problems[35]. At the same time, it also shows that young people who sleep for a short duration are more prone to emotional and behavioral problems while young people with emotional and behavioral problems are conversely more prone to experiencing sleep problems later in their adolescence. The girls in the study sleep less, have more sleep problems and more emotional problems than boys in the study while the boys, on the other hand, experience more behavioral problems than the girls.

Two Finnish studies conducted by Merikanto et al. (2016) have investigated the link between self-reported daily rhythms and psychiatric problems, school performance and motivation. One study shows that young people who go to bed late at night are also at a significantly greater risk of experiencing psychiatric problems compared with young people who get up and go to bed early (Merikanto et al. 2016). Psychiatric problems in the study include, among others, symptoms of anxiety and depression, rule-breaking behavior, concentration difficulties, hyperactivity, aggressive behavior, etc. The link between daily rhythms and psychiatric problems remain significant even when adjusted for sleep duration and quality.

The second study by Merikanto et al. (2013) investigates whether there is a link between the self-reported bedtimes, school performance and motivation of young people (aged 14–20) and their health problems such as depressive symptoms, poor sleep quality, neck and shoulder pain, abdominal pain, nervousness, anxiety, tiredness, dizziness, etc. The study shows that late bedtimes, especially after 23:30, are related to poor school performance and low motivation. They are also associated with depressive symptoms and an increased risk of poor health in young people. Furthermore, the study shows that girls have more health-related issues than boys, and that they more frequently reported depressive symptoms than boys.

33. In this study, sleep problems are defined as difficulty falling asleep and waking up several times during the night.
34. Emotional problems include headaches, abdominal pains, worries, anxiety, etc.
35. Such as a tendency to lie, steal, lose one's temper, be restless, experience difficulties concentrating, etc.

4.2.4 Smoking, alcohol and substance use

Lifestyle factors such as the consumption of cigarettes, alcohol and cannabis can have a negative effect on mental health in young people. Four studies investigate the link between lifestyle factors and mental health (Pedersen et al. 2018; Ranjit et al. 2019; Sæther et al. 2019; Johannessen et al. 2017). In this regard, one study looks at the link between the exposure of children to their parent's abuse of drugs and the risk that they will then go on to develop psychiatric problems at a later stage in their lives (Martikainen et al. 2018).

A Danish study looks at the link between the consumption of cigarettes, cannabis and alcohol (CCA) by young people and their psychosocial problems. The young people in the study are aged 15–18 and come from Denmark, Norway and Greenland (Pedersen et al. 2018). A longitudinal study from Finland examines the associations between cigarette smoking and depressive symptoms in Finnish twins (Ranjit et al. 2019). The participants answered a questionnaire aged 17 and then again aged 22. The results of the first study show that externalizing behavior problems are strongly associated with all types of CCA use. Despite differences between samples in the use of CCA, national, cultural, and socio-economic background, the associations between psychosocial problems and the use of CCA are nonetheless very similar (Pedersen et al. 2018). According to Ranjit at al. (2019), young people aged 17 who smoke daily have higher depressive symptom scores aged 22 than never-smokers. Depressive symptom scores are higher among females compared to males both at age 17 and at age 22.

A study from Norway investigated how alcohol consumption[36] relates to life satisfaction[37] and mental health[38] among students in higher education (18–34 years) (Säther et al. 2019). The students were grouped as abstainers, students with low-risk consumption, risky consumption and hazardous consumption. Students reporting hazardous alcohol consumption reported lower life satisfaction, more mental health complaints, and a greater degree of emotional and social loneliness compared to students with low-risk consumption. Both men and women who abstained from alcohol had fewer close friends than those who did not abstain from alcohol. The study indicates that the central role played by alcohol in college and university student cultures might be making social integration difficult for students who do not drink. Previous studies have shown that partying and drinking a lot of alcohol is an expected and important part of social life at college and university, and that most socially integrated students tend to drink more (Ibid). Another study from Norway investigated the links between symptoms of anxiety and depression[39] and alcohol drinking behavior[40] among young people aged 16–18 (Johannessen et al. 2017). The study shows that higher levels of depressive symptoms are associated with the earlier onset of alcohol consumption (before the age of 15), more frequent consumption and intoxications. The links between anxiety and depressive symptoms and early drinking onset are stronger for girls than for boys.

As mentioned, one study examines the link between the exposure of children to their parent's abuse of drugs and their later development of psychiatric disorders during

36. Participants were asked how often they consumed alcohol, with response options "never", "monthly or less", "2–4 times a month", "2–3 times a week", and "4 times a week or more".
37. Life satisfaction was measured using a Norwegian version of the Satisfaction with Life Scale
38. Mental health was measured using the 25-item Hopkins Symptoms Check List
39. Measures of anxiety and depression symptom load were based on ten items from the Hopkins Symptom Checklist-25 screening instrument.
40. Alcohol consumption was measured using three questions: (1) "How old were you when you had your first full unit of alcohol, or drink?"; (2) "Do you ever drink any form of alcohol?" and (3) "If you consider the previous six months, how many times have you consumed enough alcohol to feel intoxicated?".

their late adolescence and in their early adulthood (Martikainen et al. 2018). The study places focus on the age of the child at the time they are exposed to their parent's abuse of substances and on the extent of such exposure. The study shows that there is a significant link between exposure to the parent's abuse of drugs in childhood and later development of psychiatric disorders. The study also shows that children who are exposed to their parent's abuse of drugs between the ages of 0 and 9 have a 20–30% greater risk of developing psychiatric disorders compared with siblings who are exposed to such abuse at a later age.

4.2.5 Summary on lifestyle factors and mental distress

In summary, the majority of the studies on physical activity show that there is a clear link between level of physical activity and mental health in young people at an *individual level*. However, two of the studies do not show such a correlation. At the same time, the studies indicate that the extent, intensity and nature of the physical activity can be decisive in terms of its effect on mental health and that the effect of physical activity in an organized setting is greater than the effect of self-organized physical activity. One study shows that there is no link between sedentary behavior and mental distress but that conversely there does exist a correlation between the extent of screen time and mental distress in young people.

Studies into body images among young people show that there is a link between dissatisfaction with one's appearance and having symptoms of mental distress. This is the case for young women to a particularly high degree but also for young men as well. At the same time, the studies show that body images should be taken into consideration in studies which investigate the link between lifestyle factors such as physical activity, screen time, smoking, cannabis consumption, etc. and mental health.

The four studies which look at sleep in young people indicate that late bedtimes, poor sleep quality and short sleep durations are important risk factors for mental distress in young people. One of the studies shows a link between the consumption of energy drinks in young people, their bedtimes and mental distress and that young people who drink a lot of energy drinks go to bed later and have more health problems than those who do not drink energy drinks. Another study shows a link between late bedtimes, poor school performance, low motivation for school and depressive symptoms in young people.

The studies which look at drug use and mental health in young people show that young people who drink alcohol and who smoke cigarettes and/or cannabis, have more depressive symptoms and a lower quality of life than their peers who abstain from such things. The studies also show that the extent of consumption plays a role in that young people with a high consumption of alcohol and cigarettes also display more depressive symptoms compared with young people who neither smoke nor drink alcohol or who do so to a lesser extent. At the same time, one of the studies shows that young people who abstain entirely from alcohol report having fewer friends and being lonelier than young people who do consume alcohol. Another study shows that onset age plays a role and that young people who begin drinking alcohol before they turn 15 have more symptoms of depression and anxiety than young people who begin drinking alcohol at a later age. This is especially true for young women.

Several of the studies on lifestyle factors and mental health have looked at potential

gender differences and concluded that young women generally report more symptoms of mental distress than young men, which concurs with several studies into the extent and development of mental distress among young people in the Nordic Region.

4.3 Psychosocial problems and mental distress

Young people with psychosocial problems are a group which is often characterized both by the stage they are at in life – the transition from child to young adult – and by the fact that their lives differ from those of other young people in disparate ways. Many of these young people are often subjected to a high degree of instability such as a lack of stable family relationships, frequent school changes and unstable relationships with their peers[41].

This section covers 14 studies, which look at psychosocial problems such as loneliness, negative life events, bullying, self-harm, sexual abuse, the risk of psychiatric diagnoses among children in care, the link between the life satisfaction of parents and their children, emotional well-being, sexual orientation and transgenderism.

4.3.1 Loneliness and negative life events

New research shows that loneliness has risen considerably among Nordic youth over the last 20 years[42], as just one of four concerning trends among young people in the Nordic Region. In general, adolescence is a vulnerable period and negative life events such as physical violence at home, rejection from friends, illness and divorce can all impact upon the well-being of young people both during their youth and in terms of their success later in life (Mann et al. 2014)[43].

