

Mental health problems among
the Swedish reindeer-herding
Sami population
in perspective of intersectionality,
organisational culture and acculturation

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Umeå 2011

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ISBN: 978-91-7459-235-1
ISSN: 0346-6612
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Elektronisk version tillgänglig på <http://umu.diva-portal.org/>
Printed by: Print & Media
Umeå, Sweden 2011

This thesis is dedicated to all of us who are living more limited than necessary because of norms and other social constructions.

“It could be different”.

LIST OF PUBLICATIONS

- I. Kaiser, N., Sjölander, P., Liljegren, A. E., Jacobsson, L., & Renberg, E. S. (2010). Depression and anxiety in the reindeer-herding Sami population of Sweden. *International Journal of Circumpolar Health*, 69(4), 383-393*
- II. Kaiser, N., Nordström, A., Jacobsson, L., Renberg, E.S., Hazardous drinking and drinking patterns among the reindeer-herding Sami population in Sweden. *Substance Use & Misuse*, 00:1-10, 2011)*
- III. Kaiser, N., Salander, E.S. Suicidal expressions among the Swedish reindeer-herding Sami population (Submitted)
- IV. Kaiser, N., Ruong, T. Renberg, E.S. Experiences of being a young male reindeer-herder: A qualitative study (Submitted)

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Abstract

Today the Sami population in Sweden is accepted as indigenous. Through the period of colonisation of traditional Sami land (called Sápmi, the northern part of Scandinavia and the Kola Peninsula), landowning rights were given to Swedish settlers and the Sami people were granted the right to herd reindeers and to hunt and fish. This meant that the area-specific Sami rights were given only to those Sami who were able to live on reindeer-herding at the time (1886), and all others were forced to leave reindeer-herding and be assimilated into the Swedish society, thereby losing their Sami privileges. Ever since, the Swedish reindeer-herding Sami have been considered as such to be bearers of the most important symbol of Sami culture, both as a way of living and as owners of legal rights. One might say that they are in a very exposed position in relation to the Swedish majority population, the Swedish Government and the Sami non-reindeer-herding population. Reindeer-herding management, which has also undergone tremendous change over the past 40 years, is now mostly carried out on motorcycles and snowmobiles, in a hazardous environment and under economically strained conditions that include several aggravating circumstances. All in all, the situation for reindeer-herding is prone to lead to mental health problems.

After contact from a Sami village which had experienced several suicides among young reindeer-herding men, the project in which this thesis is a part was started. The overall objective of the thesis was to investigate aspects of mental health among Swedish Sami reindeer-herders and to deepen the understanding of the experience of the living conditions of young Sami reindeer-herding men. To aid in the analysis, theories of intersectionality, organisational culture and acculturation were used.

A questionnaire covering different aspects of mental health was distributed to the Sami population, in close collaboration with the Sami villages, and also to a geographically matched reference group (urban and rural). The questionnaire included the following internationally well-used instruments: the Hospital Anxiety and Depression Scale (HADS), the Alcohol Use Disorder Identification Test, selected parts of the Attitudes Towards Suicide questionnaire (ATTS) and the Job Control Questionnaire (JCQ).

Reindeer-herding men reported the lowest level of formal education in the area, and reindeer-herding women reported the highest proportion of high education, reflecting the situation of modern reindeer-herding families, with one person being well-educated and contributing to economic stability in the family. This was interpreted as a gender-segregated situation, where reindeer-herding women have one foot in each culture and reindeer-herding men are more culturally separated, but both share the difficult responsibility for maintaining the reindeer-herding culture.

A general higher load of anxiety and depression was found in the Sami population, with differences most evident regarding anxiety. Stratified for gender and age the differences were most pronounced among middle aged (30-49 years of age) reindeer-herding men's high reports of symptoms of anxiety. In the reindeer-herding group, anxiety was strongly related to job strain. Regarding alcohol risk consumption, the results showed that reindeer-herding Sami do not in general drink more than a geographically matched control population, but reindeer-herding men reported a higher proportion of hazardous consumption than rural men, and reindeer-herding women reported a lower hazardous consumption than urban women. Reindeer-herding men reported the highest level of teetotallers and periodic drinkers. Factors associated with a higher level of hazardous consumption were depression for reindeer-herding men (and urban and rural living men) and anxiety for Sami women. Noteworthy is also that age was an important factor for both urban and rural living groups, but not in the reindeer-herding group. As for suicidal expressions, the reindeer-herding population reported significantly higher exposure to both suicide and suicidal behaviour among significant others. Both reindeer-herding women and especially reindeer-herding men reported a higher prevalence of different types of personal suicidal problems, particularly suicidal ideation. One out of three reindeer-herding men and women reported experience of having thoughts of committing suicide and one out of five had had actual plans.

A qualitative study was designed to explore experiences of being a young male reindeer-herder in Sweden and a total of 15 interviews were conducted with young reindeer-herding men. The interviews were analysed according to qualitative content analysis. The main theme that emerged was 'Being a young reindeer-herder means so many (impossible) dreams and conditions', and the five subthemes were 'Being inside or outside is a question of identity', 'There is a paradox between being free/unfree', 'An experience of different

threats and a feeling of powerlessness', 'Specific norms for how a 'real' reindeer-herder should be' and 'The different impacts and meanings of relations'.

The thesis shows that the reindeer-herding right, which is the border between reindeer-herding Sami and all other individuals, plays an important part when trying to understand the mental health problems in the group. It is a socially constructed institution that preserves a specific part of Sami culture, but it also excludes, includes and encloses individuals and basic assumptions of reindeer-herding and reindeer-herders in a mutually constructing process, and it is a construction with its origin in a historical acculturation process legislated by the Swedish Government and now currently influencing the intersectional distribution of access to both social and material resources defining ethnicity, gender and class as in ethnical hierarchy. The boundary is not possible to pass without consequences in access to unique Sami rights, for the individual reindeer-herder and for future generations.

As reindeer-herding is a specific life-form and lifestyle, rather than an occupation, this thesis also hypothesizes that the legal and social boundary is an element in the experienced distance to those who are not within it and especially important for reindeer-herders when the psychological pressure is vast. At present, the situation for reindeer-herders is strained, both for practical reasons like predator pressure, exploiting interests and difficult finances, and as a result of feelings of unfairness and of circumstances that feel impossible to influence. Furthermore there is a lack of social support, except from the closest part of the family, and experiences of multi-layered conflicts, all expressed as experiences of inner and outer pressure. This – together with norms that say that the reindeer-herder is a man who doesn't show weakness, has the 'right' interest, 'bites the bullet' and endures – plays a role in the present mental health problems of the Swedish reindeer-herding population. This applies especially to young and middle-aged reindeer-herding men.

This thesis does not have the answer or a proposal for how a just and fair system should be constructed regarding the legislated border surrounding reindeer-herding, or what the social norms of reindeer-herding should be. What can be put forth is that a system that organises and supports co-operation, equitably distributing opportunities and access to social and material resources for men and women would be a system that could promote mental health.

List of abbreviations

CI	Confidence interval
OR	Odds ratio
SPSS	Statistical package for the social science
WHO	World health organization
HADS	Hospital anxiety and depression scale
AUDIT	Alcohol use disorder identification test
JCQ	Job control questionnaire
ATTS	Attitudes towards suicide

Sammanfattning på svenska

Den samiska populationen är idag erkänd som ursprungsbefolkning i Sverige. Under koloniseringen av det som kom att bli den svenska delen av Sápmi (norra delen av Skandinavien och Kolahalvön) gavs rättigheter att äga land till svenska nybyggare, samtidigt som samerna gavs rätten till fiske, jakt och till att bruka landet för renskötsel. Syftet med denna lagstiftning var att skydda den samiska kulturen genom en policy om att "lapp ska vara lapp". Det som styrde vad som skulle skyddas var den svenska statens föreställning om vad som var betydande samisk kultur, vilket var just extensiv renskötsel med många renar. Detta var dock ingen självklarhet i det heterogena samiska samhället där det snarare var ärjemarkshusållning som var det brukliga, vilket innebar blandnäring och intensiv renskötsel. Därigenom gavs de specifika samiska rättigheterna endast till de som under denna tid (slutet av 1800-talet) kunde försörja sig på enbart renskötsel, och inte till de som av olika anledningar inte önskade leva under de omständigheter som svenska staten krävde av renskötarna. Detta har visats vara den mest centrala faktorn i utvecklingen mot att renskötarna idag är bärare av den starkaste samiska symbolen, både vad gäller legala rättigheter, livsstil och traditionell kunskap. Renskötande samer har därmed en särskilt exponerad position, både i relation till det svenska majoritetssamhället, till svenska staten och till de 90-95% av den samiska befolkningen som inte är renskötare. Den svenska renskötseln har också genomgått stora förändringar mot en motoriserad verksamhet som utförs med motorcykel och snöskoter och är idag ett av Sveriges mest farliga yrken vad gäller olycksfall.

När en sameby tog kontakt med forskargruppen efter att ha erfårit flera självmord bland renskötande yngre män, startades ett projekt vari denna avhandling är en del. Det övergripande syftet var att söka kunskap om olika aspekter av psykisk ohälsa bland svenska renskötande samer, och att fördjupa kunskaperna kring erfarenheter av att vara renskötare, särskilt bland yngre renskötande män. I analysen av de sammanlagda resultaten används tre sammanhörande teorier; intersektionell teori, teori kring organisationskultur och teori om ackulturation.

En enkät som täckte olika aspekter av psykisk hälsa distribuerades till den renskötande populationen i samarbete med samebyarna. Dessutom skickades motsvarande enkäter till geografiskt matchade referensgrupper. Huvudinstrumenten i studien var Hospital Anxiety and Depression Scale (HADS), Alcohol Use Disorder Identification

Test, utvalda delar av Attitudes Towards Suicide (ATTS) och Job Control Questionnaire (JCQ).

I jämförelse med stadsboende (urbana) och landsortsboende (rurala) norrlänningar visade information kring utbildning att renskötande män hade lägst formell utbildning, i kontrast till renskötande kvinnor som var den högst utbildade gruppen av alla. Dessa resultat är i linje med tidigare studier kring renskötande mäns och kvinnors olika uppgifter inom renskötseln, och som blir av betydelse för deras kultur-specifika relation i det svenska majoritetssamhället.

