UiT The Arctic University of Norway

Faculty of Health Sciences

Mental Health Among Sami Sexual Minority and Majority Youth in Norway

- a population-based study

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Foreword

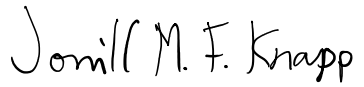
When searching for a topic for this thesis, I soon decided I wanted to write about a Sami population. Being Sami myself, I know there are many gaps in knowledge of the health and wellbeing of the Sami people. I also decided I wanted to write about something that had not already been covered in previous studies. I soon learnt that there are very few papers published on the subgroup LGBTQ+/sexual minorities. I also have a special interest in mental health and living conditions of queer people, not least because I am queer myself.

Siv Kvernmo, Professor in child and adolescent psychiatry at UiT The Arctic University of Norway and Medical Doctor at the department of child and adolescent psychiatry University Hospital of North Norway, offered to be my main supervisor and provide access to data. Siv has been extraordinarily helpful throughout the process. Thank you, Siv, for all the feedback, corrections, tips and guiding you have given me.

I also want to thank my co-supervisor, Christian Eckhoff, associate professor in child and adolescent psychiatry at UiT The Arctic University of Norway and Medical Doctor at the department of child and adolescent psychiatry University Hospital of North Norway (UNN), for valuable corrections and tips.

I am thankful for the focus group and the guiding you have provided me for this study. Thank you for your support.

Lastly, I want to express my gratitude for my friends, with whom I have had many conversations of immense value. Thank you for encouraging and challenging me. You know who you are.



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1 Summary

Background

Previous international studies show that indigenous sexual minority youth experience more mental health problems than their sexual majority peers. Qualitative studies on Sami sexual minority people indicate high levels of stigma, as they are a minority within a minority. This study looks at differences in outcomes of mental health measurements between Sami sexual minority and sexual majority youth in Norway, and protective and risk factors of mental health.

Material and method

The Norwegian Arctic Adolescent Health Study was conducted among 10th graders in junior high schools in Northern Norway during 2003–2005. The study sample consisted of 450 Sami youth, of which 62 were sexual minority. Mental health outcomes were measured by Strengths and Difficulties Questionnaire (SDQ) internalizing and externalizing problems and prosocial behavior, in addition to self-reported health. Sociodemographic, environmental support, cultural and psychosocial factors were assessed. SPSS 28.0 was used to perform independent-samples T test, crosstabulation with chi-square tests, simple logistic regression and hierarchical multiple regression analyses.

Results

Statistical analyses showed significant differences in internalizing and externalizing problems, where Sami sexual minority youth scored higher than their sexual majority peers. No differences were found in prosocial behavior or self-reported health. Of risk factors that were significantly associated with more mental health problems, sexual minority youth reported more concerns about sexuality and negative life events, and less school wellbeing. Self-efficacy and peer support were identified as protective factors, and no differences were observed between Sami sexual minority and majority youth.

Conclusion

In this study Sami sexual minority were found to report more internalizing and externalizing problems than Sami sexual majority youth. No difference was found for prosocial behavior and self-reported health. Some differences in risk factors were observed.

2 Introduction

Sexual minorities (SM) is a term that includes all people that have a sexual orientation, identity or practice that differs from the norms of society. As the term implies, they are a minority in the society. The Sami people, the indigenous people of Norway, are also a minority. People identifying as both Sami and SM are therefore sometimes called a "minority within a minority"(1, 2). Four surveys on living conditions among sexual minorities have been conducted in Norway, the latest in 2020 (3). Currently, there are few academic articles written about Sami sexual minorities (4-6). To the best of my knowledge, no articles on mental health of Sami sexual minorities are published based on quantitative analyses.

Although I would very much like to include asexual people and gender minorities in this study, they are not identifiable in the data material. The project "LBGTIQ-living conditions 2020" include some Sami trans people in their research, but this project started after this study was well under process and data was unavailable for usage. In this assignment I will therefore use the term *sexual minorities* to describe people that have a sexual orientation towards people of their own, several or all genders, and people identifying as lesbian, gay, bisexual, pansexual, and questioning/uncertain. Despite not being able to analyze data of Sami gender minorities, I still find it important to mention them in this assignment, since they after all are a part of the lesbian, gay, bisexual, trans, queer etc. (LGBTQ+) community, and since non-binary people historically have an important role in indigenous communities.

2.1 Sexual Minorities

A commonly used term for sexual and gender minorities is *LGBTQ+*. LGBTQ stands for lesbian, gay, bisexual, trans and queer/questioning. The plus sign includes other identities and sexualities, such as intersex, asexual, pansexual, non-binary and people of any other sexuality or gender not identifying with the norms of the society, being cisgender and heterosexual. Another commonly used term is *queer*, which is by large interpreted as an umbrella term for people not identifying as cisgender and heterosexual (7, 8). *Queer* is used by some to describe falling outside the norms of society without wanting to put a specific label on their sexuality and/or gender identity. It is nonetheless important to be aware that some sexual minority

individuals do not use the word *queer* to describe themselves, partly since it is historically perceived as a slur (9).

As stated above, the term *sexual minorities* is used in this assignment to include people that have a sexual orientation towards people of their own, several or all genders, and people identifying as lesbian, gay, bisexual, pansexual, and questioning/uncertain. Trans people may also be represented in the sample of this study, but in which case due to their sexual orientation or sexual identity and not in effect of being transgender. Norwegian health authorities now also recognize fetishism and BDSM (bondage, discipline/domination, sadism and masochism) as sexual minorities, but these are also not recognizable and excluded in this study.

The first Norwegian organization working for sexual minority rights was Det Norske Forbundet av 1948 (DNF-48), founded in May 1950. Their work was crucial for the abolition of the Criminal Law § 213 in 1972, a law which had prohibited sexual intercourse between men (10). In 1987, homosexuality was completely removed as a psychiatric diagnosis from the revised 3rd version of the Diagnostic and Statistical Manual of Mental Disorders (DSM-III-R). World Health Organization followed up in 1990 by removing homosexuality from the International Classification of Diseases (ICD-10) (11). Until 2009, couples of the same gender could not get legally married in Norway.

2.1.1 Mental Health Among People of Sexual Minorities

Previous studies regarding the mental health and living conditions of sexual minority people (SM) in Norway show different results (12). Most SM report having good general health, but they are found to be more prone to mental health problems compared to heterosexual individuals (3, 12, 13). The rates of suicide attempts are higher for sexual minority people compared to heterosexuals, for both women and men regardless of age (12-14). These findings are consistent with the findings from other studies across the world (15, 16).

So far, only three reports are published that focus on the challenges of trans peoples' lives in Norway (17), the reports "Alskens folk" (18), "Åpne rom, lukkede rom" (8) and "Seksuell orientering, kjønnsmangfold og levekår" (3). The latter is the first survey on living conditions

of LGBTQ+ people in Norway that also includes trans people, binary and non-binary. The study found that trans people report less wellbeing, more mental health issues and higher rates of suicide ideation and attempts than cis people (3).

2.2 The Sami People

The Sami people are the indigenous people of Finland, Kola Peninsula in Russia, Sweden and Norway. They call their land Sápmi (Saepmie/Sábme) and have lived in this area since long before the creation of nations (19). Great cultural diversity is seen among the different groups of Sami people, as well as within the groups. In Norway, davvisámegiella (Northern Sami), julevsámegiella (Lule Sami) and åarjelsaemien gïele (Southern Sami) are official languages within the respective administrative districts for the Sami languages (19, 20). Similar to most indigenous peoples around the world, the Sami people has suffered from colonization, assimilation, discrimination and racism, as well as intergenerational trauma (21, 22). Over the past few decades there has nevertheless been an increase in revitalization and pride of ethnic affiliation, culture, and language.

Sami ethnicity can be defined in multiple ways. Currently, registration of ethnicity in national registers in Norway is not allowed, apart from in the Sami Parliament electoral register. Therefore, in Norway the exact number of individuals defining themselves as Sami or being of Sami heritage is difficult to determine (5, 23). The assimilation policies, also known as the Norwegianization policy, lasted from approximately 1850 to 1980 and brought a lot of shame regarding Sami identity (24). The Norwegianization policy was harsh, especially in the marginal areas of Sápmi. This led in many cases to denial of Sami identity and seemingly eradication of Sami culture in some areas (24). The estimate of Sami living in Norway varies from approximately 50 000-65 000 (19), to 40 000 (7) and 70 000 (25).