Two studies focus specifically on loneliness and negative life events and the impact that they have on the mental health of young people (Lyyra et al. 2018; Mann et al. 2014). One of these studies looks at the link between the incidence of loneliness and subjective health complaints among schoolchildren (Lyyra et al. 2018). The second study, on the other hand, considers whether negative life events influence the well-being of students (Mann et al. 2014). Loneliness can be painful and devastating, and it is estimated that one in ten schoolchildren experience social isolation, rejection by their peers and loneliness. This is a concerning trend as loneliness can have consequences for the mental health of children and young people (Lyyra et al. 2018). At the same time, adolescence is also a tumultuous period during which many teenagers are emotionally vulnerable to negative life events. High school and college/university-level students are more vulnerable to depression, anger and anxiety in connection with negative life events (Mann et al. 2014). Looking more closely at loneliness among young people and subjective health complaints, the study

41. NUBU 2019: https://www.nubu.dk/wp-content/uploads/sites/22/2020/11/sammenhaeng-og-stabilitet-nubu-aarsmagasin-2019.pdf?x27446
42. Birkjær & Kaats, 2019: http://norden.diva-portal.org/smash/get/diva2:1320138/FULLTEXT03.pdf
43. The intensity of NLEs can be ranked along a scale of one to four, with the least serious events receiving a score of one and the most serious events a score of four. One = Had a serious argument with your parents, witnessed a serious argument by your parents, received an exceptionally low grade at school. Two = Had a severe illness, witnessed physical violence in your home in which an adult was involved, had a break-up with a girlfriend/boyfriend, been rejected by your friends, experienced a separation from a friend, had a father or mother lose a job. Three = Been involved in a serious accident, experienced a separation or the divorce of your parents, been involved in physical violence in your home in which an adult was involved, experienced the death of a friend and been expelled from school. Four = Experienced the death of a parent or sibling, been sexually abused by an adult or been sexually abused by a contemporary (peer).

(Lyyra et al. 2018) shows that girls experience somatic and psychological symptoms more often than boys. The greatest difference between boys and girls is feelings of tiredness, which are twice as common among girls compared to boys (30% compared with 15%) (Lyyra et al. 2018).

4.3.2 The link between bullying, self-harm and eating disorders and depressive symptoms

In recent years, a significant increase in depressive symptoms has been reported among young people. This is a concerning trend which may be linked to various different risk factors (Tørmoen et al. 2020). Bullying, self-harm, eating disorders and substance use are among some of the risk factors considered by the following four studies (Sainio et al. 2013; Tørmoen et al. 2020; von Soest et al. 2014; Thorisdottir et al. 2017).

One Icelandic study (Thorisdottir et al. 2017) looks at the trends behind self-reported symptoms of depression and anxiety among Icelandic youth in grades 9 and 10. The study shows a significant increase in average symptoms of anxiety and depression among girls in the period 2006–2016. Symptoms of anxiety among boys fell during the same period. In the case of boys, the proportion of self-reported symptoms of anxiety rose by 1.6% while for girls it rose by 6.8%. The study shows that girls are more likely to report symptoms of anxiety and depression than boys. The study concludes that self-reported symptoms of anxiety and depression have increased among Icelandic youth (Ibid.).

Three other studies look at the link between bullying and psychosocial adjustment e.g. depression, negative perception of peers and social self-esteem (Sainio et al. 2013), the link between selected risk and protective factors (Tørmoen et al. 2020) and an increase in the incidence of self-harm and depressive symptoms (von Soest et al. 2014). Looking at the various risk and protective factors related to psychosocial adjustment (e.g. depression, self-esteem and bullying), these can help to explain the increase of depression symptoms among young people. The negative consequences of bullying are well-documented, however these consequences depend on who the bully actually is. A Finnish study (Sainio et al. 2013) examines the consequences of bullying by peers of the same age and of the same or a different gender in relation to psychosocial social adjustment (e.g. depression, negative perception of peers and social self-esteem). The study is based on a cross-sectional study of Finnish youth aged 14–15 (Sainio et al. 2013). Another study (Tørmoen et al. 2020) examines whether any changes have occurred in the incidence of self-harm among young people, placing focus on the risk factors which may explain such changes in the incidence of self-harm. Meanwhile, a third study (von Soest et al. 2014) examines the mechanisms of eating disorders, cannabis consumption and satisfaction with one's appearance, which may help to explain the increase in depressive symptoms across recent decades. Potential risk and protective factors are assessed with regards to whether they can explain the rising trend in depressive symptoms (von Soest et al. 2014).

The studies indicate several links to the increase in depressive symptoms among young people. According to Sainio et al. (2013), both the victims of bullying by peers of the same or opposite sex are related to psychosocial adjustment (e.g. depression). Violence orchestrated by peers of the same sex in particular is linked to generalized negative perceptions of one's peers while bullying by members of the opposite sex is

more strongly linked to social self-esteem than bullying by peers of the same sex. The results show a correlation between psychosocial adjustment and bullying in the case of girls who are bullied by boys (Sainio et al. 2013). Another study (Tørmoen et al. 2020) also observed an increase in the incidence of self-harm from 2002 to 2017/18 among young people in grades 8–10. The increase was relatively greater for girls compared with boys and for eighth graders compared with tenth graders. Out of the risk factors related to self-harm studied, the investigation shows that depressive symptoms rose over the study period while antisocial behavior, exposure to violent events and alcohol consumption all decreased. The results indicate that the increase in depressive symptoms may help to explain the increase in self-harm among young people. It concludes that the incidence of self-harm had quadrupled among young people over a period of fifteen years. Even if exposure to several risk factors related to self-harm changed considerably over the same period, it is not considered that they can explain the increase in the incidence of self-harm among young people. The third study (von Soest et al. 2014) shows that depressive symptoms among young people aged 16–17 in Norway increased significantly from 1992 to 2002 for both girls and boys. The study does not provide information concerning the cause between related risk factors and depressive symptoms. However, it is considered that the results do indicate somewhat that risk factors such as eating disorders, cannabis consumption and satisfaction with one's appearance can help to explain the rising trend of depressive symptoms (von Soest et al. 2014).

4.3.3 The link between parents, life satisfaction in children and mental distress

Several studies look at factors relating to the relationships that children and young people have with their parents and the link between such relationships and mental well-being. Children and young people are affected in and by their relationships with their parents and thus young people have a need for support throughout their entire lives and not least during their youth.

Out of the studies included, four of them consider the relationship between parents and young people and the influence that parents have on the life satisfaction and mental well-being of young people, as well as the family's socio-economic conditions and the risk of sexual abuse (Duineveld et al. 2017; Nielsen et al. 2016; Dobewall et al. 2019; Runarsdottir et al. 2019). Life satisfaction is often assessed on the basis of a subjective assessed by the individual of their life as a whole. However, the life satisfaction and any psychological disorders experienced by parents have the potential to negatively affect life satisfaction in young people throughout all of adolescence and into adulthood. Several empirical studies have shown that life satisfaction in parents has an influence on the life satisfaction of their children.

One study (Dobewall at al. 2019) investigates the link between life satisfaction in parents and life satisfaction in their children. Meanwhile, two other studies look at how psychiatric disorders suffered by parents can affect their children's development from child to young person (Nielsen et al. 2016) and how support from parents can have a positive influence of self-esteem and life satisfaction in young people (Duineveld et al. 2017). A fourth study looks at the risk for sexual abuse in connection with the socio-economic status of the family (Runarsdottir et al. 2019).

Life satisfaction in parents is considered to impact upon the life satisfaction of their children in different ways. Considering both of the parents together, one of the

studies (Dobewall et al. 2019) shows that only the life satisfaction of the mother has an impact on that of her adult children – although this falls over time. The same studies show a correlation between the father's level of satisfaction at work and the overall life satisfaction of the children in adulthood. The results of this study suggest that there is a high level of interdependence with regards to life satisfaction in families, even long after the children have moved out (Dobewall et al. 2019). Another study (Runarsdottir et al. 2019) looks at gender differences and the role of the family's socio-economic status in connection with the prevalence of sexual abuse carried out against Icelanders aged 15. The study shows that girls are more than twice as likely to suffer sexual abuse than boys (20.2% vs. 9.1%). Twice as many young people who consider their families to have a low socio-economic status report sexual abuse compared to young people who consider their own family to be of a middle or high socio-economic status. When the results are divided by gender, the study shows that the prevalence of sexual abuse in families with a low socio-economic status is greater among girls than among boys. 37.6% of girls from families with a low socio-economic status have experienced sexual abuse while the corresponding figure for families with a middle or high socio-economic status is 17%. The study concludes that being a girl and having a low socio-economic status can each independently increase the risk of being subjected to sexual abuse (Runarsdottir et al. 2019).

The transition from teenager to adult is important to several factors such as education, career, long-term relationships and family. Two studies look more closely at the link between how parents influence the development of their children into adults and parental support during difficult transitions in life (Nielsen et al. 2016; Duineveld et al. 2017). According to Nielsen et al. (2016), psychological disorders in parents can have a negative impact on children throughout the entire transition from child to young person and can thus impact upon their success and establishment later in life. The study (Nielsen et al. 2016) looks at the long-term predictions for symptoms of anxiety, depression and self-efficacy. The study suggests that psychological disorders in parents are associated with symptoms of anxiety, depression and self-efficacy in their adult children. Symptoms of anxiety, depression and lower self-efficacy are higher in cases where a psychological disorder in the mother is experienced all throughout childhood (Nielsen et al. 2016). Looking also at the significance of parent support and the influence that parents have on the self-esteem and life satisfaction of their adolescent children. One study (Duinewall et al. 2017) shows that parent support has a negative link to depressive symptoms in young people and a positive link to their self-esteem. The study looked at transitions in education (e.g. the transition to high school and from there into further education) as one of the many transitions that young people have to navigate. It therefore considered how young people navigate these transitions while maintaining their mental health and well-being. The study stresses that depressive symptoms in young people diminish gradually as they develop and that support from both parents is equally important (Duinewall et al. 2017).

