

The health of young Swedish Sami with special reference to mental health

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Objectives. To investigate the health of young Sami in Sweden and the relationship between health and experience of negative societal treatment due to ethnicity, as well as socio-demographic background factors.

Study design. Cross-sectional population-based questionnaire study.

Methods. A total of 876 persons aged 18–28 and involved in Sami associated activities were addressed, and 516 (59%) responded to a questionnaire investigating physical health, mental health, and stress. Data were analyzed with regard to gender, family situation, occupation, education, enculturation factors and experience of being badly treated because of ethnicity.

Results. A majority of the young Sami reported feeling healthy, but close to half of the group reported often having worries, often forgetting things and often experiencing lack of time for doing needed things. Women and those living alone reported a more negative health. Furthermore, half of the group had perceived bad treatment because of Sami ethnicity, and this was negatively associated with some aspects of mental health.

Conclusion. The young Sami had a rather good and possibly slightly better health than other young Swedes, except regarding worries and stress. A high degree of bad treatment due to Sami ethnicity and its negative association with health, may partly explain the high degree of some health problems.

Keywords: *young Sami; mental health; perceived discrimination*

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The Sami, the indigenous people in Scandinavia, are spread across 4 countries: Sweden, Norway, Finland and Russia. The exact size of the Sami population is unknown but according to official numbers there are around 70,000 Sami in the 4 countries: 2,000 in Russia, 6,000 in Finland, 40,000 in Norway and 20,000 in Sweden (1). However, these numbers may be far less than the real figures. Based on calculations from different register data, Hassler and colleagues state that there are about 40,000–50,000 Sami in Sweden alone (1). Around 10% of the Sami in Sweden are employed in reindeer husbandry (<http://www.samer.se>). In Sweden, reindeer husbandry is organized in so called “Samebyar” (Sami communities). A Sami community is both an economic association and a specific geographical area.

The Sami people in Sweden have a long history of suffering discrimination, racism and conflict (2). From the 18th century and up to the second World War, the Swedish policy was based on a strong belief that the destiny of Sami as a race, as well as their reindeer herding culture, would disappear and be consumed by the stronger agricultural culture that pervaded (2,3).

The government supported a culture of hierarchic paternalism, and the concept “Lapp should stay Lapp” ruled, meaning that the Sami people were not able to do and should not do anything else besides reindeer herding. All Sami who could not make a living on reindeer herding were assimilated into the Swedish society in a harsh way. They should be “Swedes”, causing many of the Sami to lose their language and their culture while also many were denied their ethnicity during this process (4).

Since 1993 there has been a Sami parliament in Sweden. This parliament has a counselling function but no real power to decide on important issues for the Sami people. In general, the legal situation for Sami's in Sweden is very insecure. Contrary to Norway, Sweden has not ratified the International Labor Organization (ILO) convention 169 about rights for land and water for the Sami people, and in court proceedings, Sami are successively losing their right to use land for reindeer grazing (5). Today, the Sami population in Sweden is a very heterogeneous group highly assimilated into society (6). In the present study, we have focused young Sami

people with an explicit Sami identity based basically on self-labelling through participation in Sami specific activities.

In the beginning of the 21st century, a series of suicides occurred among young, mostly reindeer herding Sami men. This resulted in great concerns about the mental health and well-being of the young Sami population and also a desire to understand potential mechanisms influencing mental health in the Sami population (7). In general, gender disparities are well known in mental health with a significantly higher prevalence of depression, anxiety and somatic complaints among women than with men (8,9). Likewise past research has concluded that family situation and socioeconomic factors, that is level of education, is of importance for health (10–13). However, the meaning of these factors in young Sami's mental health has not been explored in Sweden. From earlier studies (7,14) and from meetings with young Sami we knew about severe difficulties reindeer herders could face, that is conflicts about grazing land, economic hardship and discrimination. Given the stress this may enforce on reindeer herders, it is of interest to know how their health is compared to non-reindeer herding Sami.

