Aspects of quality of life, social capital, and mental health among Swedish reindeer-herding Sami

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Denna studie belyser aspekter på livskvalitet, psykisk hälsa och socialt kapital hos renskötande samer i norra Sverige. Ett frågeformulär distribuerades till medlemmar i 43 samebyar, genom ordföranden i varje sameby. En referensgrupp från stad och en från landsbygdsområden inom renskötselområdet besvarade samma formulär. Renskötande samer rapporterade signifikant lägre tillit till vårdpersonal, än bland referensgrupperna, de kände sig mer uppskattade i sin närmiljö och värdesatte sitt vardagliga liv högre. Renskötande samer i norra delen av området skattade sin psykiska hälsa signifikant bättre och hade en upplevelse av bättre möjligheter att hantera sina livsproblem än renskötande samer i södra delen av området.

This study explored some aspects of quality of life, mental health and social capital among reindeer-herding (RH) Sami in Sweden. A questionnaire was distributed by the chairman in the 43 Sami communities, to their members. One reference group from urban and one from rural areas in the core part of the RH area, also responded to the questionnaire. The RH Sami reported significantly lower trust in health care staff, than the reference groups, they also felt more appreciated in their domestic milieu and appreciated their daily life to a greater degree than the reference groups. RH Sami in the northern part reported significantly better mental health and higher ability to manage life compared to RH Sami in the south.

Introduction

Quality of life and social capital are concepts that have been widely used even in health sciences and are defined by the World Health Organization (WHO) as "An individual's perception of their position in life in the context of the culture and value systems in which they live and in relation to their goals, expectations, standards and concerns" (1). Social capital relates to the value of being part of social networks where the individual gets access to information, knowledge, and social or material support. Social capital is a concept developed by the sociologist Pierre Bourdieu (2), and there are now a number of studies indicating a correlation between social capital and health, including mental health and even suicide (3).

The Sami in northern Sweden, Norway, and Finland and on the Kola peninsula in Russia are recognized as an indigenous people. The traditional Sami culture might be described as a collectivistic culture compared to the Swedish majority culture, which is the most individualistic according to the World Value Survey (4). The extended family is regarded as important among the Sami, and the Sami social network is thus very well developed (5). Reindeer herding is perceived to be the basis for the Sami culture (6), and reindeer herding takes place in the four northernmost regions in Sweden and is organised into Sami communities (*samebyar*). We have chosen to use the term Sami community instead of Sami village, which indicates a specific geographic locality. Sami community is more appropriate for an indigenous people that practice transhumance over vast areas. A Sami community consists of a number of reindeer herding families who have been allocated a certain geographical area where they can conduct their reindeer herding enterprise. There are 43 Sami communities from the very north of Sweden to Idre in Dalarna, in the south. In the northern part of Sapmi there are also eight rather small reindeer herding communities (known as "concessions *samebyar*") where the reindeer owners usually are not Sami. The reindeer herding area can be as wide as from the Norwegian border to the Baltic Sea (500 km). The number of persons belonging to the Sami communities is about 3,000 individuals. Members of a Sami community also have hunting and fishing rights in the parts of the reindeer herding area considered to be state land. The majority of Sami, however, do not belong to a Sami community and do not have the same kind of rights as the reindeer herding group. Because there are no ethnic registers in Sweden, there are no reliable data about the total number of Sami in Sweden but depending on how being Sami is defined it might be between 20 000 and 40 000 individuals (7, 8). However, only 9 226 were registered in the electoral list of the Sami parliament in 2020 (9).

Knowledge about the health of Swedish Sami is very limited, not least because of the problem of identifying who is a Sami. However, there are some studies

about the mental health of reindeer herding Sami (RH Sami), as well as some other health aspects such as the occurrence of cancer (10). The Chernobyl catastrophe in 1986 caused the spread of radioactive material onto the reindeer herding areas. Other ailments and disorders related to the special situation of reindeer herding are the harmful effects of cold weather and the vibrations of the motorised vehicles used in reindeer herding. The health of the Swedish Sami has been summarised in a book commissioned by the Swedish Sami Parliament as well as by Axelsson and Mienna (11, 12). The risk of suicide is also somewhat increased among reindeer herding males compared to other Swedish males in the same geographic area (13). There are also some studies indicating higher levels of anxiety and depression symptoms among RH Sami compared to other Swedes in the same area (14).