Generellt visade resultaten att det var vanligare med ångestsymtom och depressionssymtom inom den renskötande gruppen, och störst skillnad förelåg vad gällde ångest. Män, och särskilt de i åldersgruppen 30-49, visade på betydande högre förekomst av ångestsyndrom än urbana och rurala män i samma ålder. Den faktor som var starkt relaterad till ångest i denna grupp var arbetsrelaterad stress.

När det gäller riskbruk av alkohol visade resultaten att renskötare som grupp inte dricker mer än andra grupper. Renskötande män rapporterade dock högre förekomst av riskdrickande än ruralt boende män, men inte jämfört med män boende i urban miljö. Bland renskötande män fanns samtidigt den högsta andelen av både nykterister och personer med periodiskt drickande. Renskötande kvinnor rapporterade mindre förekomst av riskdrickande än urbant boende kvinnor.

Vad gäller suicidala uttryck rapporterade den renskötande gruppen mer erfarenhet av både självmord och självmordstankar hos personer i deras närhet. Renskötande män och kvinnor rapporterade också genomgående högre förekomst av egna självmordstankar och självmordsplaner. En av tre renskötande hade haft tankar på att ta sitt liv, och en av fem har någon gång planerat att begå självmord, mot en av fyra respektive en av tio i jämförelsegruppen.

En kvalitativ studie skapades för att undersöka erfarenheter av att vara ung renskötande man. Femton intervjuer genomfördes med renskötare män mellan 18-35 år. Männerna kom från olika delar av svenska Sápmi, från olika typer av samebyar och från Sydsamisk, Lulesamiskt och Nordsamiskt område. Intervjuerna analyserades enligt kvalitativ innehållsanalys och resulterade i ett huvudtema och fem subteman. Huvudtemat var: *Att vara ung renskötare innebär så många (omöjliga) drömmar och villkor*. De fem subteman var: *att vara innanför eller utanför är en fråga om identitet, paradox mellan fritt/ofritt, upplevelsen av olika hot och en känsla av maktlöshet*,

särskilda normer för hur en bra renskötare ska vara samt relationernas olika värden och betydelser.

Denna avhandling pekar på att renskötselrätten, som en institutionaliserad social konstruktion med gränser mellan renskötare och alla andra, är en viktig del i förståelsen av förekomsten av ångestsymtom, depressionssymtom och självmordstankar inom gruppen. Delvis bevarar denna rätt en specifik och utvald del av samisk kultur. Men utifrån ett intersektionellt perspektiv belyses också att den inkluderar, exkluderar och inestänger både individer och grundläggande antaganden om renskötsel och renskötare. Renskötselrätten är en viktig del i fördelningen av både sociala och materiella resurser, en fördelning som definierar flera betydande kategorier. Dels definieras och förhandlas etnicitet som i same och icke-same, dels kön som i mäns tillgång till föräldraledighet och kvinnors tillgång till den aktiva renskötseln, samt klass genom en självklar placering i det samiska samhällets status-stege.

Som förklaring används ett ackulturationsperspektiv, där det visas att denna gränsdragning och dess innebörd löpande utvecklas i en ömsesidigt konstruerande process med sin grund i en historisk utveckling som reglerats av svenska myndigheter.

Det är alltså centralt att om man passerar ut genom gränsen får det stora konsekvenser vad gäller tillträde till renskötarens unika samiska rättigheter, med risk att bryta generationskedjan, och att komma in igen kan vara mycket svårt. Inom gränsen finns en livsstil och en verksamhet som beskrivits som livsform snarare än som ett arbete, och delvis är det därför som kommunikation framförallt sker inom den unika livsformen. Avhandlingen visar hur denna juridiska och sociala gräns är en del i avståndet till de som inte är renskötare, vilket blir extra betydelsefullt för renskötarna när den psykiska påfrestningen är stor.

Nu är situationen för många renskötare svår, både utifrån konkreta omständigheter som exempelvis rovdjurstryck, osäker ekonomi och markintrång, samt utifrån en känsla av orättvisa och att de olika problemen inte är möjliga att påverka. Vidare finns en känsla av bristande stöd i omgivningen, förutom från den egna familjen. Det bristande stödet beskrivs som erfarenheter av fördomsfull medial rapportering och i konflikter både inom samebyar, mellan samebyar, mellan renskötare och icke-renskötande same, samt med olika delar av svenska majoritetssamhället. Allt detta har beskrivits som ett stort både inre och yttre tryck. Detta, tillsammans med normer som säger att renskötande män inte visar svaghet, har det rätta intresset och biter ihop och arbetar hårdare när det blir tufft, har rimligen en stor del i de visade psykiska problemen inom den svenska renskötande

samiska populationen. Detta gäller särskilt unga och medelålders renskötande män.

Denna avhandling kommer inte med något förslag om hur ett rättvist och hållbart system skulle se ut, eller hur sociala normer kring renskötsel och renskötare borde vara beskaffade. Men vad som kan sägas är att ett system som i sig främjar samarbete, som jämlikt fördelar möjligheter och tillgång till sociala och materiella resurser för män och kvinnor, det skulle kunna vara ett system som främjar psykisk hälsa.

Introduction

Points of departure for the study

During the first few years of the new millennium, a number of suicides occurred among young Sami reindeer-herding men in a small Sami village. Representatives of the Sami village contacted Umeå University and the Division of Psychiatry to get help and support in this distressful time. Several interviews and meetings resulted in a great deal of knowledge about the strained situation and its complexity and diversity. Several issues contributing to stress were raised, including conflicts on various levels, the herders' financial situation, the increased number of predators, and the norm system under which the reindeer-herding enterprise is managed, a system that influences what young people do when they are in an unbearable situation and are unable to see a way out. Information was related about how changes in reindeer-herding have led to a change in roles regarding both age and sex. Both the motorisation of the enterprise and the financial straits had led to a situation where women had become marginalised, as they were considered less fit for driving heavy snowmobiles and motorcycles in harsh terrain and were also given greater responsibility for bringing a steady income to the household, while managing the responsibilities of home and children at the same time. On the other hand this role change process had given a more dominant role to young men, increasing pressure on this group. After these talks, an investigation of the current available knowledge led to the conclusion that very little was known about the mental health situation of Sami reindeer-herders from a scientific perspective. In close contact with both the Southern Lapland Research Department in Vilhelmina and various reindeer-herding people, the project involving the studies in this thesis was started.

Concepts and theories

The present thesis concerns a group that is situated, from a scientific point of view, in a very complex and multilayered position. Therefore the thesis includes several concepts and theoretical views that are important to define and describe initially.

Gender

While sex focuses on biological characteristics, the term 'gender' refers to socially constructed patterns of behaviour and roles that are considered appropriate in a specific culture (WHO, 2002). To quote Beauvoir (Beauvoir, 1973) 'One is not born, but becomes, a woman' (ibid., p. 325). In a specific culture, gender is produced in relation to others in a learning process, where we interact differently with people depending on one's own and the other person's gender (West & Zimmerman, 1987). Putting gender within power structures, power is seen as the imbalance of access or control over resources within different settings (R. W. Connell, 1987). It has been put forward that, besides doing gender, men and women do power in battling structures of gender and power relations, and generally men dominate the agenda (ibid.). A part of this process is called 'Othering', which is when one or more groups, 'the Others', are defined as deviant, which implies that the present group constitute the norm (Beauvoir, 1973).

Gender studies are presently being published on subjects of various changing processes. One concerns 'family-friendly' working places which, in the transformation towards a more gender equal working life, sometimes seem on the contrary to promote more traditional gender roles, where the work policy mainly supports women's domestic commitments and women are more often held accountable for managing the balance between home and work (R. W. Connell, 2005b). In a global perspective, it has been put forward that masculinities are developed in a historical and global process, 'a gendered culture is created and transformed in relation to the international economy and the political system of empire' (R. W. Connell, 2005a)(p 1805). Gender patterns are therefore not only seen in a local context, but studies in for instance a colonised group should also include studies of the colonizers' norms and their impact (ibid.).

Intersectionality

Aiming to enhance the analysis of social phenomena in relation to gender and also including other structures of power such as ethnicity, social class and age, the relatively new term and concept of 'intersectionality' is presently being used (Cole, 2009). Intersectionality aims to be an integrated approach in apprehending the complexity of inequalities and social identities. Not only does

intersectionality include recognition of the multiplicity of different systems of oppression, but also the fact that they are simultaneously interactively determined through various significant axes of social organisation (Choo & Ferree, 2010; Kroismayr, 2009). It is also put forward that different systems, such as gender and age, can be overlapping and/or non-nested. What are analysed are mutual constitutions of complex inequalities, and the different bodies of gender, class and ethnicity co-evolve in mutual adaptation, and this can be both conflictual as well as more harmonious (ibid.).

The difficulty in analysing multiple inequalities and constructs is that it is insufficient to view the different constructs and their power relations as if they were adding up. It is not feasible to add different factors into double or triple disadvantage. The processes are more complex than that. The systems of social inequality are relatively autonomous (Bilge, 2010), but affect each other nonetheless. Thereby, it is important that each set of social relations is analysed within its own full ontological depth, i.e. describing and understanding the specific assumptions and processes within and between the systems (e.g. the Sami), and thereby not treating the different inequalities as alike. Intersectionality is also argued to be well suited to be used together with other theories, as intersectionality is per se an unfinished theory, well fitted in ambiguity and rounded out in new settings (Bilge, 2010).

It has also been pointed out that it is important to use intersectional theory as intersectional identity formation through narratives in narrative constructions, rather than identity as a practice of naming, i.e. it is in the meaning in stories and talks that identity forms and reshapes (Prins, 2006). Because identities are produced in this enactment, then belonging is a precarious and ongoing achievement. These narratives are not only our own: we narrate on a stage already set, and we mostly follow a path of scripts already available. Essential to narratives is that they are contradictory and multilayered, where gender, ethnicity and class are scripts that play an important role (Prins, 2006).