Reports of health of indigenous populations are conflicting. An epidemiological study from Greenland found no statistically significant differences in reported internalizing mental health symptoms between youth in Greenland and their Danish peers (15). On the contrary, several studies show higher behavioural and emotional problems among youth of American and Alaskan natives, indigenous youth in Canada and Inuit in Greenland than among their peers belonging to the majority groups (16,17). Likewise, a study about the health status of indigenous and non-indigenous Australians revealed a significant gap in health characterized by worse health in the indigenous Australians, and it was concluded that even if one-third to one half of the health gap could be explained by differences in socioeconomic status, for example income, employment status and education, a large component remained unexplained (18).

Lehti et al. have performed a systematic review about mental health, substance use and suicidal behaviour among indigenous people in the Arctic, concluding that current epidemiological knowledge is based predominantly on cross-sectional studies, mostly limited to substance use and suicidal behaviour and that very little is known about the causes of mental problems in general, and the impact of rapid sociocultural changes in particular (19).

There have been very few studies assessing health of Sami in Sweden and none focusing on children and young adults. However, in a recent study, Kaiser and colleagues found that Sami reindeer herders aged 18–74 years old, scored higher on depression and anxiety scales (seen as work related stress), than Swedes living in the

same area (20). In Norway more research has been performed on health in Sami populations, especially focusing on adolescents. Generally they report few overall differences in behavioural/emotional problems or internalization symptoms between Sami and their non-Sami peers (21–23).

Numerous studies consider discrimination as a risk factor for health problems (24–26). Reviews of relationships between ethnic discrimination and health in children and adolescents (26) and in adults (25,27,28) conclude that discrimination has a significant negative effect on health, especially mental health. Also Whitbeck and colleagues found that perceived discrimination was associated with increased internalizing behaviours among Native Americans (29). Furthermore, in a study of ethnicity, self-reported health, discrimination and socioeconomic status in Sami (36–79 years old) and non-Sami Norwegian populations (Kvens and Norwegians), Hansen and colleagues found that participants who were frequently discriminated against, poorly educated, financially less well-off and single reported greater health deficiencies and also they drew a significant association between discrimination and poor health. Furthermore, the study established that frequent experiences of ethnic discrimination appear to at least partially explain inequalities in self-reported health between the Sami and the general Norwegian population (30).

In a review about ethnic identity in adolescents and adults, Phinney concluded “it appears that self-identification, a sense of belonging, and pride in one's group may be key aspects of ethnic identity” (31); while research had shown that ethnic identity may buffer the stress of racial/ethnic discrimination (32). Thus, it is important to investigate cultural orientation, participation in traditional practices and ethnic pride, that is so called enculturation factors, when issues related to discrimination is studied.

The aim of this study was to investigate the health of young Sami in Sweden with special reference to mental health and experience of negative societal treatment due to Sami ethnicity and also to socio-demographic background factors. We also wanted to investigate if enculturation factors had an effect on health questions.

Materials and methods

The study is part of an ongoing study of living conditions and health of young Sami living in Sweden.

The study was performed in 2008 and included all 18–28 years old students registered in the Sami Educational Centre in Jokkmokk during 2006–2008, and all 18–28 year olds from the Sami parliament electoral register (2008), along with all 18–28 year olds from the Reindeer-owner register, the Saminuorra (Sami youth organization), and 24 identified Sami organizations.

The final study population consisted of 876 persons aged 18–28 years who were approached with a questionnaire at their homes. After one reminder, 516 (59%) answered and returned the questionnaires. Of these, 57% were women; the dropout group consists of 32% women.

Moreover, the majority of the respondents (78%) lived in the 4 most northern parts of Sweden. One-third lived in settlements of less than 3,000 inhabitants and one-third lived in cities of more than 50,000 inhabitants. Nearly a fourth lived alone, and the rest resided with a partner and/or children, or with parents. Few were unemployed or on sick leave (1.9%), and 10% reported working in reindeer herding.

Most of the respondents (82%) participated in special traditional Sami activities like reindeer herding, hunting, fishing and Sami handicraft. A fourth understood and spoke the native Sami language, 71% reported a near connection to a Sami community and a majority (83%) reported to be proud of being Sami. For further population description, see Omma et al. (14).