In 2010 the Swedish National Institute of Public Health presented a report on the health of the Swedish minority populations, which includes the Sami. The reindeer herding groups of the Sami were found to have lower quality of life (15, 16), and Jacobsson reported in 2012 on the strained living conditions among RH Sami (17).

Abrahamsson et al. presented a study in 2013 on the sense of coherence among RH Sami, other Sami, and a reference group consisting of a Swedish non-Sami population and found that the reindeer herders had significantly lower sense of coherence than others Sami and the majority population (18). Gerdner and Carlson using the same dataset reported in 2020 that members of Sami communities had weaker finances, less societal trust, and lower overall health compared to other Sami (19). The weaker finances among the reindeer herders were earlier confirmed by Sjölander et al. already in 2008 (20).

There is a long history of discrimination and economic disadvantages among the Sami compared to the majority population in the area as well as conflicts about reindeer herding conditions because of a growing number of factors decreasing the available grazing land for the reindeer. Modern forestry, the exploitation of most of the big rivers by waterpower plants, the expansion of the mining industry, and more recently a great number of windmill parks all have reduced the available grazing land. In addition to this has come a change in predator policy with an increased number of bears, wolves, lynx, wolverines, and eagles that all take a considerable part of the reindeer herd, especially calves. Climate change has also had a great impact on the possibilities to feed the reindeer (21). Furthermore, the reindeer herders often have had to go to court to protect their interests, and they have little to say about national and regional decisions made by governmental authorities and large industrial complexes (22).

There are apparent differences between the RH Sami living and working in the northern part of Sapmi (Norrbotten) and those living in the southern part

(Västerbotten, Jämtland/Härjedalen/Dalarna). There are more reindeer herding families in the north compared to in the south where the RH Sami communities have smaller numbers of members (www.sametinget.se). In the south the grazing land has been reduced because of all the factors mentioned above, as well as because of court decisions regarding grazing land. The minority position is more obvious in the southern parts than in the north. Therefore, it would be of interest to compare the two groups of reindeer herders concerning social capital, mental health, and quality of life as we have defined it in this study.

The aim of this study was to increase our knowledge about living conditions in the RH Sami population, especially between RH Sami in the north compared to RH Sami in the south, with a focus on quality of life, social capital, and mental health using a dataset collected originally to study mental health issues among reindeer herders (14).

Methods

A questionnaire with questions about psychosocial and mental health issues was sent in 2007 to the chairpersons in 43 Sami communities for distribution to their members and to a random selection of the majority population in the same geographical area. The eight concession Sami communities were excluded. After comprehensive discussions about the best way to get in contact with the reindeer herder group, finally the chairpersons in the Sami communities were asked to distribute the questionnaire to members of the communities aged 18–75 years. A total of 640 questionnaires were distributed, and 351 were returned (54.8% response rate). The major results of this study are published in two PhD theses (14, 23).

The reference group consisted of 2 000 randomly chosen persons 18–75 years of age divided into an urban group (Umeå, Luleå, and Östersund) and a rural group from eight different communities with fewer than 1,000 inhabitants in the municipalities of Härjedalen, Krokom, Sorsele, and Jokkmokk, including half of which were women and half of which were men. From the urban area 679 persons responded, and from the rural area 714 responded (67% and 69% response rates, respectively). The respondents in the control group indicating that they were Sami were excluded in the data analysis.

The questions we considered in this study were those measuring aspects of quality of life, social capital, mental health, and views on the future. Five questions concerned quality of life, experiences of happiness and optimism, satisfaction with life, and the meaning of life. There were two questions asking if they wanted to change their life in the future or to continue living mostly as they live today. Two questions were used to measure social capital, with one measuring trust in friends, family, clergy, social services, health care staff in primary care

and in psychiatry, work colleagues, and others and one concerning the perception of feeling important as a person both within the family and outside the domestic sphere. Mental health was represented by two questions related to depression and two questions related to anxiety from the Hospital Anxiety and Depression Scale (24).

Statistical methods

Chi^2 tests were used to compare differences between groups with nominal and categorical variables. T-tests were used to compare ages between the groups. A p-value <0.05 was considered significant.