Social constructionism

The concepts of gender and intersectionality share the core concept of social constructionism, which states an ontology, contrary to essentialism, where what we normally call 'reality' and is constructed

by people in everyday social life. This includes all constructs, e.g. Sweden, spoon, future, good, car, research, father, etc. Common knowledge is reinforced and renegotiated in social interaction in such a way that people call it reality. The focus is not merely on things and institutions, but rather on how they are being talked about and what beliefs surround the construct (Hacking, 1999; Searle, 1997). Influential applications of how social constructs are institutionalised and become part of ordered inequalities have been constructed in different fields, e.g. the construct of social capital (Bourdieu, 1984) and the social constructs of race and intelligence (Sternberg, Grigorenko, & Kidd, 2005).

Acculturation

Using the term 'culture' in relation to the distribution of power between large groups, it is clear that different sources of power will not interact randomly. Instead, it is possible to analyze specific patterns during cultural change, not as the basis for exact predictions, but as the general framework for the discussion in this thesis. The process of cultural change as an effect of first-hand contact between two groups has been described in terms of acculturation (Berry, 1985, 1990; Berry & Sinha, 1992). No culture remains the same after contact with another culture, meaning that the acculturation process is a two-way interaction, but one major dominant culture is often identifiable (Berry, 2009). This has also been described as a forced change of culture that has an impact on identity and on the relation to cultural roots and values (King, Smith, & Gracey, 2009).

Acculturation is not per se equal to assimilation, which is when someone is absorbed into the larger society and experiences a loss of original pre-contact culture. Rather, acculturation refers to the intercultural adaptation process that occurs when two or more cultures meet. As acculturation of one culture may vary in adaptation to the dominant culture, it is possible to identify four different modes of acculturation (Berry, 1990) (Figure 1). These are based on two central issues. The first is 'Is my cultural identity of value and to be retained?' and the second is 'Are positive relations with the larger (dominant) society to be sought?'

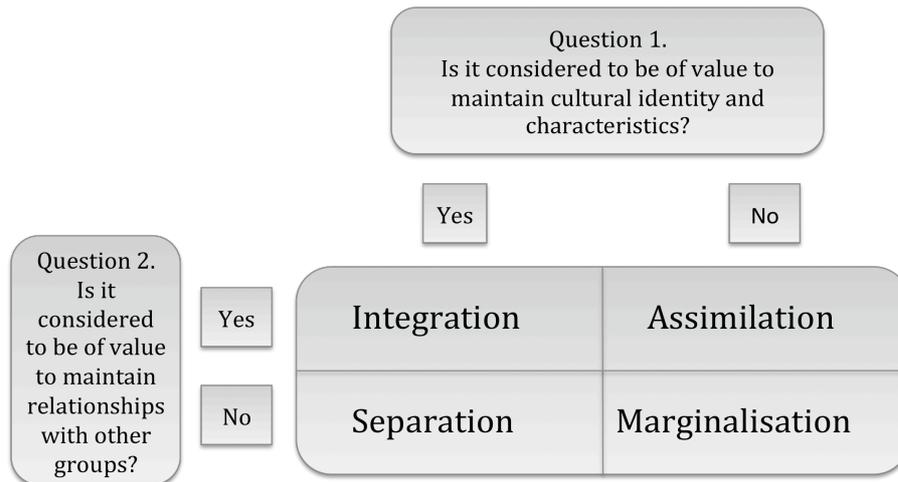


Figure 1. Four modes of acculturation (Berry, 1990).

Assimilation may take place either as the absorbing of one culture into the larger society or by merging different cultures to form a new society. In contrast, integration implies cultural integrity, as well as becoming an integral part of the larger society. Separation is the classic form of segregation, with imposed withdrawal from the main society and the conflict to the main society being kept intact to some extent. While these three modes represent different forms of adaptation, which are not necessarily negatively correlated to health, marginalisation tends to lead to anxiety and highly stressful crises. When marginalised, the person is out of cultural contact with both the traditional culture and the larger society. Although the relation between acculturative processes and health is not established, acculturative stress has been shown to be associated with symptoms like anxiety, depression and psychosomatic symptoms (Berry, 1997), and several mitigating factors have been identified, such as type of acculturating group, socio-demographic factors and language competence.

The consequences of acculturation for health status among the arctic population have been investigated (Koch, Bjerregaard, & Curtis, 2004; Kvernmo & Heyerdahl, 2003); the studies are presented under other headings in this thesis. Using the theory of acculturation, it is important not to simplify or make simplistic assertions of the relation between acculturative strategies and, for example, health (Berry, 1985). This thesis does not aim to develop the knowledge of acculturation, but rather to use the theory as a framework in understanding overall results.

Organisational culture

In his thesis, the theory of organisational culture is used to better understand meanings and consequences of both manifest and embedded phenomena revealed in the different studies. Reindeer-herding is strongly connected to Sami culture, but it is also a modern profession organised and legislated on many levels (Nordin, 2007). A complementary theory to the perspective of cultural adaptation is Schein's theory of organisational culture (Schein, 1990), which puts forward that organising is a social phenomena that can be understood when investigating aspects that members of an organisation take for granted. An organisation in this context is the form and framework in which culture is managed, and culture is managed in anything from a small company to a nation. Consequently, processes of leadership and management and their implications on culture are equally present when analyzing either governments or local companies. Culture can be analysed from three different levels, referring to the degree to which the cultural phenomenon is visible to the observer. The span ranges from the most overt manifestations to unconscious basic assumptions defined as the essence of culture.

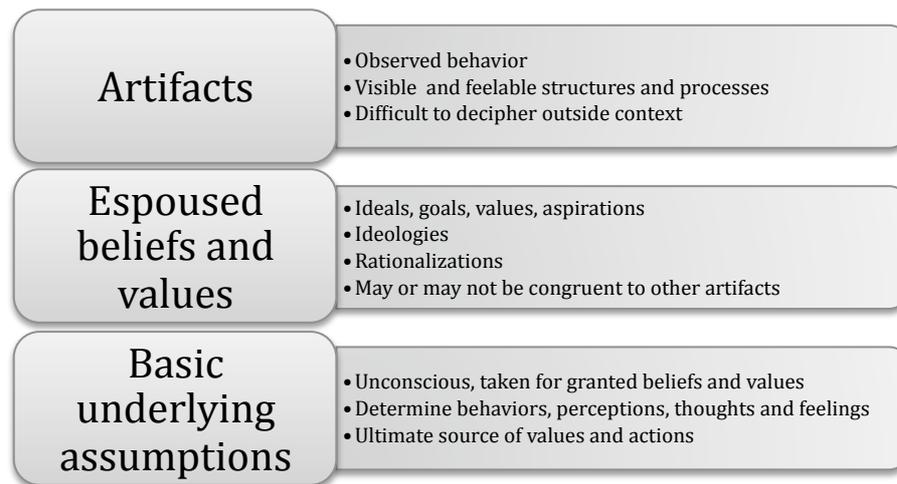


Figure 2. Three levels of cultural phenomena (Schein, 2010).

Artefacts are at the surface, including what one hears, sees and feels when encountering a new group, e.g. its architecture, technology, clothing, myths, stories and behaviour. Perhaps most important is that the expressions of culture on this level are easy to observe but difficult to decipher. If you try to decipher without knowledge of other levels, the most probable outcome is that you expose your own preconceptions.

The second level is the level of espoused beliefs and values. Through a continuous learning process, behaviour that is considered successful and 'good' will be transformed into shared beliefs, expressed as common knowledge of 'how things are to be done.' These beliefs are only espoused as long as they are considered to be successful, and they are under continuous change, but most often group members will forget that the proposed course of action was originally not absolutely certain but a tentative trial. If the espoused beliefs and values are not testable, they are confirmed by social validation, i.e. in social experiences where they are tested to see whether they are successful in lowering anxiety in the group. These beliefs and values are conscious and possible to verbalize, and guide or rationalize individual actions, in fact, the beliefs most often reflect preferred actions rather than actual behaviour. Beliefs and values may be uncorresponding to artefacts and may also be mutually

contradictory and inconsistent. It is not unusual that large areas are left unexplained.

The third level of basic underlying assumptions corresponds to what is taken for granted, assumptions we neither confront nor debate and which are thus extremely difficult to change. As assumptions are socially constructed during history and not up for debate, they are treated as reality. Because of the assumptions' character of being perceived as fundamental, any change will destabilize both cognitive and interpersonal processes, leading to a high level of anxiety. From a researcher's point of view, it is therefore important to try to get a firm hold of the shared basic assumptions and also of the specific learning process whereby those assumptions were assimilated into the culture.

The Sami population in Sweden

The Sami population has received official status as an indigenous people in Sweden. Definitions of Sami differ. The right to vote in elections to the Sami Parliament is reserved for those who consider themselves to be Sami and who:

- speak or have spoken the Sami language at home, or
- have one or more parents or grandparents who speak or have spoken the Sami language at home, or
- have a parent who is or has been listed on the electoral register of the Sami Parliament (Sametingslagen, 1992).

Because there is no register based on ethnicity in Sweden, all presented numbers of Sami in Sweden are estimations. According to an investigation made in the early 1970s ("Samiskt informationscentrum," 2011), about 20,000 out of a total of 80,000 Sami live in Sweden. Later, when a new database was constructed, a more generous definition of Sami identity was used that included relatives of both reindeer-herding and non-herding Sami, resulting in as many as 40,000 to 50,000 individuals being identified as Swedish Sami (Hassler, 2005).

There are more than 4,633 registered reindeer-herding companies in Sweden, organised in 51 Sami villages with a total of approximately 260,000 reindeer on a territory of 52 percent of Sweden's surface

("Samiskt informationscentrum," 2011). There are less than 2,000 individuals subsisting totally or partly on reindeer-herding in Sweden. The circumstances for herding differ largely depending on geographic area, but generally the reindeer are herded on grazing lands in mountain areas during the summer and in forests and by the coast during the winter. Based on geographic area, Sami villages are categorised as South Sami, Lule Sami and North Sami. Another categorization is Forest Sami and Mountain Sami.