4.3.4 Sexual orientation

Adolescence can be a vulnerable period during which several factors have an impact on mental well-being. Research shows that homosexual and transgender young people (LGBT+ youth) continue to experience different reactions from their family, friends and society at large. These reactions can have a negative impact on their mental well-being in a variety of different ways. LGBT+ teenagers are at an increased risk of suicidal thoughts, violent behavior, alcohol and substance abuse and risky sexual behavior (Thorsteinsson et al. 2017). Support from family and friends is generally a source of mental well-being and is also crucial for transgender youth. These young people may be at risk of mental distress because they do not live up to the gendered expectations of their family or society at large. Research shows that transgender youth are more likely to experience distress as a result of reactions from their environment than from the fact of being transgender (Alanko & Lund, 2020).

This section looks at three studiers which consider the significance of support from friends, family and society, how this support has an impact on the mental health and life satisfaction of LGBT+ youth and the occurrence of bullying and the emotional and behavioral consequences which it has (Thorsteinsson et al. 2017; Alanko & Lund, 2020; Kurki-Kangas et al. 2020).

The quality of relationships to parents, friends and partners is believed to affect the mental well-being of transgender youth. One study (Alanko & Lund, 2020) investigates factors which support resilience in transgender young people, placing specific focus on social relationships. The second study (Thorsteinsson et al, 2017) also considers the link between well-being and health behavior and sexual orientation. The third study looks at the link between involvement in bullying and symptoms of anxiety and depression and criminal behavior and sexual orientation in young people (Kurki-Kangas et al. 2020). Transgender youth constitute a gender minority whose gender identity deviates from social expectations based on their gender as assigned at birth. It is a general factor that social support from family and friends is a source of mental well-being for all people. This study (Alanko & Lund, 2020) shows that social support from family and friends in particular is an important source of mental well-being among transgender youth. The same is also highlighted in another study (Thorsteinsson et al. 2017), which examines the level of social support from family and friends. This study also looks at sexual orientation in young people and the link between suicidal thoughts and behaviors, experiences of bullying, satisfaction with school and general life satisfaction. Bullying and its consequences are the subject of the third study (Kurki-Kangas et al. 2020), which shows that sexual minority youth report more emotional and behavioral symptoms compared with heterosexual youth.

According to Alanko & Lund (2020), transgender youth are more often reported having a bad relationship with their father than with their mother. When transgender and cisgender[44] people are compared, one of the studies does not show significant differences in how transgender youth relate to their friends and partners (Alanko & Lund, 2020). The relationships that transgender people have with others can be said to decline in both quality and significance to mental well-being in the following order: mother, friends, father, partner and best friends. Thus the study shows that one's relationship with their mother is of the greatest significance when it comes to mental well-being. Both transgender and cisgender youth with a good relationship to their mother score higher on mental well-being. The study also shows

44. Cisgender = people whose gender identity corresponds to their gender as assigned at birth

that one's relationship with their father, friends and partners are also of significance when it comes to mental well-being in transgender youth (Alanko & Lund, 2020).

With regards to other factors and their relationship to the mental well-being of LGBT youth, another study (Thorsteinsson et al. 2017) shows that school policies against bullying reduce suicide attempts among these young people. The results also show that life satisfaction among LGBT youth may be similar to that of young people with an unknown sexual orientation. According to Thorsteinsson et al. (2017), this is in line with other research which shows that people with an uncertain sexual identity are more likely to report a higher number of negative life events (such as bullying and sexual violence) compared with heterosexual youth. The study also indicates that LGBT youth report a higher incidence of risk behaviors, such as substance abuse, compared with heterosexual youth. According to Thorsteinsson et al. (2017), such substance abuse may be linked to stress factors such as perceiving a lesser degree of positive support from family and friends and more violence and discrimination from their peers.

Regardless of sexual orientation, involvement in bullying both as the victim and the perpetrator is associated with emotional and behavioral symptoms among all young people. The third study (Kurgi-Kangas et al. 2020), shows that sexual minority youth report more emotional and behavioral symptoms compared with heterosexual youth. According to Kurgi-Kangas et al. (2020), young people with an attraction to the same or to both sexes most often report involvement in bullying as well as anxiety, depression and criminal behavior. Conversely, young people who are attracted to the opposite sex report such circumstances the least. This study (Kurgi-Kangas et al. 2020) does not show significant differences in the link between exposure to bullying and emotional and behavioral symptoms in young people with an attraction to the same or to both sexes. This does not concur with previous research which suggests that vulnerable population groups are particularly vulnerable to psychosocial problems such as bullying. One possible explanation for the findings of this study may be changing attitudes in recent years towards sexual minorities. Sexual minority young people increasingly come out in their youth which may be crucial to their well-being over time, even if it can also increase the risk of bullying (Kurgi-Kangas et al. 2020).

4.3.5 Being placed into care

For various reasons, children and young people can be placed into foster, kinship or residential care. The decision to place a child into care is taken to protect the child or young person and to give them the opportunity to experience a sound upbringing and development (Côtê et al. 2018). Children and young people in care are often vulnerable in various different areas compared to other children and young people in general. International studies show that children and young people in care are disproportionately more often afflicted by mental difficulties compared to other children and young people in general.[45]

One study examines the link between the number of psychiatric diagnoses and criminal convictions among children in care and children who are not in care (Côtê et al. 2018).

The study (Côtê et al. 2018), compares the number of psychiatric diagnoses and criminal convictions in early adulthood for individuals first taken into care when aged

45. https://www.vive.dk/da/udgivelser/anbragte-unge-med-psykiske-vanskeligheder-6976

2–6 and individuals who were not taken into care. The participants in both groups were comparable in terms of their sociodemographic and family backgrounds. Children and young people who are taken into care often come from families with low incomes, few resources and social support, physical violence, psychological and social problems, substance abuse and neglect. All of these characteristics are also known risk factors for mental distress and criminal behavior which makes it difficult to determine which factors are of critical significance to young people taken into care and their risk of developing psychiatric diagnoses (Côtê et al. 2018). The results of the study show that children in care are at a greater risk of substance abuse, psychotic or bipolar disorders, depression and anxiety as well as neurological disorders, compared to children who are not taken into care. The results also indicate that children and young people taken into care take more prescription medications and have more criminal convictions (Côtê et al. 2018).

4.3.6 Summary on psychosocial problems and mental distress

In summary, the studies described above reveal different perspectives on the psychosocial problems experienced by young people and the ways in which they can manifest, as well as the risk and protective factors associated with psychosocial distress.

Looking at the *individual* link between loneliness, a negative life event and mental health, the studies show how the stage between adolescence and adulthood is particularly vulnerable – not least for young people with psychosocial problems. The studies point to the importance of actively preventing loneliness among vulnerable young people as loneliness is a risk factor for their health and mental well-being (Lyyraa et al. 2018). Young people are also vulnerable to negative life events such as physical violence in the home, divorce, rejection by friends and illness. It is therefore particularly important that adults who spend time with young people are aware of this emotional vulnerability and that they treat young people with respect, consideration and empathy in order to thereby support the development of their emotional well-being and success in their lives (Mann et al. 2014). Several studies also show that at the *individual level*, there is an increasing incidence of young people with depressive symptoms and that this may be linked to various different risk factors. It is considered that experiences with bullying (as a risk factor) is linked to the increase in depressive symptoms (Sainio et al. 2013). Another study (Tørmoen et al. 2020) has observed a link between self-harm and depressive symptoms and the results indicate that the increase in depressive symptoms can help to explain the increase in self-harm that is being seen among young people. Meanwhile, a third study indicates that risk factors such as eating disorders, cannabis consumption and satisfaction with one's own appearance can help to explain the rising trend of depressive symptoms among young people aged 16–17 (von Soest et al. 2014).

At the *social level*, one can see how relational factors are significance in regards to mental health. Among other things, the studies highlight the importance of parent support for their children right from early childhood, throughout their teenage years and into adulthood. Results from two of the studies point to the decisive significance that the life satisfaction of parents has for young adults with regards to the establishment of their education, careers and families (Dobewall et al. 2019) and how well-being in parents also impacts upon the transition of their children into young adults (Nielsen et al. 2016). The link between family socio-economic status also appears to be of significance when it comes to the risk of sexual abuse, particularly in girls. The lower the socio-economic status of the family, the greater

the incidence of sexual abuse (Runarsdottir et al. 2019). Difficult transitions (such as the transition from high school to further education) in adolescence are of considerable significance for mental well-being in young people, which is why parent support is crucial at this stage in life (Duineveld et al. 2017).