2.2.1 Mental Health of Sami Youth

Previous studies show that there are overall small or insignificant differences between Sami and non-Sami adolescents concerning self-reported mental health problems, self-harm and suicide ideation (22, 25, 26). One study found however that when stratifying for gender, Sami

adolescents of both genders had higher rates of suicide attempts compared to their majority peers of the same gender (26). There are also significant differences within the Sami group, and Sami adolescents living in marginal areas seem to be having more mental health problems compared to their majority peers than do Sami adolescents in the Sami core area (22). Studies show that most indigenous adolescent populations across the world suffer from more mental health problems, self-harm and suicide attempts compared to their non-indigenous peers (21, 27).

2.3 Indigenous Sexual Minorities

A Fafo-report titled “Lesbians and gays in Sápmi. A narrative approach to explore living conditions” was released in 2009 (5). The report states that since there is no registration of Sami ethnicity, it is also difficult to estimate the number of Sami sexual minority people. Using the estimated population of 40 000 Sami and calculating 3-5 percent of any given adult population being gay or lesbian, the authors of the Fafo-report suggests there are approximately 1000-1500 Sami gays and lesbians in Norway (5). Løvold argues that if one were to include other sexual and gender minorities, such as pansexual, transgender, non-binary etc., the estimated number of queer Sami in Norway would be even higher (7). Furthermore, the national statistical institute of Norway, Statistics Norway, estimates that approximately 7% of the Norwegian population are queer (28). Calculating this percentage with the different estimates of Sami people in Norway gives an estimate of approximately 2800-4900 queer Sami in Norway.

Over the past few years, there has been an increasing attention to the existence of Sami sexual minorities, especially in Norway and Sweden. This includes an increased representation of Sami sexual minority people in the mainstream media (29) as well as on social media platforms. The book "Queering Sápmi – Indigenous Stories Beyond the Norm" (30) was launched in Ubmeje/Umeå (Sweden) in 2013, after a project led by Sáminuorra, the Sámi national youth organization in Sweden. It was a kickstart for further queer organizational work, which led to the first Sápmi Pride in Giron/Kiruna (Sweden) the following year (29). Since then, Sápmi Pride has been arranged every year, except for 2020 due to the COVID-19

pandemic. During Sápmi Pride in 2019, a new queer Sami organization, Garmeres, was established.

Qualitative studies reveal a great diversity in experiences related to being indigenous and belonging to a sexual and/or gender minority (5, 7, 30, 31). In a report from Likestillingssenteret KUN of 2018 several health-care workers in administrative districts for Sami language express that Sami youth, queer and non-queer, experience more challenges than non-Sami youth (31). Some of the challenges mentioned were higher risk of bullying, suicide, drug abuse and mental health disorders, as well as internalized shame (31). This is consistent with findings in studies of other queer indigenous populations (32, 33). It is important to note that increased risks in mental health problems among queer indigenous peoples do not origin from inherent vulnerability but are the consequences of, among other things, colonization, genocide, discrimination, assimilation, transphobia and homophobia. (32, 34, 35). Several work in the field show that many Sami sexual minorities experience a double stigma (5, 7, 31, 36).

Sexual identities and genders have been expressed in many different varieties throughout human history (8). In several indigenous communities around the world, queerness has not been viewed as unnatural or immoral, as opposite to the perception colonists have implemented. Some indigenous sexual and gender minority people in USA and Canada use the term “Two-Spirit” to describe themselves. The term arose at the Third International Gathering in Winnipeg in 1990 and have several meanings and usages (37). Some use the term to refer to any Indigenous North American LGBTQ+ person (37), while some use it to reaffirm sexual and gender diversity in compliance with traditional non-binary worldview (35). Though not well documented in Sápmi, some believe queerness also had a natural position in Sami communities before the arrival of Christianity (1, 7, 29), not only being more accepted but even perceived as sacred (7, 29).

2.4 Aim of study

The intention of this study is to contribute with scientific data to achieve more knowledge about the mental health conditions of Sami sexual minority youth in Norway, as well raise awareness of and promote openness among Sami sexual minorities. Previous research on the

health and living conditions of sexual minority populations in Norway have failed to mention the Sami subgroup, which can be perceived as yet another way of maintaining their invisibility (5).

This study looks at different aspects of mental health outcomes among Sami sexual minority and sexual majority youth, and protective and risk factors of mental health. I wanted to assess whether internalizing, externalizing and prosocial problems, as well as self-reported health, differed between SM and non-SM adolescents stratified by gender. I examined for potential effects of environmental factors, such as environmental support, sociodemographic, cultural and psychosocial factors. Further, I assessed whether there were differences in prevalence of these factors.

3 Material and method

3.1 Design

This study has used data from the Norwegian Arctic Adolescent Health Study (NAAHS). NAAHS was conducted in 2003-2005 in Northern Norway. 10th graders (15-16 years old) in 292 out of 293 junior high schools were recruited, completing two questionnaires in classroom settings during two school hours. Students who were not present at the time completed the questionnaires at a later occasion. In total 4881 of 5877 invited students responded to the NAAHS. The response rate was 83%. 50.1% were girls and 49.9% were boys. 10% were Sami.

The students and their parent(s) received written information about the study in the Sami or Norwegian language, and the students provided written consent to participation and usage of data. The Norwegian Data Inspectorate, the school authorities and The Regional Medical Ethical Committee approved the NAAHS. There was a joint collaboration between the Centre for Sami Health Research at the University of Tromsø and the Norwegian Institute of Public Health that conducted and funded the data collection.

3.2 Community Based Participatory Research Design

Prior to the analysis of data, there was conducted a focus group discussion, inspired by the community based participatory research (CBPR) design. Participants were recruited partly through acquaintance. There was also established contact with the Sami queer youth organization Garmeres, a researcher on the field of sexuality and gender and gender diversity as well as national minorities (among others), a health worker with long experience of working with Sami youth, and the Sami Parliament. The discussion in the focus group was indicative for the aims of the thesis.

3.3 Sample

3.3.1 Defining Ethnicity

Defining Sami ethnicity for research purposes is quite challenging, since many Sami describe themselves as Norwegian/non-Sami due to stigmatization, assimilation and intergenerational trauma (38). Reporting Sami language competence is considered somewhat less stigmatizing (38), but also this parameter may come to short, since many Sami have lost their language or deny their competence in the Sami language.

In the NAAHS survey, participants reported their own ethnicity, as well as their mother's and father's, choosing between five categories: "Norwegian", "Sami", "Kven", "Finnish", and "Other". Using the same categories – except for the merging of Kven and Finnish languages – the participants were asked to register the language(s) spoken by themselves, their parents and their grandparents. The participants were able to choose several options for both ethnicity and language. The Sami self-identification was classified according to the statement "I perceive myself as Sami", measured on a scale from: 1) "I strongly disagree", 2) "I disagree", 3) "I agree" to 4) "I strongly agree". Respondents who strongly agreed or agreed perceiving themselves as Sami were categorized as having Sami self-identification.

In this study Sami ethnicity was defined by participants having one or more of the following factors: 1) Sami ethnicity or parentage, or 2) Sami language competence in parents, grandparents or the participants themselves, or 3) Sami self-identification.

3.3.2 Defining Sexual Minorities

The participants were asked “have you ever been in love with a girl/boy?”, choosing among the following options: “yes”, “no” or “uncertain”. To the question “what do you consider to be your sexual orientation?” the options were: “heterosexual”, “lesbian/homosexual”, “bisexual” or “uncertain”.

In this study, participants were categorized as sexual minority if they report either 1) having been in love with a person of the same gender, or 2) identifying as lesbian/gay, bisexual or uncertain (i.e. not heterosexual). For the first question the answers were compared to the gender, male or female, reported by the participant.

3.4 Outcome variables

3.4.1 Strength and Difficulties Questionnaire

The NAAHS survey included the Strength and Difficulties Questionnaire (SDQ) to measure mental health. SDQ is a brief screening questionnaire widely used in research (39, 40). The SDQ investigates 25 attributes on five different scales: hyperactivity, emotional symptoms, conduct problems, peer problems and prosocial behavior. Each of the 25 items are answered with “not true”, somewhat true” or “certainly true”, scored 0, 1 or 2 depending on the question. The prosocial scale is conceptually different, but the other four may be summed up to generate a total difficulties score ranging from 0 to 40 (40). High SDQ scores indicate greater risk of mental disorders, while a high prosocial score is considered preventive of mental disorders.