Health was measured by 11 statements with 4 response alternatives. One measured overall subjective health: “I feel healthy”, 2 addressed physical health: “I have headaches” and “I sleep well”, and 6 addressed mental health: “I feel sad and depressed”, “I am worrying”, “I feel calm and relaxed”, “I am in a good mood”, “I feel irritated”, and “I look forward towards things with joy”; and finally 2 statements addressed perceived stress: “I have enough time for doing things I need to” and “I forget things”. Response alternatives are reported in Table I.

Social relationship was measured by one statement: “I can appreciate to be with family or friends” which had 4 response alternatives: often/sometimes/seldom/very seldom.

Experience of negative societal treatment related to Sami ethnicity was assessed by 3 questions: “Has it happened that teachers treated you unfairly because of your Sami background”, “Have you heard teachers saying something bad about the Sami”, and “Have other people treated you badly because of your Sami background.” Response alternatives for the first question were yes, often/yes, sometimes/no, and for the second and third yes or no.

Enculturation factors were captured by 7 questions focused on: being proud of Sami background, speaking the Sami language, understanding the Sami language, connection to a Sami community and/or Sami organization, engagement in specific Sami activities (Sami handicrafts, hunting or fishing, rounding up and sorting out reindeer herds, or calf marking), and participating in Sami feasts or special Sami events (e.g. the Jokkmokk fair or special Sami sporting events). Response alternatives were “yes” or “no”, except for the question about specific

Sami activities where the respondent marked which activities they participated in (could be 1–4) and the question about being proud of Sami background had 3 response alternatives “yes”, “no” or “I do not think about it”.

Questions about socio-demographic background captured gender, educational level, occupation and family situation.

The questionnaire was constructed based on discussions with members of the Sami Youth organization about how it was to be a young Sami, what health aspects they considered important and what health aspects they believed differ between men and women. The questionnaire development was also guided by long clinical experience in the research group of using different self-evaluating scales.

Statistics

Statistics were performed by use of the Predictive Analytics Software (PASW), version 18. Health response frequencies were estimated. For group comparisons, health responses were dichotomized into 2 response alternatives, either the statement was “almost always/mighty often/quite often or often true”, or the statement was “not at all/almost never/mighty seldom/very seldom/seldom or sometimes true”. The 2 questions referring to treatment by teachers were merged into an index named “Bad treatment by teacher” with response alternatives dichotomized to Yes – at least yes to one of the questions or No – no to both questions. The 7 enculturation factors were merged into an enculturation index with all responses dichotomized into yes/at least one activity = 1 vs. no/unknown = 0 and added up to no (0), low (1–2), medium (3–4) and high (5–7) enculturation. Chi-square statistics were used to compare health by enculturation groups. For assessing potential association between the 11 aspects of health and sociodemographics variables, univariate logistic regression analyses were run for gender, educational level (dichotomized into ≤ 12 years or ≥ 13 years of schooling), occupation (to be a reindeer herder or not), family situation (to live alone or not). Enculturation factors were dichotomized into no vs. any enculturation factors. Finally logistic regression analyses were conducted to test associations between health and the 2 “Bad treatment variables”, first in a univariate model and then in a model adjusted for gender, family situation, enculturation and occupation.

We only report adjusted odds ratio and their corresponding 95% confidence interval if there are a significant difference between assessed variables. Results were considered statistical significant if $p < 0.05$.

Ethical considerations

This study was approved by the Regional Ethical Review Committee in Umeå (§ 06-007). Participation was voluntary and anonymity was provided.

Table I. Health state (%) in 18–28 year-old Sami in Sweden (n = 220 men and 295 women)