Ethical considerations

The project was approved by the regional Research Ethics Board in Umeå (Dnr 06-007N§21/06). Research involving Sami has a sad history in Sweden, mainly because of the studies once made by the Swedish Institute for Racial Biology. These included nude photographs and skull measurements seeking to prove that the Sami were an inferior race compared to Nordic persons. There has been an intense discussion in indigenous circles around the world about research ethics among indigenous peoples, and this is well described by Anna Lill Drugge (25). Many indigenous peoples have developed special ethical guidelines for research, e.g. the guidelines for Sami health research suggested by a committee established by the Sami Parliament of Norway (26). The current project was developed in close cooperation with a major Sami interest group (about reindeer herding) in Sweden (Svenska Samernas Riksförbund, SSR), which suggested that we should approach the chairperson of each Sami community for their cooperation instead of sending the questionnaire by post to individual members. Another possible organization to approach would have been the Swedish Sami Parliament, but at the time of this study health issues were not on their agenda.

Results

Comparisons between the three study groups are presented in Table 1. More males than females responded in the RH Sami group compared to both reference groups. The mean age was higher in the rural group. The RH Sami group had a higher educational level than the rural group, but lower than the urban group. As regards household status, there was a larger proportion living alone in the urban group compared to both the RH Sami group and the rural groups. Among the RH Sami group a larger proportion was also living with a partner and children and with their parents.

Social capital

The trust in health care staff was considerably lower among the RH Sami compared to the reference groups ("no trust at all" was reported by 25.7% in the Sami group compared to 10.7% and 12.1% in the rural and urban groups, respectively, $p < 0.001$). The confidence in psychiatric staff was even lower ("no trust at all" was reported by 28.4% in the RH Sami group compared to 23.0% and 17.2% in the rural and urban groups, respectively, $p < 0.001$). Trust in coworkers was also lowest in the RH Sami group ($p = 0.033$). The Sami group reported significantly higher appreciation in the domestic milieu compared to the other two groups, and 52% reported they felt very much appreciated at home compared to 39% in the two reference groups ($p = 0.003$) (Table 1).

Quality of life

A significantly greater proportion of the RH Sami and rural groups were satisfied with their daily life compared to the urban group ("most of the time" by 61.4% and 61.0% in the RH Sami and rural groups, respectively, compared to the urban group at 52.7%, $p = 0.003$). A greater proportion of the RH Sami also agreed that they could solve problems that others find insurmountable compared to the rural and the urban groups (45.9 % vs. 38% and 33.5%, respectively, $p < 0.001$). A majority of the RH Sami (69.5%) and the rural groups (70.2%) wanted to continue to live the life they had compared to the urban group (61.5%), while a larger proportion in the urban group wanted to change their lives (38.5% vs. 30.5% among the Sami and 29.8% in the rural group, $p = 0.002$) (Table 1). On the question of how happy they perceive themselves, there were no significant differences between the three groups. A great majority in all three groups described themselves as rather or very happy (83.8%–87.6%) (Table 1). In the RH Sami group, however, significantly more often experienced that life was not worth living sometimes/often compared to the two reference groups (20.3% vs. 13.7/15.3%, $p = 0.022$).

Mental health

There were two questions about feeling tense, nervous, and restless (anxiety) and two questions about whether how often they felt in a good mood or felt that everything is dull (depressive symptoms). There was only one significant difference in that a greater proportion of the RH Sami felt tense or wound up compared to respondents from the other two groups (Table 1).

Table 1. The total number, mean age, gender, education level, household status, and the variables of social capital, quality of life, and mental health among RH Sami and the reference groups and the calculated p-values (Chi^2 test).

	RH Sami (n = 334)	Rural (n = 686)	Urban (n = 668)	*p*
Age in years, mean (SD)	46.6 (14.9)	53.5 (14.8)	46.4 (16.1)	0.001
Males (%)	55.0	46.8	48.0	0.004
Education (%)				0.001
6–9 years	36.1	36.0	17.9	
10–12 years	38.7	45.9	45.4	
>14 years	25.2	18.1	36.7	
Household status %				0.001
Alone	18.2	15.8	23.6	
With partner	25.7	44.4	37.6	
With partner and children	43.6	30.0	28.4	
Alone with children	3.6	3.9	4.2	
With parents	7.5	3.7	3.0	
Other	1.4	2.2	3.2	
Social capital				
Trust in				ns
Relatives/close friends				
Not at all, %	2.0	0.7	1.5	
Rather small, %	5.3	5.1	4.7	
Quite large, %	28.5	25.5	23.6	
Very large, %	64.2	68.7	70.2	
Clergy				ns
Not at all, %	34,4	32,6	32,6	
Rather small, %	35,5	35,5	33,9	
Quite large, %	24,0	24,7	25,9	
Very large, %	6,1	7,2	7,6	
Social services				ns
Not at all, %	53,6	49,9	45,5	
Rather small, %	38,5	38,5	40,6	
Quite large, %	7,3	10,3	12,2	
Very large, %	0,6	1,3	1,7	
Healthcare staff				0,001
Not at all, %	25,7	10,7	12,1	
Rather small, %	37,3	25,5	35,9	
Quite large, %	29,4	51,4	40,7	
Very large, %	7,6	12,4	11,3	
Healthcare staff, psychiatry				0,001
Not at all, %	28,4	23,0	17,2	
Rather small, %	37,7	30,0	35,5	
Quite large, %	26,0	37,1	37,3	
Very large, %	7,9	9,9	10,0	
Co-workers				0,033
Not at all, %	17,4	16,3	16,1	
Rather small, %	35,1	24,7	27,7	
Quite large, %	35,4	43,3	41,4	
Very large, %	12,0	15,6	14,8	