Other studies in this paper have investigated the protective factors at a *social level* such as how support from family, friends and society are crucial for the mental health of LGBT youth. The results of one study (Thorsteinsson et al. 2017) show that life satisfaction among LGBT youth may be similar to that of youth with unknown sexual orientation. Furthermore, the study also suggests that LGBT youth report a greater incidence of risk behavior which may be linked to less positive support from family and friends, and to more violence and discrimination from peers (Thorsteinsson et al. 2017. Another study (Alanko & Lund, 2020) suggests that relationships to parents, friends and partners are crucial for the mental well-being of transgender youth, and that one's relationship with their mother is particularly decisive. However, it is crucial to mention that there is no immediately significant difference between the relationships that transgender people have with their friends and partners compared to cisgendered youth (Alanko and Lund, 2020). According to Kurgi-Kangas et al. (2020), sexual minority youth who are involved in bullying more often report emotional and behavioral symptoms compared to heterosexual youth. This study (Kurgi-Kangas et al. 2020) does not show significant differences in the link between exposure to bullying and emotional and behavioral symptoms in young people with an attraction to the same or to both sexes.

Being placed into foster, kinship or residential care is considered *structural* in this context. One study (Côtê et al. 2018) in this group shows that the intention behind placing children and young people into care outside the home is to give them the same opportunities for personal development and well-being as their peers. However, the results of the study (Côtê et al. 2018) unfortunately show that children taken into care are often at the risk of mental distress. Such distress can manifest itself in different ways such as, for example, alcohol and substance abuse, criminality and psychiatric disorders as well as depression and anxiety.

4.4 Ethnicity, migration and mental distress

Migration is an increasingly worldwide phenomenon that creates multicultural societies with a growing number of adolescents who have experienced a process of migration or who have an ethnic background different from that of the majority population. Migration may lead to loss of social relations and create challenges related to acculturation in the new country (Madsen et al. 2015). Time in the receiving country as well as cultural orientation influence the well-being of young people (ibid.). Five studies from the literature search were identified as relating to immigrant youth and mental distress.

All studies look into factors at a social level, and three of them look into social and ethnic identification and the meaning of social support from family and friends in relation to mental well-being (Bratt, 2015; Madsen et al. 2015; Runarsdottir et al. 2015). Two Norwegian studies examine pre-migration issues and mental health problems versus post-migration issues such as discrimination (Jore et al., 2020; Jensen et al. 2019).

4.4.1 The sense of belonging

Feeling belongingness and social identification connects to mental well-being. For ethnic minority groups who have left their home of origin and have established themselves in new surroundings and social contexts, this may be extra crucial. Three studies identified look into the importance of sense of belonging for different ethnic groups.

Bratt (2015) looks into social identification and psychological well-being among minorities[46] in Norway and examines identification with small groups (family, school class) vs. large groups (the ethnic in-group and the nation). The hypothesis is that a strong ethnic identity may improve psychological well-being among members of minority groups. It concludes that all four types of social identities (family, ethnic, school class, national identity) correlate positively with scores on self-esteem, mental health, and life satisfaction[47]. Neither ethnic identity nor national identity predicted psychological well-being. In conclusion, the study finds that small-group identities, in particular family identity, predicted psychological well-being (Bratt, 2015).

The Danish study by Madsen et al. (2015) on 13- and 15-year-old immigrant youth finds that immigrants but not descendants of immigrants have an increased risk of loneliness compared to adolescents with a Danish origin. The results suggest that adolescents' self-identified ethnicity plays an essential role but in different ways for immigrants and descendants: identifying with the Danish majority, e.g. peers, was a protective factor against loneliness among immigrants, whereas identifying with an ethnic minority group was protective against loneliness among their descendants (Madsen et al. 2015).

An Icelandic study (Runarsdottir et al. 2015)[48] examines the well-being of Polish and Asian immigrant youth aged 11–15 in Iceland in comparison with their native peers and whether sociodemographic background and social support from parents, best friends and classmates could account for ethnic differences in well-being. It concludes a general lower life satisfaction in all mixed and non-native groups than among non-mixed natives. The outcomes were more negative for the youth of mixed ethnic origin[49]. Older respondents, girls, the less affluent, those living in non-intact families and having non-employed parents, reported lower life satisfaction. A key finding in the study is that socio-economic background affects mental well-being among immigrant youth. Non-native adolescents more often live in challenging social and economic circumstances and experience less social support, e.g. from family and friends, than their native peers (Runarsdottir et al. 2015). Looking into their daily school environment, support from classmates was more important for the youth of mixed-Asian background than non-mixed natives. The study thus suggests a focus on a more supportive school environment for immigrant youth (ibid.).

46. This study uses three-wave longitudinal data collected among adolescents from ethnic minority groups school grades 8–10.
47. All four social identities were correlated, suggesting that confounding effects were possible.
48. Based on Icelandic Health Behavior in School-Age Children data (HBSC)
49. The mixed-Asian and mixed-Polish youth reported less life-satisfaction than the non-mixed Polish and non-mixed Asian youth. Similarly, mixed-Asian and mixed-Polish youth reported more mental distress than their non-mixed native peers.

4.4.2 Post-migration issues

Ethnic minority groups are a vulnerable group due to pre-migration risk factors associated with war, flight and subsequent acculturation in the resettlement country. However, two Norwegian studies find post-migration issues to be associated with mental well-being too.

Two Norwegian studies examine the relationship between pre-migration events and post-migration factors in relation to mental health among unaccompanied refugee minors ages 13–18 (Jore et al. 2020; Jensen et al. 2019). Jore et al (2020) examine pre-migration traumatic events, post-migration acculturation-related factors (perceived discrimination and culture competence in relation both to the heritage and majority cultures) and demographic background variables in relation to symptoms of social anxiety and depressive symptoms. The results show that refugees who experience high levels of discrimination experience higher levels of social anxiety. Furthermore, higher levels of majority culture competences/ integration relate to lower levels of social anxiety. The findings show that factors of the current socio-cultural developmental context rather than pre-migration war-related traumatic events the youths experienced before migration accounts for variation in social anxiety (Jore et al. 2020). There was no significant gender difference in the reported levels of social anxiety.

Jensen et al. (2019) examine whether age, gender, and trauma exposure before arrival are associated with levels and changes in symptoms of posttraumatic stress, depression, anxiety, and externalizing symptoms over time. It concludes that young people show lower levels of depression after five years in Norway but that mean levels of anxiety, post-traumatic stress and externalizing symptoms did not decrease. Five years after arrival, many unaccompanied refugee minors still experienced clinical levels of mental health problems, and the level of daily hassles was an important predictor (Jensen et al. 2019).

Looking into gender differences, females had higher levels of symptoms[50]. The study indicates that girls are more at risk of developing post-traumatic stress disorder due to a higher exposure to interpersonal trauma (Jensen et al. 2019).

4.4.3 Summary on ethnicity, migration and mental distress

Both studies conclude how the time after arrival to a new country and after resettlement is associated with mental distress and is a crucial period for mitigating potential mental health problems. Unaccompanied refugee minors are at risk of developing social anxiety when facing acculturation-related stressors such as discrimination. However, individuals who perceive themselves to be culturally competent have a lower risk of developing social anxiety (Jore et al. 2020).

50. This also included severely trauma-exposed youth.

4.5 Culture, indigenous youth and mental distress

As the Nordic literature search is aimed at identifying associative factors for mental distress among youth from different subgroups, the literature search has revealed two important reviews on indigenous youth in the Arctic region (Ingemann et al. 2018; MacDonald et al. 2013)[51].

Indigenous youth in communities across the Circumpolar North experience significant health disparities and poorer mental health, irrespective of the measurement method, than non-indigenous youth (MacDonald et al. 2013). Arctic communities have experienced significant social and economic transitions and transformations over the last 50 years due to rapid changes in lifestyles and livelihoods across the Arctic. Circumpolar communities also experience inequalities in housing, healthcare, education, and employment when compared to non-indigenous populations, which may further affect youth mental health. Many Arctic indigenous youth are growing up in a context very different from their parents and grandparents, facing new challenges and having to navigate multiple and often competing social contexts and value systems (MacDonald et al. 2013).

In the Nordic region, indigenous populations live in Greenland, Norway, Sweden, and Finland (Sapmi area)[52]. Greenland has the highest proportion of indigenous population (Inuit) at approximately 85–90%. The majority of the Inuit population across the Circumpolar region consists of young people (MacDonald et al. 2013).

4.5.1 Indigenous youth and mental distress

The children and youth of the Inuit and Sami population in the Nordic countries can be identified as a vulnerable group compared to the Nordic majority youth populations (Ingemann et al. 2018). Two Greenlandic reviews identify relevant risk factors as well as protective factors to the mental well-being among indigenous youth.

A scoping review [53] on the well-being among indigenous children and youth in the Arctic focuses on Sami and Greenland Inuit and includes results from 27 articles (Ingemann et al. 2018).

Young Sami and Inuit experience a higher degree of violence, abuse, suicidal thoughts, and suicide rates compared to their peers in the majority populations in the Nordic countries (Ingemann et al. 2018). In the Greenlandic population survey from 2014, 66% of the adult population reported to have grown up in a home characterized by alcohol abuse and violence or having been exposed to sexual abuse (Dahl-Petersen et al. 2016 in Ingemann et al. 2018). The prevalence was higher in the younger generations compared to the older ones (ibid.).