Sami and reindeer-herders

Today, there is a strict line of importance drawn between being reindeer-herding and non-herding Sami, and this line is closely related to the way in which Sápmi in Sweden was colonised (Ruong, 1982). When the Swedish Government felt a limit had been reached for the marginalisation of the Sami people, specific rights and regulations were constructed. Up until this time, many different forms of living as a Sami existed. One common way was to combine different trades (*ärjemarkshushållning*) like hunting, livestock and fishing with so-called intense reindeer-herding, with a few reindeer providing milk and material for handicraft and clothing. The constructed Sami rights reflected the Swedish view of Sami more than the real Sami culture or Sami needs. The Swedish view of Sami was mainly that of a harsh nomadic population making their living off reindeer-herding, and the connection between reindeer-herding and 'Sami' was so strong that the former was considered necessary for the survival of Sami culture. The belief was that the Sami were not fit for contact with the superior Swedish population and that their culture would not be able to survive close contact with Swedish culture, so the policy of 'Sami should be Sami' was introduced (Lantto, 2000). Laws from 1886 and 1898 regulated Sami rights by legislating by who, and how, grazing lands should be used for reindeer-herding. Reindeer-herders were not allowed to have other jobs apart from reindeer-herding or to live in normal houses, because it was the opinion that they could not continue their harsh nomadic Sami lifestyle if they did. Those Sami who could not make a living from reindeer they owned were therefore defined as Swedes and were to be completely assimilated into the Swedish society. Thereby the 'Sami should be Sami' policy led to a process of separation for reindeer-herding Sami and a process of assimilation for all other Sami. At the same time, the laws specified that the preferred type of reindeer-herding was an

extensive form with many reindeer and a focus on meat production, a so called 'monoculture' (Ruong, 1982).

While the reindeer-herders were forced into a government-regulated form of herding, the non-herding Sami population was viewed as non-Sami but nonetheless not 'real' Swedes and thus 'problematic' (Lantto, 2004). For the first time, reindeer-herding was declared to be the primary and unique symbol of Sami culture, and all other expressions were marginalised. This was even more exaggerated in the law from 1928, which regulated the reindeer-herding business rather than 'Sami culture' or 'the Sami race' (Lundmark, 2002). This regulation clearly stated that when the law spoke of 'Lapps' (now called Sami), it referred to reindeer-herders only, and this applied to both the prohibition against non-nomadic living and the specific rights for reindeer-herding, hunting and fishing on traditional lands that to this day still create a dividing line between reindeer-herding and non-herding Sami (Ruong, 1982).

Health situation for different Sami populations in Sweden

A large body of research shows that indigenous populations in general have higher suicide rates, greater substance abuse and poorer somatic and psychosocial health compared to colonial populations (Bjerregaard, Young, Dewailly, & Ebbesson, 2004; Gracey & King, 2009; Hogg, 1992). These differences are mainly explained in terms of discrimination and marginalisation as part of an acculturation process (Berry, 1990). In comparison with other indigenous populations however it has been concluded that, in regards to health, the Swedish Sami population only differs from the majority population in minor ways (Hassler, 2005). The Sami population has a lower SMR (standardized mortality ratio) for various forms of cancer but higher for external cause of injury, and Sami women show higher SMR for diseases of the circulatory system (Hassler, Johansson, Sjölander, Grönberg, & Damber, 2005). These results have been interpreted as the Sami population differing from other indigenous populations in terms of physical health. The subject of the health situation among the Sami is usually discussed in terms of an acculturation process whereby most Sami are now highly assimilated into the Swedish society, sharing lifestyle, occupations and relations to the school system, common welfare and health services.

When investigating reindeer-herders in relation to other Sami and reference populations, male reindeer-herders have presented an increased risk of dying from poisoning and vehicle accidents but not from suicide, leading to the conclusion that reindeer-herding as an occupation is one of the most dangerous in Sweden (Hassler, Sjölander, Johansson, Grönberg, & Damber, 2004). It has also been shown that historical and legislation processes have led to specific acculturation positions for reindeer-herding men and women, respectively. Whereas Sami on the whole are positioned as assimilated, reindeer-herding Sami generally appear to have retained a strong Sami integrity, but with a gender-specific relation to the Swedish majority population and the Swedish society. While reindeer-herding women are described as fully taking part in the society in addition to reindeer-herding, and are thereby described as being more culturally integrated, reindeer-herding men, in contrast, are more often described as being separated (Hassler, 2005).

None of the Sami groups are described as marginalised, which is the acculturation position that is the most negative in relation to health, but it is reasonable to presume that reindeer-herders for instance who have lost their rights and still don't feel they are an integrated part of the Swedish society could be described as marginalised in terms of acculturation.

Norwegian Sami

The majority of Sami live in Norway, 50,000-65,000 individuals out of a total of 80,000 ("Samiskt informationscentrum," 2011). Even though Swedish and Norwegian Sami were considered as one people before the colonisation of Sápmi, they were a heterogeneous group in terms of religion, language and lifestyle (Fjellström, 1986). The situation for Norwegian reindeer-herders differs from Swedish reindeer-herders in many ways. The Norwegian area of Sápmi constitutes a different landscape, which has resulted in an area-specific development of management trades like reindeer-herding and fishing. A significant difference is that Sami constitute the majority in some regions of Norwegian Sápmi, with legal rights that differ from Swedish Sami. But many issues raised in Sweden also apply in Norway, for instance whether to stay in the business despite small financial profit, increased motorisation and market orientation and shrinking land (Riseth, 2006).

There are a large number of studies in Norway exploring mental health and the impact of ethno-cultural factors. One finding has been that ethno-cultural factors are especially strong among young Sami men living in contexts with a low density of Sami people (Kvernmo & Heyerdahl, 2003). Other findings have been that Sami youth in Norway have at least as good mental health as their majority peers and show less risk-taking behaviour, fewer eating disorders and a higher degree of body satisfaction than other Norwegian youth (Kvernmo, 2004), which are explained in part by upbringing traditions among the Sami. It seems that Sami parents, to a higher extent than other Norwegian parents, aim at hardening their children to help them endure the difficulties of life. Sami parents appear to have preserved a traditional view of nurturing and upbringing despite an assimilative policy (Javo, Rønning, Heyerdahl, & Rudmin, 2004).

Research topics for this thesis

The present thesis covers four main areas, namely mental health, alcohol use, suicidal problems and reindeer-herding as a way of life.

Mental health

Mental health is defined by the WHO as ‘a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity’ (WHO, 2010), and ‘a state of well-being in which the individual realizes his or her own abilities, can cope with the normal stresses of life, can work productively and fruitfully and is able to make a contribution to his or her community’ (ibid.). Factors determining mental health problems exist on biological, psychological and social levels, and are specified as ‘rapid social change, stressful work conditions, gender discrimination, social exclusion, unhealthy lifestyle, risks of violence and physical ill-health and human rights violations’ (ibid.).

There are numerous studies assessing the mental health problems of different populations. Depending on the measures and methods used for assessment different prevalences have been reported; according to the WHO the prevalence of depression and anxiety is generally higher in indigenous groups, even if they emphasise the lack

of epidemiological data and the major differences between and within indigenous groups (WHO & Cohen, 1999).

Alcohol use among the Sami

Alcohol consumption accounts for negative health consequences in all parts of the world, and specifically in many minority and indigenous populations (King, et al., 2009; Marrone, 2007). Generally, alcohol use is presented as a set of behaviours that are complex and have an aetiology that is multifactorial and includes ethno-cultural factors (James, Kim, & Armijo, 2000). In relation to the Sami, historical reports and common myths have suggested that the Sami drink heavily and behave dangerously and aggressively when they drink alcohol (Kvist, 1986). Hazardous drinking is a subject that came up in a series of talks in the beginning of this research project (Jacobsson, 2010). Studies on alcohol use among Sami in Norway have been conducted in the form of a longitudinal questionnaire survey, showing small ethno-cultural differences (Spein, Sexton, & Kvernmo, 2007). But a Finnish study has suggested that individual Sami had a significantly higher mean alcohol intake than non-Sami, with the same frequency of getting drunk, implying a higher prevalence of binge-drinking (Poikolainen, Nayha, & Hassi, 1992). In a study on hospitalised drinkers in Norway, Sami problem drinkers preferred a treatment goal more in terms of periodic drinking, in contrast to non-Sami drinkers who preferred a treatment goal of total absence of drinking (Larsen, 1992). Sami problem drinkers also described fewer negative psychosocial consequences of heavy drinking compared to non-Sami. This drinking pattern does not coincide with drinking patterns in other indigenous groups, a possible explanation of which may be the long history of influence by the Swedish pastor Lars Levi Laestadius, who took a strong stance against the use and abuse of alcohol (Larsen, 1993).

It has also been found that young Sami in Norway do not report a higher prevalence of substance abuse as compared to their regional and national non-indigenous peers (Spein, 2008).

Suicide and suicidal behaviour in relation to indigenouness and masculinity

Suicide is one of the most extreme forms of culture-specific mental health problems, and suicide is described in the stress-diathesis model as a learned strategy of coping with extreme difficulties when there is no hope for improvement in the future. The model postulates that suicide is both a reaction in relation to individual vulnerability and a culture-specific phenomenon (Grunebaum, et al., 2006; Rubinstein, 1986). Generally, suicide is closely related to gender, with higher prevalence among men. At the same time depression is more common among women. This contradiction is generally defined as the gender paradox (Canetto & Sakinofsky, 1998). It has been presented that norms of traditional masculinity might explain men's reluctance to seeking help and inhibit an emotional expressiveness of weakness (Möller-Leimkühler, 2002), and that significant amounts of undetected depression among men exist because of this (Borowsky, et al., 2000; Möller-Leimkühler, Heller, & Paulus, 2007). Traditional masculine gender roles promote potentially harmful behaviours (Galdas, Cheater, & Marshall, 2005), specifically men who adhere strongly to the traditional male gender role (Houle, Mishara, & Chagnon, 2008). In indigenous populations, suicides tend to peak at age 15-24 and then decrease with age (Bjerregaard, et al., 2004), and the suicide rates are specifically high among young indigenous males (Clarke, Frankish, & Green, 1997). This is explained in terms of gender specific coping (Kirmayer, Brass, & Tait, 2000), especially pronounced among indigenous young males, leading to vulnerability to suicidal behaviour (Silviken, 2009). This pattern of more traditional gender roles is mainly found during times of rapidly changing social norms.