For epidemiological studies such as this, it is recommended to use the broader internalizing and externalizing subscales (41). The peer and emotional subscales are combined to form the internalizing scale. The externalizing subscale includes behavioral (also known as conduct problems) and the hyperactivity subscale. SDQ internalizing, SDQ externalizing and SDQ prosocial were kept as scales in the descriptive statistics. Of practical reasons they were dichotomized for regression analyses.

3.4.2 Self-reported health

The participants were asked "how is your health now?". The alternative answers were 1) bad, 2) not quite good, 3) good, and 4) very good. For regression analyses self-reported health was dichotomized into 0) good (3-4) and 1) bad (1-2).

3.5 Explanatory variables

3.5.1 Sociodemographic

Gender was registered as either 1) male or 2) female. For *family income* (socioeconomic status), the participants were asked to compare their family's economic situation to other families in Norway. The options were: 1) "low income", 2) "moderate income", 3) "high income" or 4) "very high income". They were dichotomized into low (1-2) and high (3-4) income. For regression analyses high income was chosen as reference.

The participants were categorized into *Ethnic context* depending on where they lived. Coastal area is perceived as being more Norwegian dominated, while the highland area is more Sami dominated, based on the density of the Sami population and cultural attributes in the communities.

3.5.2 Environmental support

Peer support was measured by the following statements: "I feel closely attached to my friends", "my friends value my opinions", "I can be supportive to my friends", and "I can count on my friends when I need help". Answers were given on a 4-point Likert scale from 1) "completely agree" to 4) "completely disagree".

Parental support was measured by the following statements: "I feel closely attached to my family", "I am being taken seriously by my family", "my family value my opinions", "I mean a lot to my family" and "I can count on my family when I need help". Answers were given on a 4-point Likert scale from 1) "completely agree" to 4) "completely disagree".

Parental involvement was measured by the following statements: "My parents know where I am and what I do on weekends", "my parents know where I am and what I do on weekdays",

my parents know whom I'm with in my leisure time" and "my parents like the friends I'm with during my leisure time". The participants responded on a 4-point Likert scale from 1) "fits very well", to 4) "doesn't fit at all".

Peer support, parental support and parental involvement are computed so that increase in score reflects lower degree of support.

3.5.3 Cultural

The Multigroup Ethnic Identity Measure (MEIM) is a widely used survey measure of ethnic identity in youth and adolescents. It was first developed in 1992 as a 14-point scale (42) and has later been revised (43, 44). Since the latest revised version (MEIM-R) was developed after the collection of data for the NAAHS study, the latter version was used to compute MEIM commitment and MEIM exploration. MEIM commitment consists of items 3, 5, 6, 7, 9, 11, and 12, while MEIM exploration consists of items 1, 2, 4, 8, and 10 (43). MEIM includes the following statements:

1. I have spent time trying to find out more about my ethnic group, such as its history, traditions, and customs.
2. I am active in organizations or social groups that include mostly members of my own ethnic group.
3. I have a clear sense of my ethnic background and what it means for me.
4. I think a lot about how my life will be affected by my ethnic group membership.
5. I am happy that I am a member of the group I belong to.
6. I have a strong sense of belonging to my own ethnic group.
7. I understand pretty well what my ethnic group membership means to me.
8. To learn more about my ethnic background, I have often talked to other people about my ethnic group.
9. I have a lot of pride in my ethnic group and its accomplishments.
10. I participate in cultural practices of my own group, such as special food, music, or customs.
11. I feel a strong attachment towards my own ethnic group.
12. I feel good about my cultural or ethnic background.

For assessment of *cultural discrimination*, the participants were asked 1) "I think others have behaved unfairly/negatively toward people from my culture", 2) "I do not feel accepted by people from other cultures"; 3) "I feel that people from other cultures are against me", 4) "I have been teased or insulted because of my ethnic background", and 5) "I have been threatened and assaulted/attacked because of my ethnic background." Answers were given on scale from 1) "Strongly agree" to 4) "Strongly disagree".

To measure affiliation to *laestadianism* the participants were asked whether they, their parents and/or their grandparents had affiliation to any religious denominations. They answered with options 1) "yes" or 0) "no".

3.5.4 Psychosocial

For the variable *concerns about sexuality*, the participants were asked "have you in the last 12 months had problems with concerns connected to sexuality?" The answers were given on a 4-point Likert scale from 0) "no, never", 1) "yes, sometimes", 2) "several times" to 3)"very often". These were dichotomized into 1) "yes" or 0) "no" due to low count.

For assessment of *school wellbeing*, the participants answered to the statement "I thrive at school". Answers were given on a 4-point Likert scale from 1) "totally agree" to 4) "totally disagree". These were dichotomized into "yes" (1-2) or "no" (3-4) due to low count. For regression analyses, "yes" were chosen as reference value.

To measure *used school health service*, the participants were asked "have you in the last 12 months used the school health service?" The options for answers were 1) "none", 2) "1-3 times" or 3) "4 times or more". These were dichotomized into 1) "yes" or 0) "no" due to low count.

To assess *self-efficacy*, the participants answered to the following statements: 1) “I can always solve a difficult problem if I try hard enough,” 2) “Even when people work against me, I can figure out how to reach my goals,” 3) “When I have a problem I can’t figure out, I know that eventually I will find a solution,” 4) “I am sure that I can deal with unexpected events effectively” and 5) “I remain calm when there are problems, I do trust in my own ability to

cope with problems.” Answers were given on a 4-point Likert scale from 1) "strongly disagree" to 4) "strongly agree".

Negative life events (NLE) were measured by the following 12 questions: "Have you in the last 12 months had anyone of the following problems:" 1) "conflict or fights with your parents," 2) "parental mental health problems," 3) "parental financial problems," 4) "parental drug problems" or 5) "peer problems?" Responses were measured on a 4-point Likert scale from 0) "no, never", 1) "yes, sometimes", 2) "several times", 3) to "very often". Furthermore, respondents were asked, "have you in the last 12 months experienced trouble being bullied at school/on the way to school?" with the following options: 0) "never", 1) "sometimes", 2) "about once a week", and 3) "several times a week". Also, "Have you in the last 12 months been exposed to violence?" with the following options of 0) "never", 1) "yes, only by adolescents", 2) "yes, only by adults", and 3) "yes, by both adolescents and adults". Lastly, respondents were asked, "have you in the last 12 months experienced the following:" 1) "parental unemployment or social care," 2) "serious illness or injury to yourself," 3) "serious disease or injury to someone close to you," 4) "death to someone close to you" or "sexual assault?" The possible answers were 1) "yes" and 0) "no". All the variables above were dichotomized into 1) "any degree of exposure" and 0) "zero degree of exposure", resulting in range of negative life events from 0–12.

3.6 Statistical methods

Statistical analyzation of data was carried out using the program Statistical Package for the Social Sciences (SPSS) version 28.0.

Independent-samples T test and crosstabulation with chi-square tests were performed to get a distribution of outcome and explanatory variables stratified by gender and sexual identity. Explanatory variables that showed no significant differences by either gender or sexual identity were excluded from further analyzation.

Simple logistic regression analyses were performed for each explanatory and outcome variable. Hierarchical multiple regression analyses were then performed for each block, and then for all explanatory variables simultaneously. Regression analyses with interaction

between sexual identity and each explanatory variable were performed for each outcome variable. The statistically significant interactions were included in the multiple regression analyses where the explanatory variables were adjusted for each other. The statistical significance level was set to $p < .05$.

For logistic regression, the outcome variables *SDQ internalizing*, *SDQ externalizing* and *SDQ prosocial* were dichotomized into 0) normal and 1) above clinical range. Univariate analyses were performed to set the 90th percentile as cut-off for internalizing and externalizing problems and 10th percentile for SDQ prosocial. The sample size was too small to achieve cut-off scores that corresponded exactly to the 90th percentile. In this sample SDQ internalizing has a cut-off score of 8 (87.0%). SDQ externalizing has a cut-off score of 10 (87.2%). SDQ prosocial has a cut-off score of 5 (17.2%) as only 6.3% of the total sample scored 4 or lower. These cut-off scores have somewhat lower threshold than what is found in a study reporting the application of SDQ in a Norwegian community sample (45). For later reference, the terms *clinical internalizing problems*, *clinical externalizing problems* and *clinical prosocial problems* are used to describe the selection of the sample that score above the defined clinical range.

The outcome variable *self-reported health* was dichotomized into 0) good and 1) bad. In the total sample 387 participants were grouped into having good health, and 53 were grouped into having bad health.