Others				ns
Not at all, %	46,7	35,2	38,7	
Rather small, %	8,4	6,1	6,9	
Quite large, %	7,5	11,7	12,1	
Very large, %	37,4	46,9	42,2	
Rating experiences [1]				
Very much **in** the domestic sphere (7) %	52,4	39,3	38,8	0,003
Very much **outside** the domestic sphere (7) %	22,8	17,0	15,7	ns
Quality of life				
Feels that daily life is a source of personal satisfaction				0,003
Most of the time (%)	61,4	61,0	52,7	
Sometimes (%)	35,3	33,2	39,6	
No (%)	3,3	5,8	7,7	
Finding solutions to problems others see as insurmountable				0.000
Most of the time (%)	45,9	38,0	33,5	
Sometimes (%)	51,3	56,5	59,0	
No (%)	2,8	5,5	7,4	
Describes themselves as				ns
Very happy (%)	28,2	24,6	25,2	
Rather happy (%)	59,4	62,5	58,6	
Not particularly happy (%)	8,6	8,0	12,2	
Not at all happy (%)	1,7	1,8	1,5	
Do not know (%)	2,2	3,1	2,6	
Feels that life is not worth living				0,022
Often (%)	2,5	2,1	2,6	
Sometimes (%)	17,8	11,6	12,7	
Almost never (%)	26,4	23,7	28,5	
Never (%)	53,3	62,6	56,2	
Want to change my life (%)	30,5	29,8	38,5	0,002
Mental health				
Feeling tense or wound up				0.001
Mostly (%)	3,9	2,2	2,6	
Often (%)	10,8	6,5	8,7	
Now and then (%)	45,6	38,1	43,9	
Not at all (%)	39,8	53,2	44,8	
Feeling in a good mood				ns
Mostly (%)	65,9	73,5	68,6	
Sometimes (%)	28,5	20,8	23,9	
Rarely (%)	5,0	5,1	6,5	
Never (%)	0,6	0,6	1,1	

Feeling sluggish				ns
Almost always (%)	3,0	2,2	3,2	
Often (%)	13,5	10,4	10,8	
Sometimes (%)	71,5	69,0	71,9	
Never (%)	11,9	18,4	14,1	
Feeling restless				ns
Very often (%)	6,1	3,7	4,2	
Quite often (%)	23,5	19,0	20,6	
Rarely (%)	44,5	48,1	49,4	
Not at all (%)	26,0	29,3	25,8	

1.The rating is 1–7, (1 = not at all to 7 = very much

Gender differences

Gender differences in the three groups are presented in Table 2. As regards educational level, females had a higher formal education than males in the RH Sami and in the rural group. Regarding the questions of trust in social capital, there were only two significant gender differences in that a larger proportion of RH Sami and urban females reported greater trust in relatives and friends than the males. Also, rural men had lower trust in clergy than rural women. For all other questions there were no significant differences between males and females in the three groups.

According to quality of life, a significantly larger proportion of rural women reported they wanted to change their lives compared to rural men (p = 0.045) and also that they feel life is not worth living (p = 0.011). As regards the questions about mental health, there were no significant gender differences in the RH Sami group while rural and urban women more often reported mental health problems compared to rural and urban men (Table 2).

Table 2. The total number, mean age, and the proportion of education level, household status, and the variables of social capital, quality of life, and mental health in men and women among the RH Sami and the reference groups and the calculated p-values (Chi^2 test).