Recent research from Norway has suggested an increased suicide mortality for young Sami in general, for Sami non-herding men and for Sami men living in Sami core areas (Silviken, Haldorsen, & Kvernmo, 2006). Suicides among Sami in Norway are mainly explained as clusters but also as related to anomic suicide (Silviken & Kvernmo, 2007), that is, suicides occurring when traditional ties and relational bonds loosen, replaced by only disillusion and disappointment (Durkheim, 1951).

Taken together, the literature on suicide presents a situation that underlines that the experience of suicide is a cut-off point where important issues of gender roles, mental health and acculturation intersect.

Regarding other forms of suicidal problems, studies on suicide attempts, suicidal ideation and self-mutilation among Sami in Norway have not found any significant ethnic differences in prevalence (Kvernmo & Rosenvinge, 2009; Silvikén & Kvernmo, 2007).

Psychological aspects of reindeer-herding

Reindeer-herding as a way of life

To understand why reindeer-herding management is carried on through the generations even though the underlying circumstances are sometimes very difficult, the set of groups surrounding the reindeer-herder and reindeer-herding management has been analysed using a life form model (Nordin, 2007), in which the importance of relatives, the household and the *Siida* (small groups of inter-dependable families) was analysed, showing that these entities are responsible for transferring specific norms and values (Nordin, 2007). In this life form model, it is postulated that reindeer-herding is not an occupation one chooses without context, but rather a way of life that a person who is born into the Sami reindeer-herding collective cannot consider living without. For many reindeer-herding households there are no alternative ways of living (ibid.).

Reindeer-herding as an identity-shaping process

To understand the identity-shaping value system of being Sami, the preconceptions of young Sami in different positions in the Sami society were studied (Åhrén, 2009). Apart from reindeer-herding and non-herding Sami, different interrelating Sami groups were identified, such as Sami who have more recently become interested in developing their Sami identity and the group defined as existing outside reindeer-herding but still in close contact with reindeer-herders. While reindeer-herders share the reindeer-herding way of life, the newly interested defined their position in terms of late modernity, involving a completely different mindset of what it is that constitutes Sami culture but sharing other expressions of Sami culture such as *joik*, traditional clothing or handicraft. Both groups shared the same ethnocentric struggle of 'being a real Sami', but the

different mindsets make it difficult for the individuals to understand each other.

The conclusion put forward was that during the Sami history, the stigma laid upon the Sami population led to Sami ethnocentrism, expressed as a ladder of Sami cultural hierarchy where all individuals are assigned different worth. A present complex situation is the heterogeneity in expressions and statements in different parts of the Sami community, in itself threatening the definition of Sami and raising different defence mechanisms protecting the Sami culture, making the impact of ethnocentrism even more forceful (Åhrén, 2009).

Study aims

The overall objective of this thesis was to investigate various aspects of mental health problems among the Swedish Sami reindeer-herders and to further the understanding of the living conditions of young Sami reindeer-herding men.

The specific research aims were:

- To assess the prevalence of symptoms of depression and anxiety among the Sami population as compared to geographically matched groups, and to identify factors influencing levels of anxiety and depression in the Sami group.
- To explore whether there was a higher level of general and hazardous alcohol-drinking behaviour among reindeer-herding Sami in Sweden as compared to a geographically matched reference group from the general population. The study also aimed to investigate factors associated with different drinking behaviours.
- To investigate different suicidal expressions among Swedish reindeer-herders and to investigate group- and gender-specific factors influencing serious forms of suicidal problems.
- To explore experiences of being a young male reindeer-herder in Sweden.

To aid in the analysis, theories of intersectionality, organisational culture and acculturation were used.

Materials and methods

This thesis is based on two studies, one quantitative followed by one qualitative, and may be labelled as sequential mixed model methodology (Teddlie & Tashakkori, 2009). Study I (papers I, II and III) is a cross-sectional questionnaire-based investigation conducted in 2007, measuring different aspects of mental health problems including symptoms of depression and anxiety, substance use, different suicidal expressions and work-related stress. The questionnaire was developed in close collaboration with the Southern Lapland Research Department in Vilhelmina and also covered socio-demographic characteristics (gender, age and education). Study II (paper IV) is a qualitative interview study comprised of 15 interviews conducted during 2009, using an explorative design with an inductive approach through qualitative content analysis.

Study population

The studies presented in papers I, II and III were conducted in a reindeer-herding population as well as in a geographically matched reference group. The reindeer-herding group was defined as those over 18 years of age, members of a Sami community and partly or fully taking part in reindeer-herding management, altogether constituting fewer than 2000 people.

The reference group of 2000 people was randomly selected among people between 18 and 75 years of age. Because most, but not all, reindeer-herding Sami live in rural areas, and because living conditions in rural and urban areas of northern Sweden tend to differ in many ways, the reference group was stratified as urban or rural. Urban was defined as people living either in Umeå, Luleå or Östersund, which are county towns in the Swedish part of Sápmi. Rural living was defined as people living in one out of eight chosen municipalities with less than 1000 inhabitants, reaching from southern to northern Sápmi.

Procedure

Study 1

After several discussions within the research team and together with various Sami organisations and Sami communities, the decision was taken that the Sami population should be approached through the chairperson of each Sami village. Out of 51 Sami villages, 42 were included, as the others were so called concession Sami villages, which presumably don't share the psychosocial characteristics of other Sami villages since they are not regulated by the same Sami-specific legislation. All chairpersons declared an interest in participating in the study, and when summarising the information given by the chairpersons regarding the number of members, 1270 questionnaires were requested and then posted, along with pre-stamped return envelopes. Each chairperson was also contacted by a member of the research team as a follow-up. In the end, according to the chairpersons, about 640 questionnaires were handed out. At the same time 2000 questionnaires were distributed to the reference population, with one reminder.

Study 2

An interview guide was constructed based on different areas of interest. The two main questions considered different aspects of feeling good and feeling bad: The open question, 'What makes you feel good about your life and reindeer-herding?', was followed by probing questions to get the informant to develop his reasoning and to speak freely and explicitly. The question was also followed by more coping-oriented questions like 'What do you do when you feel like that?' Then the same type of questions was asked, but as 'What makes you feel bad about your life and reindeer-herding?' By the time the subject of discussion was deemed complete, several themes had been covered. To make sure we didn't miss any important experiences we included questions that were presumed to be of importance to the interviewees, on themes such as 'thoughts about suicide', 'the significance of gender' and 'use of alcohol'. The interviews were conducted by one of two male researchers, one of whom was an experienced clinical psychologist (non-Sami) and one of whom was a reindeer-herding Sami who was completing his last term of master-level studies in the field of clinical psychology. The first interview,

which was considered a test interview, was conducted by the two researchers together, after which the interview guide was modified slightly. The other interviews were conducted by either one of the two researchers. Each interview took place at either the home of the interviewee or in rooms facilitated by the research team. To reach the interviewees the researchers travelled by car over the geographically widely spread region of Sápmi.

Reindeer-herding men in the ages between 18 and 35 were selected depending on different characteristics. The aim was to retrieve varied information that represented different conditions, and therefore the reindeer-herders were chosen depending on age; whether they lived in mountain Sami villages or forest Sami villages; whether they lived in south Sami, Lule Sami or north Sami areas; and depending on how many years they had worked as adult reindeer-herders. The informants were contacted by telephone, and full information about the project and ethical principles was posted by e-mail. Informed consent was assured, and the researchers put a great deal of effort into making sure the situation felt comfortable and secure, also regarding anonymity in handling the original texts. The interviews were digitally recorded and transcribed verbatim.

Instruments

Assessment of symptoms of anxiety and depression

The Hospital Anxiety and Depression Scale (HADS) is a 14-item, self-rating instrument designed mainly to identify cases of anxiety disorders and depression among patients in non-psychiatric hospital clinics (Snaith & Zigmond, 1986), but HADS also performs well in assessing symptom severity in general populations (Bjelland, Dahl, Haug, & Neckelmann, 2002). HADS is widely used and has been validated in several different contexts (Bjelland, et al., 2002; Herrmann, 1997) and in cross-cultural settings (Kugaya, Akechi, Okuyama, Okamura, & Uchitomi, 1998; Montazeri, Vahdaninia, Ebrahimi, & Jarvandi, 2003). HADS covers core symptoms of depression (HADS-D) as well as symptoms of generalised anxiety (HADS-A), each scale constituting a 4-point ordinal scale on symptom severity. Results of 0-7 are suggested as normal, 8-10 as mild disorder, 11-14 as moderate disorder and 15-21 as severe disorder (Stordal, Mykletun, & Dahl, 2003). HADS is generally

designed for use as an ordinal scale, but has also been used as a continuous scale for mean values (Andrea, et al., 2004).

Assessment of alcohol drinking behaviour

The Alcohol Use Disorder Identification Test (AUDIT) was used for detecting alcohol consumption. Developed by the WHO, it has been frequently used in primary healthcare to identify hazardous or harmful alcohol use (Babor, Higgins-Biddle, Saunders, & Monteiro, 2001; Selin, 2006). It has also been tested with good psychometrics in different cultural settings (Leonardson, et al., 2005). AUDIT consists of 10 items, with a score of 0 to 4 for each item. A cut-off score of ≥ 6 for women and ≥ 8 for men indicates hazardous or harmful use. AUDIT also detects more severe abuse and dependence at higher levels (Babor, et al., 2001; Bergman & Kallmen, 2002; Selin, 2006). In this thesis, the following categories were used: '*not at risk*' for abstainers or scores below 6 for women and 8 for men, '*hazardous*' for scores between 6 and 13 for women and 8 and 15 for men, and '*harmful*' for respondents reporting a score above 13 or 15, respectively. The term '*hazardous/harmful*' was used when describing the variable dichotomously, ≥ 8 and ≥ 6 for men and women, respectively. With an aim to measure 'drinking patterns', the scales for frequency of intake were dichotomised into 'seldom' (1-4 times a month) and 'often' (2-3 times a week or more), and the results for alcohol intake into 'low' (1-4 glasses) and 'high' (5-10 glasses or more). Teetotalers were also identified.