51. The Greenlandic literature search revealed a large number of grey literature concerning youth and mental health, e.g. articles on suicide rates and suicidal thoughts, but they have been excluded due to the methodological restrictions for this paper.
52. Sápmi refers to the areas where the Sami people have traditionally lived and covers Norway, Sweden, Finland and Russia.
53. The scoping review covers literature from 2009–2018. Much evidence and information does not get published and is thereby hidden in reports and policy briefs. In view of this, the scoping review has included peer-reviewed as well as a great amount of grey literature in the screening process. The importance of having included grey literature in this review becomes prominent when examining the country context of the selected articles. Canada is highly represented, while Nordic countries are sparsely represented in comparative studies with other Arctic countries. The majority of the articles were cross-sectional studies and discussed suicidality in a specific country context or in the Arctic region. Although most articles concerned Inuit populations, this still reflects a North American bias in the literature, as Greenland Inuit are not as well-represented. Most literature from Greenland and Sápmi is found within the grey literature (Ingemann et al, 2018).

S. H. Karsberg et al. (2012) identified in their study population of 12–18-year-old Greenlandic students that around 9% of boys and 28 pct. girls had been exposed to sexual abuse. Many Greenlandic children and young people are at high risk of being exposed to potentially traumatic events (PTEs) throughout their lives (Ingemann et al. 2018)[54].

Greenlandic youth have lower life satisfaction and poorer self-rated health compared to the average in other countries (Lehti et al. 2009 in Ingemann et al. 2018). In the survey of living conditions in the Arctic conducted in Alaska, Greenland, Sweden, and Norway among the population aged 15 or older, Greenland was identified to have had the highest rates of suicidal thoughts (Broderstad et al., 2011 in Ingemann et al. 2018). The most commonly reported reasons for suicidal thoughts and/or attempts among young Greenlandic people according to S. Karsberg (2016) include feeling lonely, heartbreak, problems in the family such as alcohol abuse, violence, sexual abuse, and grief caused by close relatives who have committed suicide (Ingemann et al. 2018).

A study conducted in Sweden found that young Sami experienced a higher prevalence of suicidal intent and suicides among significant others but not a higher prevalence of suicide attempts compared to young Swedes (Omma, Sandlund, & Jacobsson, 2013 in Ingemann et al. 2018). Among Sami adolescents (15–16 years) suicide committed by friends or relatives was the strongest risk factor for attempted suicide among boys, while sexual abuse and parental mental health problems were the most common adversities among girls (Reigstad & Kvernmo, 2017 in Ingemann et al. 2018). Additionally, significant associations were found between attempted suicide in the past year and poverty, divorce, and ethnicity (Sami youth) (ibid.).

The Norwegian studies identified in Lehti et al.'s (2009) review found alcohol intoxication, single-parent home, and parental overprotection to be ethnic-specific risk factors for the Sami population in Norway. Other risk factors related to suicide attempts were lack of family support and involvement and conflicts with parents. The latter was also identified as one of the strongest predictors for suicide risk behavior (Reigstad & Kvernmo, 2017 in Ingemann et al. 2018).

Looking at the Sami population in the Nordic region, only few differences between Norwegian Sami and non-Sami populations were found in studies on suicidal behavior, emotional problems, and alcohol use (Bals, Turi, Skre, & Kvernmo, 2010; Eriksen, 2017; Lehti et al. 2009; in Ingemann et al. 2018). This lack of differences can be "attributed to the good living conditions and positive socio-cultural development in Sami areas". However, another study on Sami youth reported more recent suicide attempts, as well as more concurrent adversities than non-Sami peers (Reigstad & Kvernmo, 2017 in Ingemann et al. 2018).

The scoping review identified gender differences in suicide rates and risk factors. In Greenland, suicide rates are higher among men than women while the prevalence of suicidal thoughts was higher among women (Bjerregaard & Larsen, 2015 in Ingemann et al. 2018). The highest suicide rate is found among young men aged

54. S. H. Karsberg et al. (2012) studied victimization and post-traumatic stress disorder (PTSD) in a Greenlandic youth sample (12–18 years). They found that death of someone close, near drowning, threat of assault/ beating, humiliation or persecution by others and attempted suicide were the most frequent direct events experienced by the study population (S. H. Karsberg et al., 2012). Furthermore, Greenlandic girls were identified to be particularly vulnerable towards experiencing PTEs (S. H. Karsberg et al., 2012).

20–24. More girls than boys are exposed to violence and conflict in their homes or are witnesses to such occurrences (Pedersen et al. 2012). Furthermore, before the age of 15, 17% of the adolescents in the study have had sexual experiences or have been contacted sexually by an adult, significantly more girls than boys (Pedersen et al. 2012 in Ingemann et al. 2018).

4.5.2 Community and family factors

There is quite an extensive pool of knowledge on risk factors for indigenous mental health, but research has expanded and now focuses more on protective factors and how to articulate the nuanced mechanisms and pathways through which protective factors may contribute to community and individual well-being (MacDonald et al. 2013). Their findings focus on enhancing resilience among indigenous youth.

In the Greenlandic study is identified more than 40 protective factors on the following levels of protective factors for indigenous youth mental health[55] in a review:

a. Community-level (traditional knowledge and practice; ethnic pride; youth feeling connected and feeling a sense of belonging to their community; positive role models within the community; traditional knowledge and practice)
b. Family level (e.g. kinship; a close relationship between parents and the adolescent; learning to speak the native language at home)
c. Individual-level (e.g. belief in self; feeling useful and to contribute; academic achievement)

The study identifies several protective factors such as positive creation and influence on one´s social environment. Factors that interact with factors at the individual level that increase the resilience of young people (MacDonald et al. 2013).

MacDonald et al. (2013) point to possibilities in new social media communication to communicate and interact about one's culture and community-based activities.

4.5.3 Summary on culture, indigenous youth and mental distress

Summing up, the literature search finds evidence of indigenous youth in communities across the Circumpolar North experiencing significant health issues and poorer mental health than non-indigenous youth, but also a transition in research to emphasizing resilience and supporting protective factors to enhancing indigenous youth mental health.

55. Articles included in this review were all published between 1996–2013 and concern youth from Circumpolar regions/countries (Canada, Greenland, Norway, Russia, Finland, Iceland, Sweden or Alaska, USA). Presented here are extracts of protective factors from the review.

4.6 Use of digital media and mental distress

Developments in digital technology in recent decades has affected the population's - and thus also young people's - access to information and social interaction in both the public and private space. Children and young people today have the opportunity to remain online around the clock. On the one hand, this creates new possibilities for social and academic communities, while on the other hand, it can also entail various forms of deprivation and risks such as a lack of sleep or physical exercise. Several countries have observed a rising number of young people reporting symptoms of mental distress. There is yet no causal relation between the increase in mental distress among young people and the use of the internet and social media. Nevertheless, there are indications that excessive use of social media may contribute to the development of young people's mental distress (Ottosen & Andreasen, 2020[56]).

This section takes a closer look at young people's use of social media, gaming and gambling patterns and behavior, cyberbullying and exposure to online information as associative factors to young people's mental distress. 13 studies illustrate in different ways how the use of digital media can be a risk or protection factor for mental distress.

4.6.1 Gaming and gambling behavior

Various studies from around the world have reported a high prevalence of online gaming and gambling among children and young people, and online gaming/gambling is considered a common activity for adolescents. However, with the rise of information technology, new opportunities for gaming and gambling such as online games and casino websites have emerged (Oksanen et al. 2018). Even though online gaming and gambling are conventional activities, several scientific findings also show that some online gamers/gamblers exhibit dysfunctional, addiction-like behavior that resembles habit-forming behavior (Mannikkö et al. 2015).

Two included studies have analysed the association between young people's gaming and/or gambling habits and risk-taking behavior as well as their psychological, social and physical well-being (Oksanen et al. 2018; Mannikkö et al. 2015).

Online gaming and gambling have emerged as a potential risk factor for young people in recent years. One study (Oksanen et al. 2018) has analysed young people's patterns in relation to gambling activities and their relationship to behavioral risk and protection factors. The other study (Mannikkö et al. 2015) was aimed at identifying problematic gaming behavior among young Finnish people and the association with a number of psychological, social and physical symptoms.

According to Oksanen et al. (2018), a distinction can be made between gambling and recreational gaming. Gambling shows statistically significant correlations with a number of behavioral problems and the risk of mental distress, lower social support, drug abuse and compulsive internet use, among other things. Recreational gaming also shows a negative correlation with compulsive internet use. The study (Oksanen et al. 2018) concludes that online gambling is a potential risk factor for younger generations in particular. In the other study (Mannikkö et al. 2015), the results show

56. Ottosen & Andreasen, 2020: https://pure.vive.dk/ws/files/4329812/301613_B_rn_og_unges_trivsel_og_brug_af_digitale_medier_A_SIKRET.pdf

that gaming behavior can be related to psychological and health issues (e.g. fatigue, sleeping problems, depression and anxiety symptoms). An association has been observed between the amount of weekly gaming, depression and a preference for online social interaction, which increases the risk of problematic gaming behavior. Accordingly, this study indicates that problematic gaming behavior can have a strong negative correlation with a number of subjective health problems (Mannikkö et al. 2015).

4.6.2 Computer and internet use

Digital media use is an important part of the lives of today's children and young people. Several studies have found an association between frequent use of digital media, computers or TV and mental and somatic symptoms, emotional problems and fatigue (Nuutinen et al. 2014). Recent research shows a growing concern for well-being in school and potential problems related to the compulsive use of digital media such as computers, social media and the internet. Today's young people have grown up with the internet, mobile phones and social media, which allows them to remain in constant contact with their peers as well as engage in social activities such as online gaming (Salmela-Aro et al. 2016).