	Primary response alternatives					Merged response alternatives				
	Almost always	Mighty often	Often ^a / quite often ^b	Seldom ^a / sometimes ^b	Very seldom ^a / mighty seldom ^b	Not at all ^a / almost never ^b	Gender specific		Whole group	
							Often-T ^c	Seldom-T ^d	Often-T ^c	Seldom-T ^d
Feel healthy										
Men	72.3		25.5 ^a	1.8 ^a		0.5 ^a	97.7	2.3	95.3	4.7
Women	63.3		30.3 ^a	5.4 ^a		1.0 ^a	93.5	6.5		
Sleep well										
Men	65.5		30.0 ^a	3.6 ^a	0.9 ^a		95.5	4.5	90.7	9.3
Women	61.4		25.8 ^a	11.2 ^a	1.7 ^a		87.1	12.9		
Headaches										
Men		0.5	4.1 ^b	20.0 ^b		75.5 ^b	4.5	95.5	9.5	90.5
Women		4.4	8.8 ^b	37.3 ^b		49.5 ^b	13.2	86.8		
Sad and depressed										
Men		0.5	9.5 ^a	49.5 ^a	40.5 ^a		10.0	90.0	17.9	82.1
Women		2.7	21.1 ^a	60.9 ^a	15.3 ^a		23.8	76.2		
Good mood										
Men		34.5	60.0 ^a	4.5 ^a	0.9 ^a		94.6	5.4	91.8	8.2
Women		38.8	51.0 ^a	8.5 ^a	1.7 ^a		89.8	10.2		
Calm and relaxed										
Men		40.0	47.3 ^a	12.7 ^a	0.0 ^a		87.3	12.7	80.8	19.2
Women		22.0	53.9 ^a	21.0 ^a	3.1 ^a		75.9	24.1		
Worrying										
Men		4.5	25.5 ^a	48.6 ^a	21.4 ^b		30.0	70.0	43.4	56.6
Women		12.9	40.5 ^a	40.5 ^a	6.1 ^b		53.4	46.6		
Look forward with joy										
Men		41.4	52.7 ^b	5.9 ^a		0.3 ^b	94.1	5.9	93.2	6.8
Women		49.8	42.7 ^b	7.1 ^a		0.2 ^b	92.5	7.5		
Irritated										
Men	1.4		12.7 ^a	65.5 ^b		20.5 ^b	14.0	86.0	16.5	83.5
Women	1.4		16.9 ^a	68.8 ^b		12.9 ^b	18.3	81.7		
Forgetting things										
Men		12.7	26.8 ^b	42.7 ^a	17.7 ^b		39.8	60.2	44.7	55.3
Women		11.6	36.7 ^b	35.7 ^a	16.0 ^b		48.3	51.7		
Enough time for doing needed things										
Men		11.8	49.5 ^b	28.2 ^a	10.5 ^a		61.1	38.9	59.5	40.5
Women		13.2	45.1 ^b	32.5 ^a	9.2 ^a		58.3	41.7		

^cOften total: responses merged for almost always/mighty often/quite often/often.

^dSeldom total: responses merged for not at all/almost never/mighty seldom/very seldom/seldom/sometimes.

Results

Health

An absolute majority of the young Sami felt healthy (95%), nearly all slept well (91%) and 9 out of 10 seldom had headaches (Table I). Positive feelings, that is being in a good mood, and looking forward with joy was reported by more than 90% and 8 out of 10 often felt calm and

relaxed. Negative feelings, that is sadness and depressiveness and irritability, was reported by 10–20%, but close to half of the group reported often having worries. The responses to questions referring to stress showed that only half of the young Sami (60%) had enough time for things they needed to do and likewise 45% often forgot things.

Finally, an absolute majority could, to a very high degree, appreciate to be with their family or friends

(85.5% often, 1.5% sometimes, 0.4% seldom, and 0.8% very seldom).

Health differences by sociodemographic factors

There were some gender differences in the health outcomes (Table II). Comparing men and women, men more often reported having a good health, and the odds of feeling healthy, sleeping well, and feeling calm and relaxed was 2–3 times higher in men. On the other hand, negative feelings were most common among women, who had a 2–3 times higher odds of being worried, sad and depressed or having headaches. There were no gender differences for the remaining health factors, or in appreciation of being with family members.

When comparing the young people living alone with those living together with others, the odds of feeling healthy, sleeping well and feeling calm was twice as high among persons who lived together with others while the odds of having negative feelings like worries and sadness was twice as high among persons who lived alone (Table II). None of the other studied health aspects differed by family situation.

Furthermore, there was no difference in health between reindeer herders compared with the rest of the group and no differences in health by educational level.

Level of enculturation and health

No enculturation was reported by 2%, low by 21%, medium by 30% and high enculturation by 47% of the young Sami. There were no differences in any of the studied health aspects by enculturation group.