Assessment of suicidal expressions

The Attitudes Towards Suicide questionnaire (ATTS) was used for measuring different aspects of suicidal expressions (Renberg & Jacobsson, 2003). ATTS has shown proper validity and reliability properties in several studies, and is a feasible instrument for screening purposes in a general population (Renberg, Hjelmeland, & Kuposov, 2008). The following sections/items were selected from the ATTS:

Experience of suicidal ideation, suicide attempts, suicide among significant others, within the family and others. Four questions, answered as *yes* or *no*.

Self-reported suicidal expressions, *life weariness*, *death wishes*, *suicidal ideation*, *plans*, and *attempts* (Paykel, Myers, Lindenth.J, & Tanner, 1974). The questions were to be answered on a four-graded scale: often, sometimes, hardly ever or never. A question on *thoughts about the meaning of life* was also added.

Four central items were selected from the ATTS regarding attitudes toward suicide: whether there is a risk in talking about suicide; that suicidal thoughts could be evoked; if it always is possible to help a person with suicidal thoughts; and if almost everyone has at one time or another thought about suicide. The attitude questions were answered on a 5-point Likert scale: *strongly agree*, *agree*, *undecided*, *disagree* and *strongly disagree*. All response alternatives except 'never' were aggregated as classifying affirmative responses to any of the questions.

Assessment of work-related stress

Work-related stress was assessed by using 11 items from the Job Control Questionnaire (JCQ) developed by Karasek and Theorell (Karasek, 1979; Karasek, Baker, Marxer, Ahlbom, & Theorell, 1981). The JCQ is widely used in many different contexts (Van der Doef & Maes, 1999; van der Doef, Maes, & Diekstra, 2000), but was constructed for measuring health conditions in industrial workplaces. The JCQ is based on the demand-control model, but as the reindeer-herding occupation differs from other occupations in many ways, no validated work-stress model or job-strain instrument has been developed specifically for reindeer-herding. The job-strain variable is thereby used with care in this thesis.

Quantitative analysis

Statistical analysis was performed using SPSS (version 17.0; SPSS Inc., Chicago, IL, USA). Descriptive statistics were conducted with a T-test on interval scales and Chi² on categorical data. Exploration of determinants for different variables (anxiety, depression, harmful/hazardous alcohol use and suicidal expressions) was carried

out using logistic regression analyses (forward method). Analysis of additive interaction for gender and population regarding harmful/hazardous drinking was made in accordance with Hallqvist et al. (Hallqvist, Ahlbom, Diderichsen, & Reuterwall, 1996). Other specific statistical methods employed are described in detail in the individual papers. Statistical significance was reported as p-values with the significance level set at $p < 0.05$ (two-tailed).

Qualitative analysis

There are several methods of qualitative analysis, all having in common that they aim to interpret meaning of manifest content in for example texts and observations (Hsieh & Shannon, 2005; Öhman, 2005). In this study, an inductive approach to qualitative content analysis was used (Elo & Kyngäs, 2008), that is coding and analysis were not derived from a specific model. Qualitative content analysis is generally a method aiming at describing themes and subthemes that are addressed by the interviewees, in such a way that the path of abstraction from text to theme is possible to follow during and after the analysis (Graneheim & Lundman, 2004). A verbatim transcribed interview is considered as manifest content, for instance words and phrases. The manifest content also means something, and the meanings are referred to as latent content, which is not detectable if it is not related to the text as a whole (DeSantis & Ugarriza, 2000).

In comparison to quantitative methods, qualitative methodology differs regarding aetiology, and its differences may be explained in relation to the following subjects. Quantitative methodology aims at generalising results of a sample to a population, and depending on for example sample size and deviation, specific differences in results are needed to gain statistical significance that postulates that the discovered differences do not depend on random more than is acceptable. Quantitative methods generally aim towards transferability, that is to what extent it is possible for a reader of the research to apply the results and conclusions to some aspects of the reader's life situation. Aiming for this, the important issues are not sample size, but trustworthiness expressed as sample selection, interview characteristics and coding reliability. Quantitative measures are inadequate (as counting contents occurring when comparing different groups) and should rather be labelled as quantitative content analysis. Reliability of the coding and theme development is gained through explicit descriptions of the selection of interviewees

and the analysis process, and through a proper discussion of the text and codes during the different phases of analysis (gaining inter coding reliability) (Graneheim & Lundman, 2004).

Ethical considerations

Both studies in this thesis were approved by the Regional Research Ethic Committee in Umeå, Sweden. The studies were conducted and designed following the ethical principles of the World Medical Association Declaration of Helsinki ("Helsinki Declaration," 2004), including respecting the right of informed consent. The reindeer-herding Sami population is small, and even though it is geographically widespread, it has close internal contact. No information regarding the specific Sami-village was requested because, if combined with information about age and gender, it would be possible to identify specific individuals. In Study II the specific ethical considerations concerned anonymity in collection and presentation, informed consent and the balance between benefit and infliction.

To protect these aspects, the research team chose not to present the interviewees with regard to age, living area or type of Sami village. All interviewees were carefully informed of the study and the fact that they had the authority to end their involvement in the project at any time without having to specify any arguments for leaving. With interviews that had a rather wearisome and stressful theme, it was concluded that most young men would experience positive feelings and perhaps relief, but for some it would be stressful and perhaps activate negative psychological patterns. It was also concluded that the need for research within the group was of great importance for the group itself, and both interviewers were trained in assessing and handling different psychologically clinical states. The interviewers also had close contact with each other regarding the interviewee's state of mind, as well as immediate access to psychiatric health services.

Results

Responding groups (papers I, II and III)

A total of 351 reindeer-herding Sami completed the questionnaires (54.8% response rate), 168 of which were men, 151 women and 32 did not mark their gender. Depending on internal missing values on different instruments, the total number of participants reported in different papers differs. In the reference group there were 679 urban and 714 rural respondents (69.7% response rate), with no significant difference regarding gender proportion in the responding Sami and reference group. There was a significantly higher proportion of persons in the age group 18-29 in the Sami group as compared to the rural reference group, and a higher proportion of people aged 30-49 and a lower proportion of ≥ 50 in the Sami group than in both the urban and the rural group.

Summary of findings

Paper I: Depression and anxiety in the reindeer-herding Sami population of Sweden

Comparing the symptom level of anxiety and depression in reindeer-herding, the urban and rural groups showed that the reindeer-herding group as a whole reported more symptoms of anxiety and depression than rural and urban populations in general. Especially reindeer-herding men reported higher proportions of mild to severe conditions of anxiety and depression in comparison to urban and rural men, which was not the case for reindeer-herding women as compared to other women.

When stratifying for age it was the group of reindeer-herding Sami men between 30-49 years of age that was pointed out. Forty-nine per cent reported a mild to severe condition of generalised anxiety, which was significantly higher than both urban and rural living men and reindeer-herding women. Reindeer-herding men in the age group ≥ 50 reported a higher proportion of anxiety (24.5%) than urban men.

Regarding determinants, it was shown that different groups presented different models, where the reindeer-herding group showed fewer determinant variables than reference groups; younger

age was related to the development of anxiety for men and women in the reference groups, but not in the reindeer-herding group, where the level of work-related stress was specifically associated with the prevalence of anxiety. Noteworthy was also that, when controlling for other variables, the high symptom level of anxiety and depression was not predicted by the group variable in the model.

In conclusion, the results of the study indicate that there is a higher prevalence of anxiety and depression among Swedish Sami reindeer-herders, and specifically among reindeer-herding men aged 30-49. These findings were discussed in terms of being highly exposed to mental health risk factors regarding several issues, for instance being culturally separated indigenous Sami, having the main responsibility for an occupation that is experiencing severe development and financial difficulties, living in gender-stereotype culture norms regarding coping with mental health problems and being culture-bearers in managing a Sami-symbolised traditional occupation that is more a way of life than a business and which must be conducted according to specific influencing legislation.

Paper II: Hazardous drinking and drinking patterns among the reindeer-herding Sami population in Sweden

The reindeer-herding Sami groups reporting on alcohol consumption differed depending mainly on gender, that is reindeer-herding men reported a higher prevalence of hazardous/harmful use than reindeer-herding women, and this was also the case in the rural reference group. Reindeer-herding women reported lower hazardous/harmful consumption than urban women, and reindeer-herding men reported higher consumption than rural men. When stratified for age group and gender, the only significant difference was that young reindeer-herding women reported half the prevalence of hazardous/harmful use than urban women in the same age group. A proportion-wise apparent difference, although not statistically significant, was the reindeer-herding men's reports of (33.6%) prevalence of hazardous/harmful drinking, as compared to urban men (21.6%) and rural men (25.3%).

At the same time reindeer-herding men reported the highest proportion of teetotallers among all men, differing significantly from urban men. Reindeer-herding men also reported the highest proportion of drinking categorised as seldom/high.

Logistic regressions for different models revealed that the only multivariable association with population was that urban women reported twice the risk of hazardous/harmful drinking when using Sami women as reference (OR=2.04, CI=1.07-3.88). One gender difference was also shown, namely that depression generally predicted alcohol risk consumption among men and anxiety among women. When calculating predictors for risk-drinking, using the additive interaction of group and gender, no differences among men were found, but a high prevalence of risk-drinking among urban women.

In conclusion, the results contradict the prejudiced view of 'the drunken Lapp', as reindeer-herders do not seem to drink more than comparable reference populations. The study confirms the gender-segregated Sami culture however, as the group has gender-specific hazardous drinking; in particular, reindeer-herding women show a low prevalence of hazardous drinking in comparison to both urban women and reindeer-herding men. This was discussed in terms of the group's gender-differentiated acculturation process, in combination with the influence of Laestadian norms of sobriety and Sami norms of womanhood.

Paper III: Suicidal expressions among the Swedish reindeer-herding Sami population

Sami reindeer-herding men and women reported more contact with suicidal expressions such as completed suicides among others and suicidal ideation within the family and among others. No differences were found regarding exposure to completed suicides within the family.

Regarding their own experiences of suicidal expressions, reindeer-herding men and women generally reported more experiences of severe levels of suicidal thoughts in comparison to reference groups, especially 'death wishes', 'suicidal ideation' and 'suicidal plans'. No difference was found regarding the least level of severity 'meaning of life' or experiences of one's own suicide attempts. There were also no significant gender differences within the reindeer-herding group. When stratifying for gender and age group, it was mainly men in the age group 30-49 who disclosed a group-specific high prevalence of self-reported suicidal expressions with significant difference on both death wishes, ideation and plans. The only other identified gender-

and age-stratified group difference was reindeer-herding women in the oldest age-group (≥ 50), who reported a higher prevalence of death wishes.