	RH Sami (n = 334)		*p*	Rural (n = 686)		*p*	Urban (n = 668)		*p*
	Men	Women		Men	Women		Men	Women	
Age in years, mean (SD)	46.9 (14.5)	45.3 (15.6)	ns	53.9 (14.8)	53.3 (14.7)	ns	46.5 (16.04)	46.3 (16.14)	ns
Education (%)			0.000			0.000			ns
6–9 years	50.0	18.8		41.8	31.5		19.6	16.9	
10–12 years	39.6	38.3		45.5	45.6		47.2	43.0	
>14 years	10.4	43.0		12.7	22.9		33.2	40.1	
Household status %			ns			ns			ns
Alone	18.5	19.0		16.5	15.1		22.9	24.3	
With partner	21.2	30.6		41.4	46.6		39.0	36.0	
With partner and children	49.5	37.4		31.2	29.6		27.9	29.4	
Alone with children	2.2	4.1		3.3	4.8		3.4	4.9	
With parents	7.1	7.5		5.4	1.9		3.1	2.9	
Other	1.6	1.4		2.1	2.1		3.7	2.6	
Social capital									
Trust in			0.044			ns			0.009
Relatives/close friends									
Not at all, %	2.2	2.0		0.6	0.8		1.6	1.7	
Rather small, %	4.4	6.7		5.5	4.6		6.6	2.9	
Quite large, %	31.5	18.1		29.1	22.4		27.5	20.1	
Very large, %	61.9	73.2		64.7	72.2		64.4	75.3	
Clergy			ns			0.013			ns
Not at all, %	35.6	36.1		36.8	28.7		31.5	33.7	
Rather small, %	31.0	34.7		36.8	33.7		33.4	33.7	
Quite large, %	25.9	23.6		19.5	29.9		25.5	26.6	
Very large, %	7.5	5.6		6.8	7.6		9.6	5.9	
Social services			ns			ns			ns
Not at all, %	55.8	55.9		49.4	50.6		45.5	45.2	
Rather small, %	36.0	35.0		39.5	37.1		42.0	38.9	
Quite large, %	7.6	8.4		10.1	10.9		10.5	14.4	
Very large, %	0.6	0.7		1.0	1.5		1.9	1.5	
Healthcare staff			ns			ns			ns
Not at all, %	22.4	22.6		12.0	9.4		13.0	11.2	
Rather small, %	37.6	40.4		25.9	25.9		34.5	37.0	
Quite large, %	32.4	28.8		49.8	52.3		39.6	42.3	
Very large, %	7.6	8.2		12.3	12.5		13.0	9.5	
Healthcare staff, psychiatry			ns			ns			ns
Not at all, %	27.8	31.0		26.6	20.4		18.3	16.3	
Rather small, %	38.5	31.0		29.9	30.0		37.6	32.9	
Quite large, %	27.2	27.6		34.1	39.3		33.8	41.2	
Very large, %	6.5	10.3		9.4	10.2		10.3	9.5	
Co-workers			ns			ns			ns
Not at all, %	14.3	21.9		13.9	18.6		14.9	17.6	
Rather small, %	33.9	29.9		27.2	21.8		31.8	23.9	
Quite large, %	38.1	35.8		44.9	42.0		41.1	41.2	
Very large, %	13.7	12.4		13.9	17.6		12.3	17.3	
Others			ns			ns			ns
Not at all, %	54.5	39.1		37.9	33.3		44.8	33.7	
Rather small, %	9.1	6.5		6.3	5.6		9.2	4.5	
Quite large, %	7.3	8.7		10.5	12.0		8.0	15.7	
Very large, %	29.1	45.7		45.3	49.1		37.9	46.1	
Rating experiences [1]									
Very much **in** the domestic sphere (7) %	50.8	51.0	ns	37.6	41.5	ns	12.3	18.9	ns
Very much **outside** the domestic sphere (7) %	18.7	22.3	ns	15.8	18.2	ns	39.7	38.3	ns