4 Results

4.1 Description of the sample

In total, 450 participants were defined as Sami and therefore included in the study. Of these 62 (13.8%) were defined as sexual minority (SM) youth, 41 girls and 21 boys. The remaining 388 (86.2%) were defined as sexual majority (non-SM) youth, of which 181 were girls and 207 boys. Figure 1 shows the distribution of gender among the participants, with a statistical difference in the observed and expected count ($p = .004$). Table 1 shows the distribution of outcome and explanatory variables in Sami adolescents by sexual identity and gender in detail.

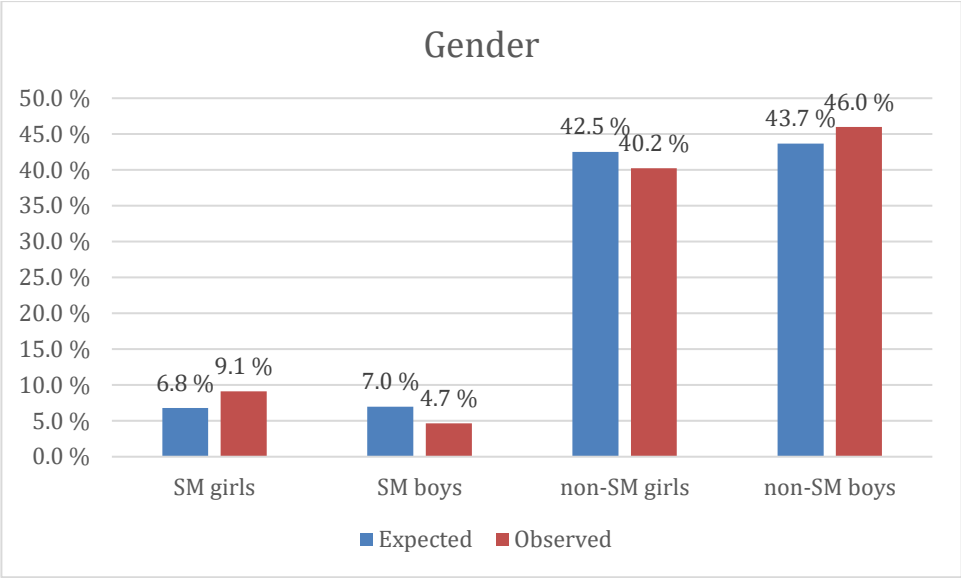

Figure 1. Distribution of gender by sexual identity

Sexual minority youth scored significantly higher on the SDQ internalizing and externalizing scales than their peers. No significant difference occurred between sexual minority and majority youth for the SDQ prosocial and self-reported health scales. Gender differences were seen for all the outcome variables. Girls scored higher on the SDQ internalizing and the SDQ prosocial scales. Boys scored higher than girls on the SDQ externalizing and self-reported health scales.

No difference was observed in family income between sexual minority and majority youth, but there was a significant gender difference, where more girls reported low family income. There was a significant difference in the distribution of ethnic context between the SM and non-SM groups, as well as between genders, as shown in figure 2.

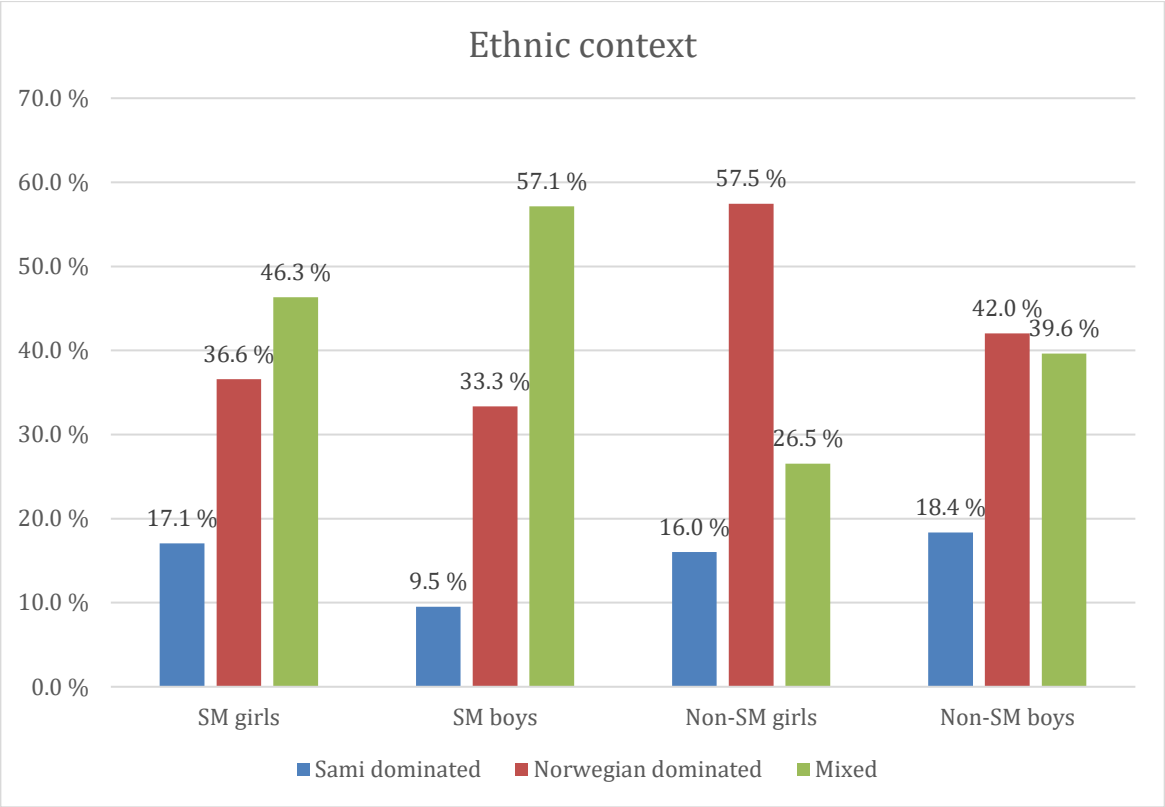

Figure 2. Distribution of ethnic context by gender and sexual identity

Boys scored significantly higher on the Likert scale measuring peer support, meaning they have a lower degree of peer support. There was however no difference between the SM and non-SM groups. For the remaining variables measuring environmental support, parental support and parental involvement, no differences in sexual identity or genders were observed.

Sexual minority youth scored significantly lower on ethnic identity exploration (MEIM exploration) and cultural discrimination. Significantly more girls reported experiencing cultural discrimination, while more boys than girls had an affiliation to laestadianism. While there were no differences in affiliation to laestadianism between the SM and non-SM groups, the share was significantly higher for sexual minority males when analyzed for gender separately.

More sexual minority youth reported having concerns about sexuality and having used school health service for the past 12 months. Gender differences were also found, were more girls reported concerns about sexuality and having used school health service. Less sexual minority

youth reported school wellbeing, while there were no gender differences observed. Boys scored higher on self-efficacy than girls. SM scored insignificantly lower than non-SM on self-efficacy. Sexual minority youth scored significantly higher on negative life events, as did girls.

4.2 Logistic regression

4.2.1 SDQ Internalizing problems

Results of multiple regression analysis predicting SDQ internalizing problems are summarized in table 2. As table 2 shows, sexual minority youth have 3 times greater odds of clinical internalizing problems. However, when adjusted for the other explanatory variables in the psychosocial block, the odds ratio is reduced and occurs insignificant, and further reduced when adjusted for all other factors. There are no significant interactions between sexual identity and any of the explanatory variables.

When adjusted for all other factors, gender is the explanatory variable with the highest odds ratio, where girls have higher odds of clinical internalizing problems compared to boys. No differences in odds are observed between youth with high and low family income, or between living in a Sami dominated, Norwegian dominated or mixed ethnic context.

Peer support seem to decrease internalizing problems, also when adjusting for all other factors.

Ethnic identity exploration and cultural discrimination seem to decrease the odds of clinical internalizing problems but are only significant when analyzed separately and not when adjusted for the block or all other factors. There is no association between laestadianism and internalizing problems.

A significant difference in odds of clinical internalizing problems is observed between adolescents having concerns about sexuality and those who do not. The association remains significant when adjusted for the block as well as for all other explanatory factors. When adjusted for all other factors, school wellbeing has the second highest odds ratio, where those who do not thrive at school have 3 times higher odds of clinical internalizing problems compared to those who thrive. No significant differences in odds of clinical internalizing

problems are observed between those who have used the school health service and those who have not. Self-efficacy is the explanatory variable with the greatest reduction of odds of clinical internalizing problems and remains significant when adjusted for other variables. A positive association is seen between negative life events (NLE) and internalizing problems, which remains significant when adjusted for all other factors.