Health outcome related to being badly treated because of Sami ethnicity

Half of the respondents had perceived bad treatment by others because of their Sami background (♂42%, ♀48%) and 25% had heard teachers saying something bad about the Sami or had been unfairly treated by a teacher due to their Sami background (♂23%, ♀27%). These experiences were equally common in men and women.

Comparing young Sami with and without experiences of bad treatment, it was found more common to be irritated and worried and less common to feel calm and relaxed and to have enough time for doing needed things among the young Sami who had perceived bad treatment by others (Table III). Among those who had been treated badly by teachers, it was also more common to feel sad and depressed and to be worried, and furthermore less common to be calm and relaxed and have enough time for needed things.

After adjusting for gender, enculturation, occupation and family situation, these findings sustained for 3 health aspects (Table III). Those experiencing bad treatment by others were less prone to feel calm (OR: 0.45; 95% CI 0.27–0.74) and more prone to have worries (OR; 2.00;

95% CI 1.33–3.01). Furthermore, those who had perceived bad treatment by teacher more often felt sad and depressed (OR: 1.74; 95% CI 1.01–2.99).

Discussion

A majority of the young people in this study had a rather good health but close to half of the group reported often having worries and often forgetting things, while nearly 40% often experienced lack of time. Women and those living alone were more likely to report a more negative health. Furthermore, perceiving bad treatment because of Sami ethnicity was negatively associated with some aspects of health.

Health in young Sami

Compared to a national random sample of 16–24 year-old Swedes living in the north, the young Sami in the current study seemed to have a slightly more positive health (33). In the national study, region north, 85% of the men and 77% of the women reported good or very good health, whereas 98% and 94% respectively often or very often felt healthy in the present study. With regard to physical health, the national study reported that 18% of the men and 36% of the women had light or severe headaches or migraine, while only 5% of the Sami men' and 13% of the Sami women in the present study often or very often had headaches. Sleeping difficulties was reported by 16% of the men and 22% of the women in the national study compared to 5% (men) and 13% (women) in the present study. However, half of the young Sami reported often having worries (men 30%, women 53%), while in the national study 23% of the men and 40% of the women reported worries. Furthermore, in the national study 6% (men) and 20% (women) felt much or rather much stressed, while the 2 questions referring to stress in the present study showed that 40% of the men and 50% of the women often forgot things, and additionally, 39% of the men and 42% of the women reported often having lack of time. The above differences may be due to different ways of posing the questions and response alternatives in the 2 studies, but overall the young Sami seemed to have a slightly better physical health but slightly worse health considering worries and stress, than what is generally seen among young persons in Sweden.

The slightly better physical health in this Sami population may also be explained by some protecting factors increasing well-being, for example they were to a very high degree active, were in employment and had very few drop outs from school.

Differences in health by sociodemographic factors

In this study we have assessed associations between health and sociodemographic variables, that is gender, occupation, education and family situation. At the end it became clear that health only differed by gender and

Table II. Health by gender and family situation in 18–28 year-old Sami in Sweden (gender available for 515, family situation for 507)

	Healthy often/almost always		Sleeping well often/ almost always		Headache quite often/ mighty often		Sad/depressed often/ mighty often		Calm/relaxed often/ Mighty often		Worried often/mighty often	
	%	OR (95% CI)	%	OR (95% CI)	%	OR (95% CI)	%	OR (95% CI)	%	OR (95% CI)	%	OR (95% CI)
Gender												
Men	97.7	1	95.5	1	4.5	1	10.0	1	87.3	1	30.0	1
Women	93.5	0.33 (0.12–0.91)*	87.1	0.32 (0.16–0.66)**	13.2	3.21 (1.57–6.60)**	23.8	2.83 (1.69–4.73)***	75.9	0.46 (0.28–0.74)***	53.4	2.67 (1.85–3.87)***
Family situation												
Alone	91.6	1	84.0	1	5.9	1	25.2	1	71.4	1	52.9	1
With others	96.4	2.45 (1.06–5.67)*	93.3	2.65 (1.41–4.99)**	10.8	1.94 (0.85–4.43)	15.2	0.53 (0.32–0.88)*	83.3	1.99 (1.23–3.21)**	40.3	0.60 (0.40–0.91)*

OR, odds ratio; CI, confidence interval.