Two studies in this section examine the association between the use of digital media and mental well-being (Nuutinen et al. 2014; Salmela-Aro et al. 2016). A Finnish study (Nuutinen et al. 2014) investigates the association between computer use and 15-year-old young people's sleep duration, while the other study (Salmela-Aro et al. 2016) investigates the association between excessive internet use, school engagement and burnout and depressive symptoms.

If one looks at the association between media exposure and young people's sleep, there are several mechanisms that can explain this relationship. According to Nuutinen et al. (2014), the use of electronic media can delay bedtimes and reduce the amount of sleep a person gets, which is also associated with the obligation to get up early and go to school. Light from screens is also believed to have an association with mental and physiological well-being. According to Salmela-Aro et al. (2016), there is an association between excessive use of the internet and burnout in school among adolescents. The correlation is reciprocal, as burnout in school leads to excessive internet use, while excessive internet use leads to burnout in school. The study also shows an association between burnout in school and depressive symptoms.

The results of one of the studies (Nuutinen et al. 2014) show that computer use is related to less sleep and a higher burden of symptoms. Accordingly, the duration of sleep may have a potential association with computer use and health symptoms (Nuutinen et al. 2014). The other study (Salmela-Aro et al. 2016) shows that girls suffer more than boys from depressive symptoms and, in their late teens, burnout in school. The study also shows that boys typically suffer more from excessive internet use. Thus, the studies indicate that excessive internet use among young people can be a cause of burnout in school, which can eventually lead to depressive symptoms (Salmela-Aro et al. 2016).

4.6.3 Social media use

Young people's use of social media such as Facebook, Instagram and Snapchat has increased dramatically over the past decade. Social media use may impact young people's mental well-being, but little is known about whether or the extent to which social media use impacts young people's well-being (Thorisdottir et al. 2019). This increase in social media use and deterioration or young people's self-reported mental well-being has motivated researchers to investigate the association between the use of social media and young people's mental well-being (Thorisdottir et al. 2020).

There are two studies on the subject that take a closer look at the association between young people's use of social media and young people's mental well-being (Thorisdottir et al. 2020; Thorisdottir et al. 2019).

One study (Thorisdottir et al. 2019) distinguishes between active and passive social media use and how it can affect young people's mental well-being in different ways. The study shows that passive social media use is related to increased symptoms of anxiety and depression, while active use of social media is related to reduced symptoms of anxiety and depression. Known risk and protective factors such as self-esteem, peer support, poor body image and social comparison are also related to the association between passive social media use and symptoms of anxiety and depression, which is not the case with active social media use. Time spent on social media has a greater emotional influence on girls, and the association between passive use related to symptoms of depression is also greater for girls (Thorisdottir et al. 2019). According to Thorisdottir et al. (2020), there is an association between young people's time spent on social media and symptoms of depression and social and physical symptoms of anxiety. The association between time spent on social media and symptoms of anxiety and depression became stronger over time, but the study shows no causal relation between these. The study shows that the association between time spent on social media and mental distress is greater for girls than boys (Thorisdottir et al. 2020).

4.6.4 Cyberbullying and cybercrime victimization

Several different studies have found that young people's digital media use has an additional negative consequence in that more young people are being exposed to online aggression and bullying. Repeated exposure to online aggression and bullying can make such behavior appear acceptable (Craig et al. 2020). The combination of traditional bullying and cyberbullying is a serious problem among young people which is associated with a high incidence of psychosomatic issues, mental distress and school absenteeism (Arnarsson et al. 2020). However, changes in the incidence of traditional bullying and cyberbullying could, according to another study (Tiiri et al. 2020), can be effected with anti-bullying programs. Sexual harassment also occurs on digital media, especially social media, where young people can be subjected to the sharing of sexual images (Bendixen et al. 2017). Cybercrime is another risk factor associated with young people's growing use of digital media. With the proliferation of different forms of cybercrime, there is also an online forum for risk behavior (Kaaninen et al. 2017).

Five studies examine in different ways the association between cyberbullying, harassment and cybercrime and young people's mental well-being (Craig et al. 2020; Arnarsson et al. 2020; Bendixen et al. 2017; Kaaninen et al. 2017; Tiiri et al. 2020).

An Icelandic study (Craig et al., 2020), examines age, gender and transnational differences in young people's use of social media related to victimization and cyberbullying. Arnarsson et al. (2020) examine the incidence of cyberbullying across six Nordic countries (Denmark, Finland, Greenland, Iceland, Norway and Sweden) and possible overlaps with traditional bullying. Tiiri et al. (2020) assess changes in traditional bullying and cyberbullying in connection with mental well-being before and after the implementation of a nationwide anti-bullying program in Finnish schools. A Norwegian study (Bendixen et al. 2017) examines the association between non-physical harassment and young upper secondary students' symptoms of depression and anxiety, while a fourth study examines the association between cybercrime and young people's perceived well-being based on the assumption that social affiliation is a protective factor for cybercrime (Kaaninen et al. 2017).

When looking at different ways to use social media (intense, problematic and ongoing dialogue with strangers) and the involvement of cyberbullying, a variation has been observed across countries, gender and age. The incidence of cyberbullies and victims of cyberbullying are relatively low and consistent both in terms of gender and age. The incidence of reported cyberbullying is higher among girls than boys, especially for girls around the age of 13. In contrast, the incidence of reported cyberbullies is higher among boys than girls (Craig et al. 2020). According to Arnarsson et al. (2020), the prevalence of cyberbullying (e.g. via images and messages) is around 2% in all the Nordic countries with the exception of Greenland, where the incidence is significantly higher. There is considerable variation between the countries in terms of how prevalent traditional bullying is. Girls are generally more often subjected to cyberbullying, which is most common among girls aged 13–15. The study shows a relatively small overlap between cyberbullying and traditional bullying. This result indicates that the two forms of bullying are due to different mechanisms (Arnasson et al. 2020). Finland introduced an anti-bullying program in Finnish school in 2009. An assessment of change following the implementation of the program shows that there has been a decline in traditional bullying (28.9% to 19.1% among boys and 23.2% to 17.4% among girls), while cyberbullying remained somewhat stable (3.3% to 3% among boys and 2.4 to 4.1% among girls) (Tiiri et al. 2020). Boys and girls who are subjected to both types of bullying has dropped from 6.1% to 3.9% among boys and 7.5% to 6.6% among girls. Nevertheless, it is this group that reports the highest incidence of mental distress (Tiiri et al. 2020).

Women and sexual minorities subjected to non-physical harassment report, according to Bendixen et al. (2017), a lower level of well-being. Additionally, being subjected to stress such as sexual harassment from peers is related to a higher incidence of symptoms of anxiety, depression and negative body image. The results of this study accordingly indicate that derogatory words and other forms of non-physical harassment are harmful to young upper secondary school students (Bendixen et al. 2017).

According to Kaaninen et al. (2017), there is a negative correlation between being a victim of cybercrime and young people's subjective well-being. The study shows that a social affiliation to offline groups can help protect young people from the negative correlation between subjective well-being and cybercrime. This protective factor has not been found in social affiliations to online groups. Overall, the results of this study indicate that cybercrime is a harmful experience with negative effects, especially to

young internet users who have limited social offline relationships (Kaaninen et al. 2017).

4.6.5 Exposure to online information

The internet contains an abundance of information and has improved access to all kinds of information. This includes a large amount of information on choosing an education and career, which can have a negative influence on young people's choice of education and career. To a higher degree than before, young people must be able to deal with predictable as well as unpredictable adjustments in relation to their careers and working conditions. Additionally, they must also be prepared to be lifelong learners, motivated to explore new possibilities and accept change (Sinkkonen et al. 2018). The enormous amount of information on the internet also means that young people are exposed to harmful content of various kinds to a higher degree (Keipi et al. 2015). Another serious trend is that financial difficulties are common among young people because they have easy access to consumer credit and payday loans via the internet. This ease of access can however lead to more serious financial problems (Oksanen et al. 2018).

Three studies examine in different ways the association between internet use, exposure to online content and consumer debt and young people's mental well-being (Sinkkonen et al. 2018; Keipi et al. 2015; Oksanen et al. 2018).

Sikonen et al. (2018) examine young people's use of the internet in relation to their self-esteem and adaptability in their career choice. Today, young people need to be prepared to function differently under different circumstances. Accordingly, they need to possess skills to adapt themselves, which can lead to uncertainty about their career choice. Young people are required to orient themselves about the future, choose wisely and be inquisitive when it comes to seeking career opportunities. Self-confidence is one of the key elements in this regard (Sikonen et al. 2018). A Finnish study (Keipi et al. 2015) examines the association between young people's exposure to harmful online content and young people's subjective well-being. The internet has opened up possibilities for potentially destructive content that young people are exposed to. Of these potential risks, user-generated online content is particularly prominent, as they focus on promoting behaviors that are contrary to mental well-being and a sense of well-being. Another study from Finland (Oksanen et al. 2018) looks into an assumption that there is an association between consumer debt and debt problems and problematic gambling and mental distress. New types of consumer credit and payday loans are considered a major cause of financial difficulties among young people. Youth is characterized by instability, rapid life changes and exploration, but young people's risk-taking behavior in relation to consumer credit and payday loans can have consequences (Oksanen et al. 2018).