Regarding attitudes towards suicide, reindeer-herding men to a higher extent than men in the reference group agreed to the statement 'Almost everyone has thought about suicide'. Especially young and middle-aged men differed from urban and rural young and middle-aged men.

Logistic regression analyses showed that, when controlling for all other variables, being Sami meant about twice the risk for self-reported suicide plans compared to being in the reference group. When using different models regarding age and group, calculating OR showed that it was anxiety for reindeer-herding women, and anxiety and alcohol for reindeer-herding men, that predicted the reindeer-herders' high proportion of self-reported suicidal plans, and not age or education as in the reference group.

In conclusion, paper III puts forward that the reindeer-herding group is highly exposed to suicidal expressions among significant others and reports high rates of their own experienced suicidal problems, and that this is not related to attitudes towards suicide. It also points out reindeer-herding men in the age group 30-49 as of particular risk. The results of suicidal expressions were put in relation to the community's close connectedness as both an indigenous and professional group, and the level of severe suicidal thoughts and the importance of anxiety as determinant was discussed in terms of actual higher multilevel problem load in the group, that is fully taking part in the difficulties of the situation surrounding reindeer-herding, in combination with great responsibility for the existence of the reindeer-herding way of life.

Paper IV: Experiences of being young male reindeer-herder: A qualitative study

When exploring experiences of being a young male reindeer-herder, qualitative content analysis of the interviews resulted in five subthemes and one overarching theme, reflecting the diverse, varied and contradictory content of the text. The subthemes were presented as: *Being inside or outside is a question of identity; A paradox between being free/unfree; An experience of different threats and a feeling of powerlessness; Specific norms for how a real reindeer-*

herder should be; The different impacts and meanings of relations. The overarching theme was presented as: *Being a young reindeer-herder means so many (impossible) dreams and conditions.* The different themes and a presentation of Swedish reindeer-herding history were discussed in relation to the theory of organizational psychology and theory of acculturation. The young men expressed a feeling of being one of a very few who had the possibility of carrying on the completely free, fantastic, meaningful and still fully obligating and co-dependent reindeer-herding occupation as a Sami traditional lifestyle, at the same time as they expressed experiences of many obstacles and unjust circumstances that sometimes made it impossible to carry out such a tradition, like unforeseeable financial problems, predators, multi-layered conflicts, feelings of an uncomprehending non-reindeer-herding Swedish and Sami community etc. There is also a vast experience of powerlessness in relation to obstacles and a great mistrust against the Swedish Government, which is understood as acting against reindeer-herding. At the same time the young herders experience an implicit and explicit male reindeer-herding norm of 'not showing weakness', strongly influencing intra-group and inter-group relational actions even in difficult times.

The fact that young reindeer-herding Sami men experience such a troublesome and exposed situation is partly explained by the history of Swedish legislation, dividing and separating reindeer-herders from other Sami, leading to a historical creation of a core belief that a Sami is a reindeer-herder, thereby creating a strict division between being and not being a reindeer-herder (legislation that is still current to this day). This experience is also discussed as a cause of the development of strong subcultures, and related to the expressed strategy of 'biting the bullet', enduring and working harder in order to cope, making the reindeer-herder dependent on close family bonds.

Discussion

The project which this thesis is a part of started out as a response to a worrisome question from a reindeer-herding village, namely 'Is there something wrong with us?' After great efforts the reindeer-herding community, specific informants and the research group, carried out as two studies and presented in four papers, this thesis tries to answer that question. By first investigating if there were mental health problems in the group and then supplementing quantitative data with new qualitative data, information was gained that, combined with previous knowledge, could be analysed with regard to acculturation, organisational psychology and intersectionality.

Anxiety, depression, alcohol risk consumption and suicidal expressions

The thesis presents a generally high load of depression and anxiety in the reindeer-herding population, especially regarding reindeer-herding men, and the situation is somewhat more severe and specific when it comes to suicidal expressions. Generally the reindeer-herding population does not drink more hazardously than urban and rural populations in northern Sweden, although there are some exceptions. Reindeer-herding women show very little hazardous consumption, but men in the ages of 30-49 reported a higher prevalence of risk drinking. Added to this was a higher prevalence of both teetotallers and binge-drinkers among reindeer-herding men than in reference groups.

The cross-sectional design does not allow measures of causal direction, but when investigating the relation between these results, it seems that the high level of suicidal expressions were strongly related to variables like level of anxiety, depression and risk drinking. Generally age did not occur as a determinant, indicating that a strained situation will effect a reindeer-herder of any age; the presented age differences were not dependent on age *per se*, but on age-specific conditions. It is likely that the strained situation causes a high load of pressure that affects worries, feelings of hopelessness and thoughts of committing suicide, and that alcohol risk drinking is present as a traditional male coping strategy (Cooper, Russell, Skinner, Frone, & Mudar, 1992; Feil & Hasking, 2008). These results complement rather than contradict previous epidemiological studies,

which present a more positive picture of general health (Hassler, 2005; Hassler, et al., 2004). Those studies investigated mainly physical health and were conducted by the construction of a new database, which may have yielded underestimations of the differences (Hassler, 2005; Hassler, et al., 2004).

Another aspect is that the high level of suicidal expressions among Swedish reindeer-herders does not stand in contrast with the result that higher suicide standardized mortality ratio (SMR) is not found in previous studies, both because there is no distinct correlation between different suicidal expressions (Renberg, 1998) and because it is difficult to draw conclusions about suicide from SMR in such a small and diverse group as reindeer-herding Sami (Silviken, 2007).

Experiences of being a reindeer-herder

Supplementing the quantitative data with young male reindeer-herders' experiences of being reindeer-herders yielded information about both great obstacles and great threats, as previously reported in other studies (Sjölander, Edin-Liljegren, & Daerga, 2009). Study II also presented interrelating subthemes that could be put in relation to the quantitative data from other groups of reindeer-herders. The themes are expressions of espoused beliefs which are contextually and mutually created; thereby a subgroup will experience these themes as influenced by, and influencing, the larger group (Schein, 2010).

Previous reports have shown that reindeer-herding is a life form and way of life (Nordin, 2007), and that this way of life is an important part in the identification process of all Samis and also leads to difficulties in communicating with those who are not part of the reindeer-herding community (Åhrén, 2009). It is reasonable to assume that this border is thus connected to the experience that there is a strict line between being inside or outside the reindeer-herding community. As the line between being and not being a reindeer-herder is manifest in experiences in almost all aspects of life, and reindeer-herding is also a part of a shared common hierarchy, where the reindeer-herder for various reasons has his or her self-evident position (Åhrén, 2009), this border between inside and outside will be of special importance if the situation for reindeer-herders is strained or difficult. Thus, in strained conditions, this line may also be of importance for understanding mental health among reindeer-herders.

Protecting and aggravating circumstances

The results of the studies in this thesis lend support to the assumption that reindeer-herding today means being exposed to several specific simultaneously protecting and aggravating circumstances. Protection includes being part of a strongly connected community with historical bonds, like experiencing the importance of one's own actions in relation to the family, nature, reindeer, reindeer-herding and the Sami community. Another protective factor is the co-depending family ties, where both practical help and emotional problems are handled.

Aggravating experiences, on the other hand, have been expressed in previous and present studies as e.g. unforeseeable financial problems and high pressure from predators and exploiting interests, and these are viewed as very difficult to influence. In addition there are inner and outer demands and a strong feeling of injustice and mistrust towards the Swedish Government. Putting the life form perspective (Nordin, 2007) and identity perspective (Åhrén, 2009) in relation to the perspective of work-related stress (Karasek, 1979) means great demands, little control and little influence on important issues. In such cases, social support will be of importance (Bültmann, Kant, Schröer, & Kasl, 2002; Levi, et al., 2000; van der Doef, et al., 2000), which is also expressed by the young reindeer-herders as part of the importance of relations. Social support is generally of significance from the organisation, the surrounding society, colleagues, friends and family. Frustrating for reindeer-herders when it comes to social support are the multi-layered conflicts, expressed as experiences of conflicts within and between Sami villages, conflicts with landowners and exploiting interests, and also a strong feeling of a non-supportive non-reindeer-herding Swedish society. Taken together, the picture that arises is that, by and large, there is a lack of social support for reindeer-herders. It is likely that this, together with high demands and little control, influences the mental health situation for reindeer-herders. In addition, the problems are also experienced as unjust, practically impossible to solve and involving a group which we might call overly committed, which are all well-known factors influencing mental health (van Vegchel, de Jonge, Bosma, & Schaufeli, 2005).

Influencing basic assumptions

Under these wonderful but very strained circumstances reindeer-herders still carry on their occupation and lifestyle through the generations, without plans to quit or any clear alternatives. This has been studied in both Norway (Riseth, 2006) and Sweden (Nordin, 2007), with the main conclusions being that the continuity of reindeer-herding has to do with other factors than economic profit, and also that the incitement is not primary to preserve a traditional Sami lifestyle, but is rather of individual importance as a way of life. As reindeer-herding is also of matter of preserving and developing identity (Åhrén, 2009), supplementary information provided by the young men in Study II showed that being or not being reindeer-herder was a matter of identity, but not explicitly in relation to non-reindeer-herders. It was out of importance for 'living as I want to in close contact with nature and the reindeer' in a free but utterly obligating lifestyle that they continued, and for not wanting to be a failure or disappoint their families, and for the sake of preserving the family name in reindeer-herding culture from the perspective that if you leave reindeer-herding, it is not possible to return, and that means that you would not be able to give your children the same opportunity you had.

They also experienced a social system with specific shared beliefs about reindeer-herders, explicitly connected to thoughts about being or leaving reindeer-herding Sami; the belief that being a reindeer-herder is having the 'right' interest. This was expressed as the reindeer-herding lifestyle as sometimes being very difficult, and that a person can only endure it if you have the right interest, so if you don't have the right interest you will not manage being reindeer-herder. In other words, it is not due to external circumstances that one would quit reindeer-herding; no matter what, it is because the person didn't have the right interest. As all reindeer-herders are born into the Sami reindeer-herding lifestyle, they have had the 'right' upbringing and should have gained the proper interest. Consequently a reindeer-herder who has left reindeer-herding was never a 'real' reindeer-herder, but must have been 'defect' in some way.