Nagelkerke R-square = 0.393 for the fully adjusted model.

4.2.2 SDQ Externalizing problems

As shown in table 3, there is an insignificant difference in the odds of clinical externalizing problems between sexual minority youth compared to sexual majority youth. The association remains insignificant when adjusted for the psychosocial block as well as for all the explanatory variables. A significant interaction is found between sexual identity and school wellbeing.

Significant gender differences are observed, also when adjusted for all other variables, where girls have nearly five times lower odds of clinical externalizing problems compared to boys. No significant differences are observed for family income, ethnic context or peer support.

A significant association between cultural discrimination and clinical externalizing problems are seen when analyzed separately and when adjusted for the cultural block. The association is however insignificant when adjusted for other factors. There are no significant differences in odds for either ethnic identity exploration or laestadianism.

When adjusted for all other explanatory variables, having concerns about sexuality significantly doubles the odds of clinical externalizing problems, but not when adjusted only for the psychosocial block. School wellbeing is the explanatory variable with the highest odds ratio when adjusted for other factors, significantly increasing the odds of clinical externalizing problems nearly ten times for the participants who do not thrive at school. The odds of clinical externalizing problems are halved for participants who reported they had used the school health service, but insignificantly so. High self-efficacy significantly decreases the odds of clinical externalizing problems, also when adjusted for the block and all factors. For

negative life events there is a positive association with externalizing problems, only significant when the variable is analyzed separately.

Nagelkerke R-square = 0.238 for the fully adjusted model.

4.2.3 SDQ Prosocial

Results of hierarchical multiple regression analysis predicting SDQ prosocial are summarized in table 4.

An association between sexual identity and prosocial problems is observed, where being sexual minority increases the odds of clinical prosocial problems, but only significant when adjusted for the psychosocial block alone. Significant interactions are found between sexual identity and laestadianism and between sexual identity and used school health service.

Significant gender differences are observed, where boys have five times higher odds of clinical prosocial problems compared to girls. No significant differences in odds are observed for family income or ethnic context.

Higher degree of peer support decreases the odds of clinical prosocial problems, but the association is insignificant when adjusted for other explanatory variables.

No differences in odds of clinical prosocial problems are found for ethnic identity exploration. The odds of clinical prosocial problems are halved for participants reporting cultural discrimination when analyzed separately and when adjusted for the cultural block. The association is however not significant when adjusted for all other factors. The odds of clinical prosocial problems are doubled for laestadianism when analyzed separately, but there are no significant association when adjusted for the block and when fully adjusted.

Higher self-efficacy decreases the odds of clinical prosocial problems. The association is significant when adjusted separately and when adjusted for all other factors. There are no significant differences in odds of clinical prosocial problems for the following explanatory variables: concerns about sexuality, school wellbeing, used school health service and negative life events.

Nagelkerke R-square = 0.234 for the fully adjusted model.

4.2.4 Self-reported health

As shown in table 5, there is no significant difference in the odds of reporting bad health between sexual minority youth and sexual majority youth when the variable is analyzed separately. However, a strong association is observed when adjusted for other factors. An additional analysis with sexual minority as the reference reveal that the odds of reporting bad health increases thousands of times for sexual majority youth (OR = 21370, 95% CI [6.69, 68241117.57]). A significant interaction between sexual identity and cultural discrimination is observed only when analyzed separately. There are significant interactions between sexual identity and ethnic identity exploration and school health service, where the odds increase with the 20-fold.

No differences in odds are found for any of the sociodemographic variables, gender, family income and ethnic context. Nor are there any significant differences in odds of reporting bad health based on degree of peer support.

None of the explanatory variables in the cultural block, ethnic identity exploration, cultural discrimination and laestadianism, have significant differences in odds of reporting bad health.

The odds of reporting bad health are nearly doubled among those who report concerns about sexuality, but only significant when analyzed separately and not when adjusted for the block or all other factors. The odds of bad health increase slightly with experienced negative life events, but only when analyzed separately. There are no significant association for the variables school wellbeing, used school health service and self-efficacy.

Nagelkerke R-square = 0.153 for the fully adjusted model.

5 Discussion

5.1 Main findings

The main finding in this study was that Sami sexual minority youth (SM) have a higher score of internalizing and externalizing problems compared to Sami sexual majority youth (non-SM). The study found no differences in prosocial problems or self-reported health between SM and non-SM youth. SM youth scored lower on ethnic identity exploration and reported less cultural discrimination. Significantly more SM boys reported affiliation to laestadianism than non-SM boys. More SM youth report having had concerns about sexuality and having used school health service, and less SM youth reported school wellbeing. SM youth scored significantly higher on negative life events.

Some explanatory variables were of more importance for the variance observed in the outcome variables. Not thriving at school, having concerns about sexuality and having experienced negative life events seem to increase mental health problems. Self-efficacy and peer support seem to be protective factors for mental health. Being of female gender increases the risk of internalizing problems, while being male increases the risk of externalizing and prosocial problems.

5.2 SDQ Internalizing

This study found that Sami sexual minority youth had a higher mean score of internalizing problems than Sami sexual majority youth, indicating a greater degree of emotional and peer problems. This finding indicates that Sami sexual minority youth are struggling with more mental health problems than their non-SM peers, as is found in studies on Norwegian sexual minority youth (3, 12). Female adolescents score higher than males on internalizing problems, which is concurrent with findings in a previous study of application of SDQ in Norwegian community samples (45), though this study does not look separately at peer and emotional problems.

This study found that sexual minority youth score significantly lower on ethnic identity exploration, which assesses the extent of exploring ethnic identity and cultural traits. Enculturation factors are found to be associated with decreasing mental health problems in

Sami adolescents (46). Ethnic identity exploration did indeed decrease the odds of clinical internalizing problems, though not significantly and sexual identity had no effect on the odds.

Higher degree of self-efficacy and higher perception of peer support decrease the odds of clinical internalizing problems. The study found no differences in mean scores of these protective factors by sexual identity. This indicates that high self-efficacy and peer support are protective factors for mental health problems also in Sami sexual minority youth, and that they have just as much protection from these as their sexual majority peers. It also means that lack of these protective factors is not the reason for the differences observed in internalizing problems between SM and non-SM youth. In another study on Sami adolescents in Norway self-efficacy has been found to have a protective effect on internalizing problems, both independently and through interaction with enculturation factors (46).

Among Sami sexual minority youth, there are more participants who report concerns about sexuality, less of having school wellbeing, and they report a higher amount of negative life events compared to Sami sexual majority youth. These variables all showed significant differences in odds of clinical internalizing problems. All these factors should be considered objects for preventive intervention, which may decrease the risk for SM youth to develop mental health problems.

The model explains 39,3% of the variance observed in internalizing problems in Sami youth. Since studies on human behavior and attributes seldom get an R-square greater than 0.5, the model should be reckoned as quite a good fit for explaining the variance in internalizing problems (47).

5.3 SDQ Externalizing

This study found a higher mean score of externalizing problems among Sami sexual minority youth than Sami sexual majority youth, indicating a greater degree of behavioral and hyperactivity problems in SM youth. The regression model does however only explain 23.8% of the variance observed in externalizing problems. It is therefore difficult to conclude the causes of this difference in externalizing problems between SM and non-SM youth, and most of the variance seen (76.2%) cannot be explained by the variables in the model.

Lack of school wellbeing increased the odds of clinical externalizing problems nearly ten times. The univariate analysis reveals that less SM youth report school wellbeing. The negative interaction between sexual identity and school wellbeing in the regression model does however show that lack of school wellbeing does not affect clinical externalizing problems for SM youth as much as for non-SM youth. Nevertheless, the finding implies that interventions to enhance school wellbeing is critical in order to prevent mental health problems in Sami youth.

Gender was also found to be of considerably importance, where boys are nearly five times more likely to score above clinical range of externalizing problems. Higher degree of externalizing problems in boys is also found in previous studies (45). It must however be noted that the cut-off scores in this study were not adjusted for gender.

This study found that more Sami sexual minority youth report having concerns about sexuality. Having concerns about sexuality more than doubled the odds of clinical externalizing problems. Though there was no interaction with sexual identity in the regression model, one can still assume that having concerns about sexuality affects the mental health of SM youth in a negative way. Possible preventive interventions for externalizing problems could therefore be improvement of education about diverse sexuality to promote openness, as well as more safe spaces for sexual minority youth where they can talk freely about their concerns, for example through the school health service (31). This study did indeed find decreasing odds of clinical externalizing problems among those who have used school health service, though the finding was only close to significant.