Quality of life									
Feels that daily life is a source of personal satisfaction			ns			ns			ns
Most of the time (%)	62.8	55.4		62.2	59.8		50.0	55.5	
Sometimes (%)	33.3	41.9		32.0	34.9		42.0	36.8	
No (%)	3.8	2.7		5.7	5.4		8.0	7.8	
Finding solutions to problems others see as insurmountable			ns			ns			ns
Most of the time (%)	38.9	49.3		39.6	36.6		34.6	32.9	
Sometimes (%)	58.3	48.0		55.8	57.5		58.9	59.0	
No (%)	2.8	2.7		4.6	5.9		6.5	8.1	
Describes themselves as			ns			ns			ns
Very happy (%)	24.0	28.7		22.8	27.4		21.7	28.7	
Rather happy (%)	61.2	61.3		64.0	60.2		61.0	55.6	
Not particularly happy (%)	8.7	8.0		8.1	8.1		12.7	12.0	
Not at all happy (%)	1.6	2.0		1.5	1.9		2.2	1.1	
Do not know (%)	4.4	0.0		3.6	2.4		2.5	2.6	
Feels that life is not worth living			ns			0.011			ns
Often (%)	2.2	2.7		1.8	2.1		2.2	3.2	
Sometimes (%)	19.2	16.8		7.9	14.7		10.6	14.9	
Almost never (%)	28.0	26.2		21.8	25.1		27.2	28.9	
Never (%)	50.5	54.4		68.6	58.1		59.5	53.0	
Want to change my life (%)	30.3	33.3	ns	25.5	32.4	0.045	37.5	39.7	ns
Mental health									
Feeling tense or wound up			ns			0.047			ns
Mostly (%)	3.3	5.3		1.8	2.4		2.8	2.9	
Often (%)	11.5	9.3		5.5	6.9		7.7	9.4	
Now and then (%)	49.2	44.0		33.3	41.9		42.1	45.1	
Not at all (%)	36.1	41.3		59.4	48.8		47.4	42.6	
Feeling in a good mood			ns			0.047			ns
Mostly (%)	63.2	65.3		72.0	74.5		67.7	69.3	
Sometimes (%)	30.2	29.3		22.9	19.1		24.9	22.9	
Rarely (%)	5.5	5.3		3.9	6.4		6.2	6.6	
Never (%)	1.1	0.0		1.2	0.0		1.2	1.1	
Feeling sluggish			ns			ns			0.032
Almost always (%)	3.3	2.7		1.5	2.6		3.1	3.2	
Often (%)	14.8	13.3		9.7	10.8		9.2	12.6	
Sometimes (%)	69.9	78.7		67.6	71.2		69.2	73.4	
Never (%)	12.0	5.3		21.2	15.3		18.5	10.9	
Feeling restless			ns			ns			0.047
Very often (%)	4.4	8.7		4.5	2.7		4.3	4.6	
Quite often (%)	25.1	23.3		18.4	19.4		18.5	22.0	
Rarely (%)	47.0	44.0		48.0	47.3		54.6	44.0	
Not at all (%)	23.5	24.0		29.0	30.6		22.5	29.4	

1.The rating is 1–7, (1 = not at all to 7 = very much)

Regional and gender differences in the RH Sami group

There were more males responding among the northern RH Sami than in the southern RH Sami group, and the mean age was also higher among the northern RH Sami (Table 3). There were no significant differences between the two groups with regards to education, household status, perception of how important one perceives him/herself in the family and outside the family, or trust in relatives and friends, social services, and health care staff. However, there was a higher proportion of RH Sami in the south who had no trust at all

in clergy compared to RH Sami in the north. With regards to quality of life, the northern RH Sami reported more often finding solutions to problems (*p* = 0.020). Also, approximately 40% of the RH Sami in the south wanted to change their life compared to only 25% of the Sami in the north (Table 3). With regards to mental health, the northern RH Sami group experienced themselves as mostly being in a good mood and not feeling dull compared to the southern RH Sami group (Table 3).

Table 3. The total number, mean age, and proportion of gender, education level, household status, and the variables of social capital, quality of life, and mental health among RH Sami in the north compared to RH in the south of the same core area in Sweden and the calculated p-values (Chi^2-test).

	North RH Sami (n = 213)	South RH Sami (n = 141)	*p*
Age in years, mean (SD)	47.9 (14.3)	43.4 (14.0)	0.007
Males (%)	55.3	49.6	ns
Education (%)			ns
6–9 years	37.0	32.4	
10–12 years	36.1	43.9	
>14 years	26.9	23.7	
Household status %			ns
Alone	18.6	15.8	
With partner	24.8	25.2	
With partner and children	45.7	44.6	
Alone with children	2.4	4.3	
With parents	7.6	7.9	
Other	1.0	2.2	
Social capital			
Trust in			ns
Relatives/close friends			
Not at all, %	2.9	0.0	
Rather small, %	5.8	5.1	
Quite large, %	27.4	28.3	
Very large, %	63.9	66.7	
Clergy			0.038
Not at all, %	31.3	38.5	
Rather small, %	36.8	37.8	
Quite large, %	26.9	14.8	
Very large, %	5.0	8.9	