These studies collectively show how the use of the internet in different ways can have a negative impact on young people's mental well-being. According to Sikonen et al. (2018), the rise in internet use is contributing to a reduction in young people's self-confidence. Young people's adaptability in terms of making their career choice is reduced, and the decision-making process is lengthier than among young people who spend less time online. Furthermore, there is an association between poorer subjective well-being and exposure to harmful online content according to one study (Keipi et al. 2015). According to Keipi et al. (2015), young people with a high level of

activity on social media sites are more likely to be exposed to harmful online content. The results of the third study (Oksanen et al. 2018) indicate that young people's consumer debt has a connection with problematic gambling behavior and mental well-being. The new types of consumer credit and payday loans can contribute to keeping young people trapped in their problematic gambling behaviors, which can ultimately lead to debt problems and mental distress.

4.6.6 Summary on use of digital media and mental distress

Together the studies examined the association between young people's use of digital media. Several of the studies examine the association between young people's use of digital media and mental well-being at the *individual* level. The results of these studies (Oksanen et al. 2018; Mannikkö et al. 2015; Nuutinen et al. 2014; Salmela-Aro et al. 2016; Thorisdottir et al. 2020; Thorisdottir et al. 2019) indicate that young people's online gaming/gambling and gaming/gambling behavior in general can explain a number of psychological, social and physical symptoms among young people, as well as how gaming/gambling behavior can negatively influence young people's sleep, which can lead to depressive symptoms (Oksanen et al. 2018; Mannikkö et al. 2015).

Several studies have found an association between frequent use of digital media, computers or TV and mental and somatic symptoms, emotional problems and fatigue (Nuutinen et al. 2014). Other studies (Nuutinen et al. 2014; Salmela-Aro et al. 2016) also shows an association between excessive use of digital media, young people's sleep habits, school engagement and depressive symptoms.

Over the past decade, social media has taken over the lives of young people, and quite little is known how such media can affect young people's mental well-being. Two studies have looked into the association between young people's use of social media and their mental well-being (Thorisdottir et al. 2020; Thorisdottir et al. 2019). According to Thorisdottir et al. (2020), a distinction can be made between passive and active use of social media, where passive use is seemingly related to increased symptoms of anxiety and depression. The same symptoms are also seen, according to Thorisdottir et al. (2019), in relation to young people's time spent on social media. The association between time spent on social media and mental distress is greater for girls than boys.

At the *social* level, several studies look into the association between cyberbullying, harassment and cybercrime and young people's mental well-being (Craig et al. 2020; Arnarsson et al. 2020; Bendixen et al. 2017; Kaaninen et al. 2017). One study (Craig et al. 2020) shows that the incidence of reported cyberbullying is higher among girls than boys. The prevalence of traditional bullying can be positively impacted through the implementation of anti-bullying programs, according to a Finnish study (Tiiri et al. 2020), while the prevalence of cyberbullying does not appear to be affected to the same extent by the implemented anti-bullying program (Tiiri et al. 2020).

Looking at a *structural* level, internet use can have other consequences for young people's mental well-being. Three studies examine the association between internet use, exposure to online content, consumer debt and young people's mental well-being. The abundance of online information can, according to Sikonen et al. (2018) reduce young people's self-confidence and adaptability and weaken their decision-making process. This exposure to online content can also be harmful and thereby

affect young people's mental well-being (Keipi et al. 2015). This especially applies to user-generated content that can promote behaviors that are detrimental to mental well-being. Thus, according to Keipi et al. (2015), there is an association between poorer subjective well-being and the exposure to harmful online content, which is especially the case among young people with a high level of activity on social networking sites. Furthermore, Oksanen et al. (2018) see an association between consumer debt and easily accessible payday loans and young people's mental distress. This association should also be viewed in relation to young people with problematic gambling behavior, as payday loans can contribute to keeping these young people embedded in their problematic gambling behavior (Oksanen et al. 2018).

4.7 Socio-economic factors to mental distress

This section highlights important knowledge from the Nordic literature concerning socio-economic factors as explanatory factors and the link or relationship to mental distress among youth. The hypothesis is that inequities in socio-economic status or conditions in which people are born, live, work, and age, driven by inequities in resources, money, and power can result in inequities in health (Myhr et al., 2020). These inequities can affect young people's opportunities for education, access to health care, leisure activities, occupation and fulfilment. Therefore, it is relevant to look into any changes in the development of socio-economic backgrounds concerning mental distress among youths. Evidence indicates that about half of all lifetime mental health problems start in the mid-teens (Kessler et al. 2007 in Myhr et al. 2020). Socio-economic factors may affect this.

Five Nordic articles have been identified and provide knowledge on social inequality and socio-economic background and their association with the development of the prevalence of mental distress among Nordic youth. Childhood poverty is, among other factors, a significant risk factor for mental distress in an individual's youth. In addition, two articles have been found that deal with unemployment and perceived social status among young people in relation to young people's mental distress.

4.7.1 Inequalities in society and low parental socio-economic position

Several Nordic studies indicate an association between inequalities in society and the prevalence of emotional symptoms among youths in the last decade. They each examine different aspects of inequality in society (Due et al. 2019; Vilhjalmsdottir et al. 2018; Abebe et al. 2015; Torikka et al. 2014).

A Finnish study finds that the largest increases in the prevalence of severe depression are seen among socio-economically disadvantaged adolescents (Torikka et al. 2014). In all socio-economic groups except the group of adolescents whose parents had only a basic school education and were unemployed, the prevalence of depression among girls was higher than among boys. In both sexes, severe depression nearly doubled among those adolescents whose parents were unemployed and had a low education level (Torikka et al. 2014).

Korhonen et al. (2017) finds that a low parental socio-economic position was related

to an increased risk of depression among youths. In particular, low parental income was associated with up to a 44% higher risk compared to high parental income when adjusted for parental education, family structure, and parental depression. The prevalence of depression was lowest among those with a higher level of parental education and income, from a two-parent family, and whose parents had not been treated for depression. The prevalence was particularly high among those who had a record of earlier depressive episodes (Korhonen et al. 2017). It also finds that youths who are not enrolled in education increased the risk up to 2.5-fold compared to being enrolled in general upper secondary school at the age of 17–19 and in tertiary education at the age of 20–23. Vocationally oriented women experienced a 20% higher risk than their academically-oriented counterparts in both age groups (Korhonen et al. 2017). The results indicate that educational differences in mental health already exist in late adolescence.

A Danish study looks at trends in the prevalence of emotional symptoms[57] and finds an increase in the prevalence of youth reporting at least one daily emotional symptom in 1991–2014 (Due et al. 2019). Earlier studies found that increasing income inequality may result in increasing health inequality, and Due et al. (2019) come to a renewed conclusion that during 1991–2014 there was an increase in the prevalence of daily emotional symptoms. Looking into socio-economic background, the absolute and relative social inequality in daily emotional symptoms decreased during the 23 years. This was due to an increasing prevalence among youth from high and middle occupational social classes. This was not the case for low occupational social class (Ibid.). These findings indicate a diminishing relative social inequality in emotional symptoms from 1991 to 2014. In conclusion, during a period with increasing income inequality in Denmark, there is a difference between socio-economic backgrounds and development in mental distress (Due et al. 2019).

Looking at municipal level risk factors, the literature search revealed two studies indicating an association between community income inequality and youth mental distress (Vilhjalmsdottir et al. 2018) and municipal-level differences to adolescent depressive symptoms (Abebe et al. 2015). The hypothesis is that a socio-economic hierarchy in society, e.g. community income inequality, may have a negative effect on mental health due to worries concerning one's social status, a feeling of insecurity, etc.

The Icelandic study by Vilhjalmsdottir et al. (2018) was conducted at two-time points: (a) in 2006 when income inequality was high and (b) in 2014 when income inequality had decreased. The associations are contingent on the time period. Community income inequality was related to (a) an *increase* in anxiety in 2006, but not in 2014, and (b) a *decrease* in depression in 2014, but not in 2006. In 2006, community income inequality was more harmful to adolescents in deprived households. The results support the idea that the detrimental link between income inequality and youth's emotional problems may be shaped by the level of income inequality in the larger societal context (Vilhjalmsdottir et al. 2018).

Looking into geographical location and mental health, a Norwegian study looks into municipal-level differences in depressive symptoms among adolescents (Abebe et al. 2015). The hypothesis is that urban areas typically have an over-representation of residents with low socio-economic status (SES), which in turn is associated with high levels of stress due to challenges in housing, work, marriage, child-rearing, social relationships and security (Abebe et al. 2015). They find that municipalities in

57. Based on Danish Health Behavior in School-Age Children data (HBSC).

Norway have rather small variations in the prevalence of high levels of depressive symptoms among adolescents, primarily due to municipal differences in low annual budgets for municipal health services. Despite this, the study indicates the risk for developing high levels of depressive symptoms is mainly related to individual-level risk factors such as bullying, dissatisfaction with the school environment, parental relationship, physical health, and appearance (Abebe et al. 2015).