*p < 0.05, **p < 0.01, ***p < 0.001.

Table III. Association between health and perceived bad treatment due to Sami ethnicity in 18–28 old Sami in Sweden (n=491)

	Calm/relaxed often-T		Irritated often-T		Enough time often-T		Worrying often-T		Sad/depressed often-T	
	uOR (95% CI)	aOR (95% CI)	uOR (95% CI)	aOR (95% CI)	uOR (95% CI)	aOR (95% CI)	uOR (95% CI)	aOR (95% CI)	uOR (95% CI)	aOR (95% CI)
Bad treatment by others										
No	1	1	1	1	1	1	1	1	1	1
Yes	0.42 (0.27–0.66)***	0.45 (0.27–0.74)**	1.77 (1.10–2.84)*	1.51 (0.90–2.57)	0.67 (0.47–0.96)*	0.77 (0.52–1.15)	2.04 (1.42–2.99)***	2.00 (1.33–3.01)**	1.23 (0.78–1.93)	0.89 (0.52–1.50)
Bad treatment by teacher										
No	1	1	1	1	1	1	1	1	1	1
Yes	0.62 (0.40–0.99)*	0.90 (0.54–1.52)	1.61 (0.99–2.63)	1.36 (0.79–2.34)	0.60 (0.41–0.88)**	0.68 (0.44–1.05)	1.67 (1.13–2.45)**	1.31 (0.84–2.04)	1.79 (1.12–2.87)*	1.74 (1.01–2.99)*

Often T: responses merged for almost always/mighty often/quite often/often, uOR, unadjusted Odds ratio; aOR, odds ratio adjusted for gender, family situation, enculturation level and occupation; CI, confidence interval.

*p < 0.05, **p < 0.01, ***p < 0.001.

family situation. The less positive feelings and more negative feelings seen in young Sami women compared to young Sami men is in concordance with what has been seen in many other populations (9,34,35). It is not easy to understand these gender differences but the phenomenon has been explained as a higher vulnerability among women, both genetically and by personality characteristic, that is more rumination and negative cognitive style in women, and earlier pubertal development in combination with greater numbers of social and biological challenges facing girls in early adolescences. However, these gender differences may also be interpreted in another way. We believe that the affective/cognitive style in women may be more “pre-acting” and in men more “acting out”, that is women more often than men perceive, code, and interpret feelings, thoughts and experiences and then communicate them. Communicating negative feelings and thoughts may be a protecting act helping to understand and regulate feelings and behaviours, thus, instead of interpreting the higher prevalence of negative feelings in women as vulnerability, it could be a strength helping women to solve conflict and adapt to different circumstances in order to “survive”. For instance, even if depression is twice as common in women, men more often commit suicide and, are more often involved in fatal accidents than women (36,37).

The higher rate of health complaints in persons who lived alone may be seen in light of the ages studied which varied from 18 to 28 years old. During this development stage one of the most important tasks is to find somebody to live with (38). If you are living alone and this is not an active choice it may be very distressing and potentially have negative influences on health aspects.

Earlier research concluded that indigenous worse health arises from general socioeconomic factors, that is: low income, low education, unemployment, living conditions, discrimination, childhood adversity/disadvantage, alcohol abuse, lack of social support and worse access to health service in combination with culturally and historically specific factors (39,40).

We know from earlier studies that the socioeconomic status does not differ between the Sami as a group compared to Swedes in general except for the reindeer herders with a number of reindeer herders suffering economic hardship (1). Nordin stated in her dissertation that the reindeer herders express reindeer herding as a way of living and not merely as an occupation, and it was very important to have possibilities to go on with this way of living despite the economic hardship (41). In our discussions with young Sami (2007) in the Saminuorra (the youth organization) it was confirmed that economic hardship could be distressing but even so the young people wanted to go on living as reindeer herders (14). Likewise in this study there were no significant differences

in health aspects between reindeer herders and the rest of this Sami group.