Social services			ns
Not at all, %	52.2	56.1	
Rather small, %	39.8	37.1	
Quite large, %	7.0	6.1	
Very large, %	1.0	0.8	
Healthcare staff			ns
Not at all, %	30.0	21.5	
Rather small, %	35.0	42.3	
Quite large, %	26.1	31.5	
Very large, %	8.9	4.6	
Healthcare staff, psychiatry			ns
Not at all, %	29.4	23.5	
Rather small, %	39.8	40.2	
Quite large, %	23.4	28.0	
Very large, %	7.5	8.3	
Co-workers			ns
Not at all, %	16.5	16.7	
Rather small, %	36.5	38.1	
Quite large, %	33.5	37.3	
Very large, %	13.5	7.9	
Others			ns
Not at all, %	54.1	34.1	
Rather small, %	8.2	9.8	
Quite large, %	9.8	4.9	
Very large, %	27.9	51.2	
Rating experiences [1]			
Very much **in** the domestic sphere (7) %	54.3	50.0	ns
Very much **outside** the domestic sphere (7) %	26.2	18.6	ns
Quality of life			
Feels that daily life is a source of personal satisfaction			ns
Most of the time (%)	67.5	56.8	
Sometimes (%)	30.2	38.8	
No (%)	2.4	4.3	
Finding solutions to problems others see as insurmountable			0.020
Most of the time (%)	51.7	37.9	
Sometimes (%)	45.9	56.4	
No (%)	2.4	5.7	

Describes themselves as			ns
Very happy (%)	29.7	25.5	
Rather happy (%)	59.4	62.4	
Not particularly happy (%)	6.6	9.2	
Not at all happy (%)	1.9	0.7	
Do not know (%)	2.4	2.1	
Feels that life is not worth living			ns
Often (%)	2.4	2.1	
Sometimes (%)	15.6	23.4	
Almost never (%)	25.6	30.5	
Never (%)	56.4	44.0	
Want to change my life (%)	24.8	40.3	0.002
Mental health			
Feeling tense or wound up			ns
Mostly (%)	3.8	2.8	
Often (%)	9.9	14.2	
Now and then (%)	44.3	51.1	
Not at all (%)	42.0	31.9	
Feeling in a good mood			0.030
Mostly (%)	71.1	59.6	
Sometimes (%)	23.2	36.2	
Rarely (%)	5.7	3.5	
Never (%)	0	0.7	
Feeling sluggish			0.002
Almost always (%)	1.9	5.0	
Often (%)	11.8	14.9	
Sometimes (%)	69.3	75.9	
Never (%)	17.0	4.3	
Feeling restless			ns
Very often (%)	4.7	7.1	
Quite often (%)	20.8	29.1	
Rarely (%)	44.8	45.4	
Not at all (%)	29.7	18.4	

1. The rating is 1–7, (1 = not at all to 7 = very much)

As regards gender differences in both the northern and southern RH Sami groups, there were only significant differences with regards to education, with a larger proportion of women having a higher formal education than the men. For the questions of quality of life, social capital, and mental health, there was only one significant difference. Women in the southern RH Sami group reported higher trust in relatives and close friends than the men, but still for both genders more than 90% stated that their trust in relatives and close friends was quite/very high.

Discussion

The RH Sami have a higher educational level than the majority population living in the rural areas, but lower than the majority people living in urban areas, and this is because of the high educational level of the RH Sami women. The RH Sami also have a significantly lower trust in health care personal and psychiatric staff, which indicates problems in contacts with health care. We know from interviews with the RH Sami that this does indeed lead to problems, and the RH Sami are often reluctant to ask for help (17, 23).

The importance of the family in the RH Sami group might be illustrated by the fact that significantly more RH Sami felt that they are important in their homes compared to the reference groups (52% vs. 39%, $p = 0.003$). This is also confirmed in a new study where important aspects of end of life are highlighted among RH Sami in Sweden (5).

It is also interesting to considering that the reindeer herding is not just an occupation, but a lifestyle and the hardships the reindeer herding families experience, they still reported higher levels of satisfaction with their daily life compared to the urban group ($p = 0.003$). A larger proportion of the RH Sami also reported that they usually find solutions to problems that others might find difficult compared to the rural and urban groups (45.9% vs. 33.8%–38%, respectively, $p < 0.001$). This might indicate that the RH Sami are used to solving problems all the time and still feel satisfied with their life. It is often said that reindeer herding is not just an occupation, but a lifestyle. As reindeer herding is a very central element of the core Sami culture and identity continuing reindeer herding is also seen as defending the Sami culture and identity. It gives reindeer herding a value and importance above the personal interest (5,17).