In this study self-efficacy was shown to have a protective effect on the odds of clinical externalizing problems. This is to the contrary to a previous study on internalizing and externalizing problems in Sami youth, where self-efficacy only significantly decreased externalizing symptoms in girls when it interacted with high degree of cultural activities (46).

5.4 SDQ Prosocial

This study found no significant differences in prosocial behavior between SM youth and non-SM youth. Sexual identity did however have a considerably large interaction with

laestadianism on the odds of clinical prosocial problems. This means that having an affiliation to laestadianism increases the odds more than 7-fold for SM youth, compared to the double in the total sample. This can imply that having an affiliation to laestadianism makes SM youth somewhat socially withheld, and that measures should be made so that SM youth's prosocial behavioral attributes are improved regardless of religious affiliation. Qualitative studies also find religion, and specifically laestadianism, to be an important factor for the wellbeing of Sami sexual minority people (5, 7, 31, 36). It is quite a striking finding that the observed number of sexual minority boys reporting affiliation to laestadianism far surpassed the expected. This study does not contain enough information to present possible reasons for this finding.

A significant interaction was also found between sexual identity and used school health service. It showed a greater decrease in the odds of clinical prosocial problems for those that have used school health service and are sexual minority. This means that having used school health service is a greater protective factor for SM youth than for non-SM youth.

The gender differences observed for prosocial behavior is in alignment with findings in previous studies, where girls score better than boys (45). As expected, higher self-efficacy and higher degree of peer support are protective factors.

A surprising finding was that sexual minority youth reported significantly lower degree of cultural discrimination, as opposed to the hypothesis that SM youth experience more stigmatization for being minorities on two accounts (5). It is important to note that this finding does not necessarily reflect what SM youth are objectively exposed to, but rather what is perceived and reported. A possible explanation for this finding may be that SM youth struggle with other worries to a greater extent. Another explanation may be that SM youth explore and potentially express their ethnicity to a lower degree and therefore are less prone to acts of cultural discrimination. Opposite to what was expected, cultural discrimination had a protective effect on the odds of clinical prosocial problems. One might speculate that individuals with a high degree of prosocial behavior more often are emotionally volatile and therefore perceive higher degree of discrimination.

The model explains 23.4% of the variance observed. A low R-square combined with few statistically significant variables indicate that the model was not a very good fit for explaining prosocial behavior in Sami sexual minority and majority youth.

5.5 Self-reported health

Low R-square and few statistically significant factors indicate that the regression model was not a good fit for explaining variance in self-reported health. The model explained 15.3% of the variance observed in self-reported health. One might even argue that the variable *self-reported health* wasn't that fit as a measurement of mental health. The question "how is your health now?" might be interpreted in a lot of ways and the answers might be influenced by other factors than studied. It is however relieving that despite scoring higher on externalizing and internalizing problems, Sami sexual minority youth do not differ significantly from sexual majority youth in self-reported health. This is in alignment with findings in previous studies on LGBTQ+ people in Norway, except that bisexual women are previously found to report less good health compared to heterosexual women (3, 12). In this study, being sexual minority actually decreases the odds of reporting bad health, and the insignificant difference in self-reported health are explained by interactions rather than sexual identity in itself.

Though ethnic identity exploration showed no significant difference in odds of reporting bad health, there was a significant interaction between ethnic identity exploration and sexual identity. When adjusted for all other factors, this interaction increased the odds of bad health 20-fold. An explanation to this finding might be that youth who are queer and also have a strong ethnic Sami identity are more prone to double minority stress, as theorized in previous studies (1, 5).

Table 5. shows that sexual minority who have used the school health service have 21-fold higher odds of reporting bad health. This could indicate that the SM users of school health service perceive less good health than non-SM users. However, since the analyses only show associations and not cause and effect, this conclusion may not be drawn.

5.6 Statistically insignificant variables

The variables that showed no or statistically insignificant differences in the independent samples t-test and chi-square tests, were excluded from the simple logistic and multiple hierarchical regression analyses. They are whatsoever interesting of just the same reason. Between Sami sexual minority and majority youth there were no differences in family income, which is a well-known predictor of health outcome in adolescents, though not found to be affecting the measurements of mental health in this study. There are also no significant differences in the mean scores of peer support, parental support or parental involvement, which are important social determinants of health. No differences in the score of MEIM commitment may be interpreted as SM youth having the same amount of ethnic pride and sense of belonging, which are protective factors against problem behaviors in indigenous youth. Last, but not least, is the similar mean scores on measurement of self-efficacy, which in previous studies have shown to have protective effect on mental health issues.

5.7 Strengths and limitations

A strength of this study is the usage of focus group interview inspired by the community based participatory research (CBPR) design prior to forming research questions. The initial intention was to hold several meetings with the group to discuss the results of the study. These were however not conducted due to limitation in time and unforeseen events. Thankfully, the initial focus group interview brought valuable contributions and led to important reflections, as strengths and weaknesses concerning the sample and data collection were discussed already at the first meeting.

Another strength of this study is the relatively great sample size of 450 Sami participants. The Norwegian Arctic Adolescent Health Study had a high response rate of 83% and with a good representation of different parts of Northern Norway.

This study has several limitations. Firstly, defining sexual minorities in the sample was somewhat challenging. In this study, participants who reported 1) having been in love with someone of the same gender and/or 2) identifying as lesbian, gay, bisexual or uncertain, were defined as sexual minority. The reason for including both these factors was that one might have been in love with someone of the same gender and therefore be queer per definition,

while not identifying as queer or using queer self-labelling. Vice versa, one might identify as queer while not having been in love with someone of the same gender. Initially the definition of sexual minority in this study also included having had sexual relation to someone of the same gender. However, when doing univariate analyses to estimate sample size, it was discovered that quite many of the participants (29.1%) had been having a sexual relation to someone of the same gender. In the questionnaire, the question assessing sexual relations was "have you ever had any kind of sexual relations with people of the same gender as yourself (making out, caressing, intercourse and similar)?" and replied with "yes" or "no". This question is very diffuse and may be interpreted in many ways. An additional important note is that experimenting with sexual attractions at the age of 15 and 16 is natural and common and should not be misinterpreted as being sexual minority. This factor was therefore excluded from the research definition of sexual minority youth.

A second limitation regarding the sexual minority subgroup is the low count. Low counts in quantitative analyses are a challenge on its own, since any difference between the groups would have to be quite large to get statistical significance. There are several possible reasons for the low counts observed, apart from the fact that queer youth are in minority. As discussed in the introduction, sexual minorities often undergo a lot of stigma, both in relations and in the community, but also through internalized shame. This could raise the threshold for accepting one's sexual identity and/or daring to report being queer. In addition, the participants were quite young, and many queer people do not "come out of the closet" until much later.

Furthermore, the data material was obtained in 2003-2005, in a time when the view on sexual minorities was quite different from now. As discussed in the introduction, there has been a lot of changes in both the Norwegian, Sami and global communities over the past few years when it comes to LGBTQ+ rights, education, accesses to cultural and health services, and the majority people's views on sexual minorities. It could be that a new data collection today would have given different results, both in the prevalence of sexual minorities among Sami adolescents as well as outcomes of mental health measurements. The larger community's view on sexuality and sexual identity has over the past few years developed and is now to a greater extent understood as a dynamic process rather than categorical and static labels. In effect, a new data collection should include a questionnaire that is adjusted to better reflect this.

A limitation in the data material is that it does not include variables that assess historical traumas, effects of colonization processes and political factors. As discussed in the introduction, these types of overarching and fundamental factors are very important for the wellbeing and mental health of indigenous youth. These factors were also emphasized by the focus group. In future research on Sami youth and Sami sexual minorities, questions to assess degree of historical traumas, internalized shame and discrimination on a political level should be included. Not only are they likely important explanatory variables on the outcome of mental health measurements, but they are also possible objects for intervention, clinically and politically.

This study included a small variety of factors to describe broad and complex phenomena. It is therefore necessarily an object for research bias. Sociodemographic and environmental factors were assessed only to a short extent. Most of the focus was on cultural and psychosocial factors. There are many other factors known to be affecting mental health in youth, among others physical activity, nutrition, sleep, puberty, chronic illnesses, spiritual factors, medications, social media etc. Furthermore, this study is plausibly influenced by confounding bias. Many of the variables included in the analyses are complex and interactions do most likely occur, most certainly also with other variables not included in this study.