A Norwegian study aims to explore national trends and detect possible socio-economic inequalities in psychological distress, depressive and anxiety symptoms, and loneliness among adolescents in Norway during the period 2014–2018. It also looks into possible gender differences (Myhr et al. 2020). They find that average mental health has worsened among youth and that girls' mental health worsens more than boys' mental health. Additionally, they do not find evidence that inequalities according to the socio-economic position would widen over time. This means the study did not show evidence of any change in inequalities in adolescents' mental health between socio-economic groups. As for gender differences, the prevalence of students with moderate to high symptoms scores and mean symptoms scores of psychological distress (in terms of symptoms of depression, anxiety, and loneliness) increased among girls and boys during 2014–2018, with girls showing higher rates (Ibid.).

4.7.2 Positive mental health and socio-economic status

It is important within public health goals to promote adolescents' mental health and to reduce socio-economic inequalities in mental health (Nielsen et al. 2016).

A Danish study based on Danish HBSC data for 11-15-year-old finds that positive mental health[58] positively relates to socio-economic background[59] (Nielsen et al. 2016). It finds increasing odds for low positive mental health with decreasing socio-economic position but no indication of socio-economic patterning of high positive mental health. Looking at possible gender differences, the prevalence of high self-esteem and high self-efficacy was higher among boys than girls. High social competence and high self-efficacy increased with age, though the 14-year old boys had the highest prevalence of high self-efficacy, and the 13-year old girls reported the lowest prevalence of high self-efficacy. For boys, the prevalence of high self-esteem decreased with decreasing occupational social class and for girls, no clear social class pattern was found (Nielsen et al. 2016).

In summary, looking at youth mental distress from a structural level, the increase observed in mental distress among youths measured by emotional symptoms, depression, etc. is strongly associated with socio-economic background, more so than any identified gender differences, though several studies indicate gender differences in the self-reported prevalence of mental distress and differences in parameters for positive mental health.

4.7.3 Unemployment and subjective social status

Looking into the perceived stress level among youth, research focuses on stress as a potential increasing public health problem (Steen et al. 2020). One potential factor

58. Positive mental health is measured by three parameters: Self-esteem, social competence and self-efficacy (Nielsen et al, 2016)
59. Socioeconomic background is measured by parents' occupational social class.

that influences mental health is youth unemployment. The Nordic countries are characterized by high employment rates, generous welfare systems, and little economic inequality compared to other European countries (Reneflot et al. 2014). Despite this, economic development has differed across the Nordic countries, which are characterized by generally stable albeit for some countries (Finland and Sweden) rising youth unemployment rates during the period of the review (1990–2010) (Reneflot et al. 2014).

The Nordic literature search has revealed limited findings on youth unemployment and the association with mental distress. Presented in the following are one Nordic review on youth unemployment and a study on the possible link between subjective social status and perceived stress (Reneflot et al. 2014; Steen et al. 2020).

A Danish study based on Danish HBSC data looked into the association between subjective social status and perceived stress among youths and found that subjective social status in both society and school is associated with perceived stress (Steen et al. 2020). The lower young people assessed their subjective social status, the higher their perceived level of stress, with girls reporting a higher level of stress than boys.

Reneflot et al. (2014) find an association between youth unemployment and mental distress. Based on a study design similar to this literature search, the study shows how entering unemployment is associated with decreased mental well-being, while finding employment is associated with increased mental well-being. This was particularly the case for women[60].

4.7.4 Family affluence and childhood poverty

Socio-economic marginalization and inequalities in well-being and health in adults have been shown to be rooted in the early childhood experience. In particular, childhood poverty and parental income may influence children's well-being in multiple and diverse ways, as it is known that parental poverty impedes cognitive function (Ristikari et al. 2019).

A Finnish study reports that childhood poverty remains the most significant determinant of early adult outcomes (Ristikari et al. 2019). Despite the welfare safety net, family socio-economic status does indeed impact the outcomes in children's lives, and poverty predicts increased adverse life outcomes for children. The study looked into school performance as a protective factor for young people, but nevertheless, it concludes that low parental income is the most proximate cause of poor later life outcomes and that the impact was most significant for persons with the poorest educational outcomes (ibid.).

The experience of economic disadvantage during childhood is a major predictor of a number of negative outcomes during early adulthood (Ristikari et al. 2018). The Finnish study indicates that the timing of social service interventions during childhood influences children's later adjustment problems and the risk for early adult

60. Results based on study design: Cross-sectional studies show that the unemployed experience more mental health problems than those who are not unemployed. Leaving unemployment is associated with increased well-being. The longitudinal studies show that unemployment increases the risk of psychological distress and attempted suicide, after initial mental health status and confounding factors are accounted for. The relationship remains significant when time-invariant characteristics of the individuals are controlled for. The time-series studies found no relationship between unemployment and suicide, but levels of psychological distress were found to vary with changes in the labor market. This relationship remained significant after excluding the non-employed, indicating that unemployment trends have effects beyond those directly associated with unemployment.

outcomes[61]. Economic disadvantage during early childhood (0–2 years) was found to be associated with the highest risk. The study concludes that early childhood is a period in which children acquire cognitive and social competencies that form the basis for their future well-being and indicates that economic disadvantage in early childhood poses the most significant risk for later adjustment problems (Ristikari et al. 2018). The study also examines gender aspects and indicates that females are more at risk from socio-economic factors, while males are more affected by family instability and ill health (ibid.).

4.7.5 Parental psychiatric problems

Family-related childhood determinants of psychiatric disability pension and the link between socio-economic backgrounds and mental health have been researched in the following studies.

A Finnish study aimed to identify family-related childhood determinants of psychiatric disability pension in early adulthood (Merikukka et al. 2018). The hypothesis in the study is that psychiatric problems can affect your risk of leaving the labor market early. Risk factors such as being female and having a mother or father with a psychiatric disorder increase the risk of mental problems among youth.

As research points to socio-economic background as possible associative factors to mental health, one Danish study looked to examine possible predictors of high and low mental well-being and common mental disorders[62] (Santini et al. 2020). It finds that socio-economic status (education, income, and employment status) was associated with increased odds of low mental well-being and the presence of common mental disorders, but did not significantly predict high mental well-being. Factors such as having an upper secondary education or primary/unknown education status showed increased odds of having low mental well-being compared to tertiary education. Being unemployed or on disability benefits both showed increased odds for low mental well-being relative to being employed (Santini et al. 2020). It concludes that socio-economic factors are strongly associated with low mental well-being in a similar way to their association with common mental disorders, but they do not show a similarly strong association with high mental well-being. Relational/recreational behaviors, defined as seeing family, friends, colleagues, volunteering and being an active member of a community/social group, having someone to rely on for social support, and engaging in challenging activities/hobbies, are positively associated as predictors of positive mental health (Santini et al. 2020).

4.7.6 Summary on socio-economics factors to mental distress

In summary, the Nordic literature search has revealed important knowledge on socio-economic factors associated with mental distress among youth. Several Nordic studies indicate an association between inequalities in society and the prevalence of emotional symptoms among youths in the last decade. Research also indicates that a low parental socio-economic status as well as parental psychiatric problems is associated with youth mental health. Family affluence and childhood

61. Early adult outcomes in the study: early school leaving, conviction, teenage pregnancy, and mental disorders even when adjusting for several social background variables
62. Common mental disorders are defined in the study as depression and anxiety and assessed with the Patient Health Questionnaire for Depression and Anxiety (PHQ-4).

poverty are also identified as associative factors to youth mental distress. Youth unemployment is associated with mental distress among youth, but there are not enough findings from the literature search to reach a determination on whether unemployment has been researched as an explanatory factor on the increase in mental distress among youth in 2010–20. Several studies indicate gender differences in the self-reported prevalence of mental distress, where females reported a higher prevalence and are more at risk of suffering from depression and socio-economic factors than males.

5.0 Perspectivation

The purpose with this paper was to map relevant research-based knowledge about the associating factors to the increase of mental distress among young people across the Nordic region, including the observed increase in mental distress over the past ten years. It has not been possible to seek out research-based knowledge about the causes of mental distress among young people. In order to be able to indicate further which factors are causing the increase, it will be necessary to examine any increase in the factors described. Has there for example been an increase in the proportion of children and young people, who have an unhealthy lifestyle with fatty foods, too little sleep and too little exercise over the past decade? Alternatively, are there more children growing up in poverty, having a negative body perception or experiencing negative life events etc.? Within the frames of this project, it has not been possible to study whether there has been an increase in the described risk factors among children and adolescents. Therefore, it is important to point out that the paper contains associative factors to mental distress among young people, which may form a starting point for future research on the causes of the increase in mental distress among youth in the Nordic region.

Equally important is it to mention that several of the associative factors to mental distress are not always unilaterally negative or positive. For example, it is not exclusively negative that young people spend a lot of time on social media. However, in this paper, we have placed special focus on associating factors for mental distress, which is why we have not highlighted the positive perspectives to the same degree.

As part of the project "Mental well-being among youth people in the Nordic countries" the Nordic network will make recommendations for the design of a possible future joint Nordic research project that uncovers causes of mental dissatisfaction. It will be obvious to work further with some of the risk factors that we have identified and described during the work on this paper and, for example, to investigate whether there has been an increase in the incidence of selected risk factors over the past 10 years.

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