It is also interesting in this context that a larger proportion of the RH Sami reported that life is not worth living compared to the other groups ($p = 0.022$), yet they were not prone to wanting to change their lives compared to the urban group ($p = 0.002$). Another indication of the strained life situation is that a greater proportion of the RH Sami felt tense and nervous compared to the two reference groups ($p = 0.01$). Altogether, this gives a complex picture of the RH Sami in comparison with the two majority groups.

With regards to differences between RH Sami living in the northern part of Sweden compared to the southern part, the RH Sami in the north more often found solutions to problems, they were more often in good mood, and they less often felt dull. The RH Sami in the south, on the other hand, more often wanted to change their life. This is well in line with findings in the study by Gerdner & Carlson (19). We think that all together this indicates that living conditions for the Sami are experienced more positively in the north than in the south of Sapmi. It is interesting that in the north a larger proportion of the herders still have trust in the church/clergy, which might be an indication of the importance of the Laestadian influence that is still rather strong in the north.

With regards to gender differences in the RH Sami group, the only highly significant difference was in terms of education. A larger proportion of females in the RH Sami had higher education, with 43% having 14 years or more at school compared to 10.4% among the males. RH Sami women from the south also had more trust in relatives and close friends than the men. Otherwise, there were no differences regarding any of the other variables related to social support, quality of life, or mental health. In this sense, females and males seem to be quite equal. We know from other studies, however, that there are great differences with regards to gender roles in the more specific reindeer herding work. The females reported less social support and less appreciation, help, and reward from their work colleagues. Females have also reported less participation in decision making with regards to the specific reindeer work (27). On the other hand, the highly educated females are often employed in the majority society and are responsible for the family life. They also usually have a stable income compared to the very insecure income from reindeer herding, and this makes their role central and important for the sustainability of the reindeer herding enterprise.

Implications

There are two obvious findings that should be approached by the Sami community and the regional and national authorities. The low trust in health care needs to be dealt with and recently the government has allocated money to the regional health authorities in the north to improve the services for Sami. The regional health authorities in Norrbotten, Västerbotten, Jämtland/Härjedalen and Dalarna has started to explore ways to improve services. One example is educational programmes about Sami culture to enhance the cultural competence of the health care staff. Another area of concern is the differences in living and working conditions for the RH Sami in the south compared to the northern part of Sapmi. This is a more complex issue but is basically a matter of the rights of the Sami as an indigenous people that should be respected.

Limitations

There are some obvious limitations of our study. We wanted to use some data from our study on mental health in the RH Sami group to highlight their living conditions, but there is a problem in how to get in contact with members of the reindeer herding communities. We had lengthy discussions with representatives of these communities and ended up contacting the chairpersons of every community to distribute the questionnaires. We got a response rate that is reasonably satisfactory compared to most other studies among RH Sami conducted in Norway and Sweden. We also got the highest number of respondents from the RH Sami in studies performed up to now (344 individuals, with almost equal numbers of males and females, which is also positive. For example, Abrahamsson et al. and Gerdner et al. had 118 in their herder samples).

With regards to the analyses and regional differences, we chose to separate two groups, one northern group from Norrbotten county and one southern group from Västerbotten and Jämtland/Härjedalen and Dalarna counties. The number of respondents from Västerbotten and Jämtland/Härjedalen and Dalarna was too low to analyse separately. We are aware of the historical differences in Sami life between Västerbotten and Jämtland/Härjdalen/Dalarna, but we think these counties have more in common with regards to living conditions for the RH Sami than differences.

Another probably more important issue is the items we have chosen to illustrate quality of life, social capital, and mental health. None on them belong to established instruments to measure these concepts, but we think the items we had access to still illuminate some important aspects that warrant further studies.

Conclusions

We found a lot of similarities between the reindeer herding group and the majority population living in the same area with regards to perception of quality of life. Interestingly, a great majority in the herder group and the rural and urban reference groups described themselves as rather happy or very happy. However, in the RH Sami groups significantly more experienced that life was not worth living. The RH Sami also reported lower trust in health care staff. There were significant differences between RH living in the northern part of Sweden with regards to mental health, and they also more often reported finding solutions to problems compared to RH Sami in the south. The strained living situation among the RH Sami in the south is shown by approximately 40% of them wanting to change their life compared to 25% in the north. However, there were gender differences in the RH Sami group as well as differences in living conditions between the north and south that warrant further in-depth studies.

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