A relevant topic for discussion is whether differences in self-reported mental health issues are the results of actual differences or not. Over the last years, there has been a rise in levels of mental health issues among adolescents in Norway, which is topic for an ongoing debate among experts and ordinary people alike. Some argue that youth today have less competence or tools for handling struggles in life, and that this either leads to more mental health issues or that it leads to an overestimation and pathologization of normal life experiences. Others point to the fact that there is more openness and honesty about mental health issues today, which enables more youth that do struggle with mental health issues to be open and communicate their situation. Yet others emphasize the effects of the last decades' rapid development in society when explaining the rise in levels of mental health issues. The rapid societal development has brought a new set of pressure and stress factors on today's youth, especially through technology, the internet and social media platforms with demands of always being available and up to date on social trends. Traditional stress factors such as school performance, body image and popularity do appear to have been enhanced as well. As for

concluding the reason behind observed differences in mental health issues among youth, a combination of many factors is most likely true.

6 Conclusion

This study found higher scores of internalizing and externalizing problems among Sami sexual minority youth compared to sexual majority youth. No differences were found for prosocial behavior or self-reported health. Factors that showed an increase in mental health problems were not to thrive at school, having concerns about sexuality and having experienced negative life events. Sexual minority youth reported significantly more of these factors. Self-efficacy and peer support were the main protective factors for mental health, and no differences were found in these factors between sexual minority and majority youth. Girls showed more internalizing problems, while boys had more externalizing and prosocial problems.

This study suggests some interventions to decrease mental health problems and increase the resilience and wellbeing of Sami youth, which will benefit both sexual minority and majority youth. These include 1) decreasing concerns about sexuality, for example through better education about diverse sexuality and creation of more safe spaces for Sami queer people, 2) strengthen the school health service, which serves as a great protective factor for prosocial problems in Sami SM youth, 3) focusing on increasing school wellbeing, and 4) intervening to reduce the amount of negative life events that Sami youth, especially SM youth, experience. More and updated data on the wellbeing and living conditions of Sami sexual minority people is necessary. For future research, I suggest assessing the effects of intergenerational traumas, internalized shame and discrimination on a political level.

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8 Tables

Table 1. Distribution of outcome and explanatory variables in Sami adolescents by sexual identity and gender

	Sexual minority N=62						Sexual majority N=388						Effect of gender	Effect of sexual identity
	Female		*Male*		*Total*		*Female*		*Male*		*Total*		$X^{2/p}$	$X^{2/p}$
Outcome variables														
	Mean	(SD)	Mean	(SD)	Mean	(SD)	Mean	(SD)	Mean	(SD)	Mean	(SD)	t-test^{p}	t-test^{p}
SDQ intern. problems	6.61	(2.47)	5.55	(3.71)	6.26	(2.94)	4.97	(3.09)	3.72	(2.62)	4.30	(2.91)	5.03***	4.87***
SDQ extern. problems	7.51	(3.36)	7.95	(4.01)	7.66	(3.56)	5.67	(2.98)	6.69	(3.66)	6.22	(3.39)	2.46*	3.06**
SDQ Prosocial	7.46	(1.58)	5.75	(2.07)	6.90	(1.92)	7.83	(1.45)	6.74	(1.94)	7.25	(1.81)	6.76***	1.37^{ns}
Self-reported health	2.93	(0.79)	3.38	(0.59)	3.08	(0.75)	3.17	(0.62)	3.30	(0.68)	3.24	(0.65)	2.92**	1.75^{ns}
Explanatory variables														
Sociodemographic														
	N	(%)	N	(%)	N	(%)	N	(%)	N	(%)	N	(%)		
Family income													8.14**	0.61^{ns}
Low	19	(47.5)	9	(42.9)	28	(45.9)	85	(48.3)	68	(33.8)	153	(40.6)		
High	21	(52.5)	12	(57.1)	33	(54.1)	91	(51.7)	133	(66.2)	224	(59.4)		
Ethnic context													7.6*	6.4*
Sami dominated	7	(17.1)	2	(9.5)	9	(14.5)	29	(16.0)	38	(18.4)	67	(17.3)		
Norwegian dominated	15	(36.6)	7	(33.3)	22	(35.5)	104	(57.5)	87	(42.0)	191	(49.2)		
Mixed	19	(46.3)	12	(57.1)	31	(50.0)	48	(26.5)	82	(39.6)	130	(33.5)		

Environmental support														
	Mean	(SD)	Mean	(SD)	Mean	(SD)	Mean	(SD)	Mean	(SD)	Mean	(SD)		
Peer support	1.42	(0.52)	1.43	(0.53)	1.43	(0.52)	1.35	(0.50)	1.57	(0.56)	1.47	(0.54)	3.95***	0.54^{ns}
Parental support	1.64	(0.60)	1.48	(0.52)	1.58	(0.58)	1.46	(0.56)	1.41	(0.61)	1.44	(0.58)	1.33^{ns}	1.84^{ns}
Parental involvement	1.79	(0.61)	1.79	(0.84)	1.79	(0.69)	1.62	(0.57)	1.73	(0.66)	1.68	(0.62)	1.46^{ns}	1.20^{ns}
Cultural														
	Mean	(SD)	Mean	(SD)	Mean	(SD)	Mean	(SD)	Mean	(SD)	Mean	(SD)		
MEIM exploration	2.76	(0.82)	2.63	(0.87)	2.72	(0.83	2.91	(0.79)	2.97	(0.87)	2.94	(0.83)	0.69^{ns}	1.98*
MEIM commitment	1.83	(0.72)	2.07	(0.82)	1.91	(0.76)	1.96	(0.79)	2.05	(0.90)	2.01	(0.85)	1.45^{ns}	0.81^{ns}
Cultural discrimination	3.31	(0.69)	2.28	(0.77)	2.96	(0.87)	3.38	(0.61)	3.16	(0.77)	3.26	(0.71)	3.98***	2.48*
	N	(%)	N	(%)	N	(%)	N	(%)	N	(%)	N	(%)		
Lastadianism	4	(9.8)	14	(66.7)	18	(29.0)	32	(17.7)	43	(20.8)	75	(19.3)	5.3*	3.1^{ns}, (SM boys***)
Psychosocial														
	N	(%)	N	(%)	N	(%)	N	(%)	N	(%)	N	(%)		
Concerns about sexuality	20	(51.2)	7	(33.3)	27	(43.5)	62	(34.4)	53	(25.7)	115	(29.8)	5.9*	4.7*
School wellbeing	33	(80.5)	16	(76.2)	49	(79.0)	169	(93.4)	182	(88.3)	351	(90.7)	1.6^{ns}	7.5**
Used school health service	22	(53.7)	2	(9.5)	24	(38.7)	61	(34.7)	29	(14.2)	90	(23.7)	34.6***	6.3*
	Mean	(SD)	Mean	(SD)	Mean	(SD)	Mean	(SD)	Mean	(SD)	Mean	(SD)		
Self-efficacy	2.85	(0.58)	2.89	(0.93)	2.86	(0.71)	2.89	(0.53)	3.01	(0.54)	2.95	(0.54)	2.03*	0.94^{ns}
Negative life events	4.17	(1.92)	3.48	(2.38)	3.94	(2.10)	3.15	(1.83)	2.70	(1.75)	2.91	(1.80)	3.29***	4.07***

Table 2. A hierarchical multiple regression analysis predicting SDQ internalizing problems in the total sample

	SDQ Internalizing								
	Individually			Adjusted within the block			Fully adjusted		
Explanatory variables	OR	CI (95%)	p	OR	CI (95%)	p	OR	CI (95%)	p
Sociodemographic (block 1)									
Gender (female)	2.34	1.31-4.20	**.004**	2.43	1.32-4.46	**.004**	3.73	1.60-8.67	**.002**
Family income	1.50	0.85-2.63	.160	1.34	0.76-2.37	.318	1.19	0.57-2.48	.644
Ethnic context			.624			.562			.456
Sami	1.02	0.47-2.21	.969	0.94	0.41-2.13	.879	0.85	0.30-2.42	.755
Norwegian	0.76	0.41-1.41	.384	0.72	0.38-1.35	.302	0.59	0.26-1.35	.212
Environmental support (block 2)									
Peer support	2.54	1.62-4.00	**<.001**				2.31	1.26-4.24	**.007**
Cultural (block 3)									
MEIM exploration	0.69	0.50-0.97	**.030**	0.81	0.56-1.17	.265	0.75	0.46-1.22	.253
Cultural discrimination	0.65	0.45-0.92	**.016**	0.67	0.45-1.01	.055	0.74	0.43-1.27	.268
Laestadianism	1.13	0.58-2.19	.725	0.85	0.42-1.74	.656	0.66	0.26-1.72	.398
Psychosocial (block 4)									
Concerns sexuality	2.45	1.40-4.29	**.002**	2.22	1.14-4.33	**.020**	2.48	1.16-5.34	**.020**
School wellbeing	4.13	2.10-8.14	**<.001**	2.85	1.28-6.34	**.010**	3.22	1.21-8.55	**.019**
Used school health service	1.03	0.55-1.94	.923	0.61	0.29-1.31	.204	0.51	0.21-1.28	.153
Self-efficacy	0.28	0.17-0.47	**<.001**	0.29	0.17-0.50	**<.001**	0.23	0.11-0.47	**<.001**
NLE	1.49	1.29-1.72	**<.001**	1.36	1.16-1.60	**<.001**	1.31	1.08-1.59	**.006**
Sexual identity	3.20	1.68-6.09	**<.001**	1.99	0.93-4.28	.076	1.34	0.55-3.26	.522