Moreover, the alcohol consumptions of the Sami are comparative with other Swedes (42,43). In these aspects the Sami population may have a better socioeconomic situation and living condition compared to many other indigenous populations (44). There are no indications in the communities that childhood adversity is common among the Sami. On the contrary research done by Javo in Norway about social competence and emotional/behavioural problems of 4-year-old children and a 7 years follow up when the children were 11–12 years old, found that the Sami children showed less problems compared to their Norwegian peers (reported by mothers and later on by teachers) (45). So socioeconomic status or childhood adversity are less likely to have major influence on the high degree of worries and stress reported by the young Sami in this study.

Ethnic identity (enculturation) and health

The young Sami in this study is maybe a very homogenous group considering ethnic identity because they were identified through registers and/or activities that need active consideration and choices about their ethnicity, that is listed in the electoral list of Sami parliament or as members of a Sami organization. This is mirrored by a high degree of enculturation, with only 2% reporting no enculturation according to the used index. We agree with Phinney (31) that individuals can have a strong ethnic identity without ethnic behaviour, so even the 2% with no enculturation could have a strong Sami identity. Another proof of the homogeneity of the group was that health outcomes did not differ between enculturation groups.

So we believe this strong Sami identity (i.e. participation in cultural activities, connectedness to the own ethnic group, pride and a strong feeling of meaningfulness) could be a safeguard having positive influence on mental health (14,29,46,47).

Differences in health related to experiences of being badly treated because of Sami background

This young Sami group experienced a disturbingly high degree of bad treatment because of their ethnicity. This experience was associated with a more negative well-being and may partly account for the higher level of worries and stress among this Sami population.

In concordance with current research, we believe that experience of discrimination, especially because it is unpredictable and uncontrollable, may be particularly harmful to health (25,48). Furthermore, Hansen and Sorlie found in their study looking at ethnic identity and psychological distress among Sami aged 36–79 in Norway, that discrimination was strongly associated with psychological distress and they suggest that discrimination based on ethnicity may be a serious health risk (49).

Another severe and distressing living situation could be that most people in Sweden are unaware about the Sami and their circumstances. Lack of knowledge could be a source of prejudice and misunderstanding which may partly explain the bad treatment. In a recent study, Omma et al. showed that young Sami people experienced a high degree of unawareness and prejudice about the Sami among Swedes. Also, Karlsson et al. investigated 63 ordinary school text books in history and social sciences (50). Half of them did not mention the Sami at all, and the rest gave a romantic and limited description about the Sami culture, this despite the Swedish school system being obligated by law to provide knowledge about the Sami culture. In our opinion the educational system have an extremely important role in teaching about Sami and their history, to make the Sami culture visible and understandable. Possibly a more solid knowledge about the Sami culture can decrease the bad treatment of the Sami's due to their ethnicity.

Strengths and limitations of the study

In Sweden most Sami are assimilated into society and it is generally not possible to identify who is Sami and who is not because there are no ethnical registers in Sweden (except for the reindeer herders who are registered in an occupational register). However, great efforts were put into identifying this Sami population and we succeeded in reaching a many young Sami who were active in numerous different Sami organizations/communities throughout Sweden. It is therefore reasonable to believe that the study population is representative of young Sami with an explicit Sami identity. It should be noticed, though, that due to problems reaching the young people, and young people being less likely to respond to questionnaires, the response rate was 59%. There was a gender difference between the dropouts and the participants, with more men in the dropout group (43% vs. 68%). Also, the dropouts were predominately from the very north of Sweden which is known to have higher rates of reindeer herders. Thus, the dropouts may be over-represented by reindeer herders who are predominately males. It should also be noted that, due to the data being cross-sectional we cannot say anything about the causality of the relationships reported on.

Conclusion

This group of young Sami had rather good health; however, this was less so in women and those living alone than in men and those living with others. Physical health in the young Sami may even be slightly better than in young Swedes in general. However, some aspects of mental health seemed worse in the young Sami, who reported a high degree of stress and worries. This may

partly be explained by the more negative health reported by those who had experienced negative societal treatments due to Sami ethnicity. It is important to highlight the negative health related to bad treatment. Effort should be put into counter acting ethnicity related ill-treatment targeting the young Sami population.

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