Table 3. A hierarchical multiple regression analysis predicting SDQ externalizing problems in the total sample

	SDQ externalizing								
	Individually			Adjusted within the block			Fully adjusted		
Explanatory variables	OR	CI (95%)	p	OR	CI (95%)	p	OR	CI (95%)	p
Sociodemographic (block 1)									
Gender (female)	0.47	0.26-0.84	**.010**	0.47	0.26-0.86	**.015**	0.26	0.11-0.61	**.002**
Family income	1.45	0.82-2.56	.197	1.61	0.90-2.88	.106	1.88	0.92-3.84	.086
Ethnic context			.370			.652			.837
Sami	0.72	0.32-1.63	.430	0.72	0.31-1.71	.463	0.75	0.26-2.18	.593
Norwegian	0.65	0.36-1.20	.168	0.78	0.42-1.45	.429	0.84	0.38-1.84	.660
Environmental support (block 2)									
Peer support	1.53	0.93-2.50	.093				0.75	0.37-1.49	.406
Cultural (block 3)									
MEIM exploration	1.04	0.73-1.46	.843	1.32	0.89-1.98	.172	1.20	0.74-1.96	.458
Cultural discrimination	0.68	0.47-0.98	**.037**	0.59	0.38-0.90	**.015**	0.94	0.55-1.62	.823
Laestadianism	1.18	0.61-2.30	.623	1.14	0.56-2.34	.721	0.61	0.24-1.58	.310
Psychosocial (block 4)									
Concerns sexuality	1.84	1.04-3.24	**.035**	1.67	0.87-3.20	.126	2.19	1.03-4.66	**.041**
School wellbeing	4.74	2.42-9.29	**<.001**	7.12	3.16-16.05	**<.001**	9.70	3.53-26.66	**<.001**
Used school health service	0.51	0.24-1.09	.081	0.45	0.20-1.01	.053	0.66	0.26-1.65	.371
Self-efficacy	0.51	0.32-0.83	**.006**	0.54	0.32-0.92	**.024**	0.37	0.19-0.73	**.004**
NLE	1.24	1.08-1.43	**.002**	1.15	0.98-1.35	.080	1.16	0.96-1.40	.115
Sexual identity	1.63	0.79-3.35	.187	2.24	0.97-5.19	.060	1.80	0.61-5.29	.287
School wellbeing x sexual identity	0.04	0.004-0.37	**.005**	0.05	0.004-0.49	**.011**	0.06	0.005-0.77	**.031**

Table 4. A hierarchical multiple regression analysis predicting SDQ prosocial in the total sample

	SDQ prosocial								
	Individually			Adjusted within the block			Fully adjusted		
Explanatory variables	OR	CI (95%)	p	OR	CI (95%)	p	OR	CI (95%)	p
Sociodemographic (block 1)									
Gender (female)	0.21	0.12-0.38	**<.001**	0.20	0.11-0.37	**<.001**	0.20	0.09-0.41	**<.001**
Family income	1.23	0.75-2.01	.418	1.55	0.92-2.61	.104	1.42	0.78-2.59	.255
Ethnic context			.381			.790			.911
Sami	0.91	0.45-1.83	.792	1.05	0.50-2.17	.905	1.13	0.50-2.57	.774
Norwegian	0.69	0.40-1.18	.175	0.85	0.48-1.50	.567	0.94	0.48-1.83	.860
Environmental support (block 2)									
Peer support	1.93	1.27-2.92	**.002**				1.43	0.86-2.37	.167
Cultural (block 3)									
MEIM exploration	0.92	0.68-1.24	.576	1.35	0.95-1.93	.098	1.20	0.81-1.79	.369
Cultural discrimination	0.52	0.38-0.72	**<.001**	0.54	0.37-0.79	**.002**	0.71	0.46-1.08	.111
Laestadianism	2.00	1.15-3.45	**.014**	1.07	0.53-2.15	.860	1.13	0.52-2.43	.762
Laestadianism x sexual identity	7.70	1.77-33.49	**.007**	4.80	1.48-15.51	**.009**	1.42	0.23-8.79	.707
Psychosocial (block 4)									
Concerns sexuality	1.12	0.67-1.89	.668	1.13	0.64-1.99	.670	1.04	0.55-1.99	.899
School wellbeing	1.90	0.95-3.77	.069	2.00	0.95-4.23	.069	1.40	0.56-3.52	.471
Used school health service	0.53	0.28-1.01	.052	0.74	0.37-1.47	.389	0.94	0.42-2.12	.884
Self-efficacy	0.60	0.39-0.92	**.019**	0.65	0.42-1.00	.051	0.57	0.32-0.99	**.046**
NLE	1.08	0.95-1.22	.255	1.05	0.91-1.21	.508	1.10	0.94-1.30	.245
Sexual identity	1.68	0.88-3.19	.114	2.48	1.18-5.24	**.017**	2.53	0.63-8.05	.212
Used school health service x sexual identity	0.10	0.01-0.92	**.042**	0.08	0.01-0.72	**.025**	0.21	0.02-2.72	.230

Table 5. A hierarchical multiple regression analysis predicting self-reported health in the total sample

	Self-reported health								
				Adjusted within the block			Fully adjusted		
Explanatory variables	OR	CI (95%)	p	OR	CI (95%)	p	OR	CI (95%)	p
Sociodemographic (block 1)									
Gender (female)	1.28	0.72-2.28	.403	1.22	0.67-2.21	.511	0.96	0.45-2.04	.906
Family income	1.37	0.76-2.44	.294	1.33	0.74-2.39	.346	0.87	0.43-1.78	.708
Ethnic context			.799			.653			.637
Sami	0.92	0.40-2.12	.840	0.95	0.41-2.20	.899	1.03	0.39-2.71	.947
Norwegian	0.81	0.43-1.52	.505	0.75	0.39-1.42	.374	0.71	0.33-1.56	.396
Environmental support (block 2)									
Peer support	1.23	0.73-2.08	.436				0.80	0.41-1.59	.528
Cultural (block 3)									
MEIM exploration	1.17	0.81-1.68	.400	0.98	0.63-1.52	.931	0.91	0.57-1.44	.682
Cultural discrimination	1.18	0.77-1.81	.456	1.19	0.71-2.02	.513	1.00	0.58-1.75	.988
Laestadianism	0.58	0.25-1.32	.192	0.59	0.24-1.44	.246	0.75	0.30-1.87	.532
MEIM exploration x sexual identity	3.95	1.35-11.57	**.012**	2.49	0.86-7.22	.093	20.02	2.53-158.53	**.005**
Cultural discrimination x sexual identity	3.59	1.06-12.19	**.041**	0.57	0.21-1.56	.271	0.91	0.14-5.79	.919
Psychosocial (block 4)									
Concerns sexuality	1.80	1.00-3.23	**.049**	1.53	0.81-2.91	.193	1.15	0.54-2.44	.714
School wellbeing	1.87	0.85-4.13	.120	1.39	0.58-3.33	.461	1.82	0.64-5.19	.260
Used school health service	1.06	0.55-2.05	.852	0.49	0.20-1.21	.123	0.64	0.25-1.65	.356
Self-efficacy	0.71	0.44-1.16	.174	0.75	0.44-1.29	.301	0.67	0.34-1.32	.241
NLE	1.19	1.03-1.38	**.018**	1.11	0.94-1.30	.211	1.12	0.93-1.36	.228
Sexual identity	1.73	0.84-3.57	.141	0.51	0.15-1.76	.284	0.00	0.00-0.15	**.015**
Used school health service x sexual identity	11.25	2.04-62.18	**.006**	10.05	1.75-57.70	**.010**	21.29	1.47-309.02	**.025**