As a result, there are also psychological issues of identity and self-esteem, among other things, that are of importance for understanding why a reindeer-herder stays in the reindeer-herding business even when times are difficult. This would especially be of importance when reindeer-herding is a lifestyle that has some protective, but many aggravating, factors regarding mental health.

Coping in the social system

When staying in the reindeer-herding life under difficult circumstances, the way you handle and cope with different kinds of problems will be of importance. 'You shouldn't show weakness if you are a real reindeer-herding man' is the commonly shared norm expressed by the young men. It is likely that this norm influences several elements of coping with difficulties, such as developing social support. This norm is generally expressed as a traditional masculine role which has been linked with the specific vulnerability of young men, especially in indigenous populations (Hogg, 1992; Silvikén, 2007), but also of men in other cultures in terms of gender differences in stigma vis-à-vis mental illness leading to both intra-psychological coping difficulties, inter-personal coping difficulties and under-detection of mental illness (Biddle, Gunnell, Sharp, & Donovan, 2004; Bjerkeset, Romundstad, & Gunnell, 2008; Borowsky, et al., 2000; Houle, et al., 2008; Moller-Leimkuhler, Heller, & Paulus, 2007). Relating to this, the young men express the importance of different relations where group norms are less influential, such as close relations within the family or good friends outside the Sami community.

'Is there something wrong with us?'

One experience of being a reindeer-herder within a difficult reindeer-herding way of life is that it is a privilege that very few people have. Not only does this apply to legal rights, but also to the privilege of growing up in a reindeer-herding family with built-in, tacit traditional Sami knowledge. This privilege means that there are so many dreams that are difficult to express, including specific conditions regarding virtually all parts of life. But the reindeer-herding way of life is in a way also viewed as impossible.

In answering the question 'Is there something wrong with us?' the answer might be, 'There is nothing wrong with you, but the practical conditions for reindeer-herding are very difficult, and the norms among reindeer-herders and non-reindeer-herding Sami and Swedes regarding reindeer-herding and reindeer-herders contribute to a situation where reindeer-herding is a risky way of life, not only physically, but also in view of developing serious mental health problems such as suicidal ideation. This risk applies to reindeer-

herders of all ages, but mostly to young and middle-aged reindeer-herding men.

Grasping for an understanding, using theory and previous research

It is possible to link the aetiology of this situation with the process of acculturations described in previous studies (Berry, 1985; Hassler, 2005) where the conclusion was that the Swedish reindeer-herders' life situation is related to gender- and group-specific acculturation vis-à-vis the Swedish main society. Reindeer-herding men who have been described as separated, with intact Sami identity, but not fully taking part in the Swedish main society display the most group-specific patterns regarding anxiety, depression and suicidal thoughts. Reindeer-herding women who have been described as more integrated and acculturated are highly formally educated and with less, but still significant, group-specific symptoms of mental health problems.

Investigating young men more deeply, a hypothesis is that their experiences also support a separated acculturation process. Being Sami was not an explicit theme in the interviews, which can be assumed to have to do with a fully integrated Sami identity. The overwhelming and diffuse experiences of threats against the reindeer-herding lifestyle points to a Sami identity that is joined with the self-perceived identity as a whole. As has already been argued, the situation for reindeer-herding is strongly connected to both unjust adversities and lack of social support, as well as to norms surrounding the reindeer-herder.

When applying organisational psychology (Schein, 1990) these three factors may be understood as interrelated, especially when also viewed from the perspective of intersectionality. When a group does not perceive the organisation's leadership (the Swedish Government) as supporting and caring, more evident subgrouping processes will occur, and the group in our study has had at least 150 years of feeling organisational unfairness (Ruong, 1982). This has also been shown as current experiences of offensive media descriptions of reindeer-herders, an uncomprehending surrounding society and an unsupportive Swedish Government. This is probably related to the development (and maintenance) of reindeer-herding as a specific life form (Nordin, 2007) and the specific difficulties in communicating

with non-reindeer-herding Sami (Åhrén, 2009) and the instead mainly communicating within the reindeer-herding community.

The influence of socially constructed norms

The norms surrounding reindeer-herding and reindeer-herders have been shown to be of great importance, and they can be regarded as related to espoused beliefs and values which are related to shared assumptions (Schein, 1990). When viewing Swedish reindeer-herding as part of a larger organisation, it is obvious that the leadership (the Swedish Government) is experienced as non-supportive, which will increase anxiety in the specific group (Schein, 2010). Actions are defined in this perspective as for example legislation regarding rights and conditions and not talk or writings. Governmental actions showing what is preferred and who is to be considered or not considered will eventually affect the entire organisation, as shared beliefs and questioning shared beliefs and assumptions will raise anxiety, as stable but insecure fundamentals will be disturbed (Schein, 2010). Such processes have been described in the Sami community as preserving and positioning the Sami identity. When the group is under pressure or threatened the identity processes will be more stigmatised and the normative system becomes more apparent as protective factor regarding Sami identity.

The construction of the influencing norms

When the Swedish Government protected the ancient custom rights for the Swedish Sami they were linked to reindeer-herding. The Sami culture was preserved based on the Swedish Government's view of Sami, creating a split in the Sami community (Ruong, 1982). The consequence could be described as reindeer-herders, non-reindeer-herding Sami and the general Swedish population adopting the coloniser's belief that the meat-producing, extensive reindeer-herding Sami are the 'real' Sami (Nordin, 2007; Ruong, 1982). Manifest levels of expressions are likely to be contradictory, and still related to shared assumptions.

The construction of reindeer-herding as a borderline, distributing social and material resources

As the Swedish Government's laws and definitions of Sami as reindeer-herders also influenced the current shared beliefs of reindeer-herding as a symbol bearer, the important line that was drawn between reindeer-herding Sami and non-reindeer-herding may be interpreted as a social construction. This line is described as important in relation to both Sami and non-Sami, ultimately separating Sami from non-Sami individuals in Sweden, as only Sami are allowed access to reindeer-herding on traditional Sami grazing lands. An intersectional perspective in understanding power relations, this line can be assumed to be of importance in distributing accessibility to resources of both social and material matter; social in aspects of being a self-evident part of the Sami collective ladder of hierarchy for instance (Åhrén, 2009) and being a part of the reindeer-herding life form (Nordin, 2007), while material resources refers for instance to access to grazing lands and reindeer ownership. This symbolic border might be understood as preserving the relations' status in mutual dependency (Bilge, 2010; Winker & Degele, 2011). The ambivalent attitude to this dilemma in the Sami community is described as the reindeer-herders' need for the non-reindeer-herding Sami as support for demands by the reindeer-herders, and the non-reindeer-herding Sami's need of being accepted as a real Sami and the presence of extensive reindeer-herding (Amft, 2002).

Gender norms

Gender-segregated reindeer-herding is explicitly understood by young male reindeer-herders as depending on motorisation ('a physically heavy job'), financial circumstances ('one person in a reindeer-herding family needs a steady income') and childcare and household responsibility ('reindeer-herding is of such a character that it is impossible to be primarily responsible for children and household' and 'the reindeer is the reindeer-herder's first responsibility'). From a perspective of norms, the norms surrounding these arguments indicate that a reindeer-herder is a man and are related to a specific form of extensive reindeer-herding that is related to a time that some reindeer-herders view as a lost but desirable dream, as the golden age for reindeer-herding, but for most Sami it was the dark ages of Sami rights (Ruong, 1982). This is also related to

shared norms of family-based management and individual ownership and responsibility toward one's own reindeer and the family name, apparently influencing both mental health problems and gender issues like women's opportunities to enter reindeer-herding and men's possibilities to take parental leave.

The myth about the Sami community as gender equal, with a strong position for Sami women, has been analysed as self-preserving in leading to a situation where women questioning this position by feeling subordinated is not considered a real Sami woman, but has been influenced by the Swedish society (Amft, 2002). This excluding and loyalty-promoting norm is similar to the normative assumption of reindeer-herding Sami, with the latent and threatening assumption that a reindeer-herding man who quits was never really a real reindeer-herder. When a group is under pressure and under threat the norms will be more evident and almost perceived as 'true', and it is likely that the results regarding strain, threat and subgrouping increase processes of loyalty to the group in terms of accepting cultural norms.

The boundary around reindeer-herding life is not only to be understood as including and excluding, but also enclosing: of people, norms and shared assumptions among reindeer-herders, non-reindeer-herding Sami and average Swedes.

Methodological considerations

Strengths

The thesis aims at investigating mental health problems in a small and highly exposed population. Several questions were raised regarding the design of the studies. After an initiative from a Sami village, it was concluded that there was a need to investigate a specific group, namely active reindeer-herders and that several researchers involved had described the group of active reindeer-herders as very hard to reach and difficult to assess. The group was estimated to be too small and indistinct for random sampling methods to be used, so a total study was begun. Close contact with the Sami communities has strengthened the possibilities of receiving enough responses to reduce random errors. Strongly limiting the numbers of instruments in the

self-report questionnaire increased the feasibility and also reduced random errors. It was considered very important to reach active reindeer-herders to make sure that the results represented the actual situation that initiated the study. The risk of a loss of external validity from reaching too few active reindeer-herders or too many less active reindeer-herders by using postal questionnaires was estimated to be larger than the selection bias when involving Sami village chairpeople in the distribution of the questionnaire. Consequently, the categorisation of the targeted population can be considered as narrow and specific (i.e. presumably very few non-active reindeer-herders are to be found in the responding reindeer-herding group) especially in relation to larger register studies, supporting external validity when aiming at generalising results to this specific population. Internal validity was reinforced by choosing cross-cultural well-validated instruments like AUDIT, ATTS and HADS.

There is also the question of recall bias in cross-sectional epidemiologic studies, but there are several studies reporting the importance and validity of anonymously gained self-report data as compared to other methods (Evans, Hawton, Rodham, & Deeks, 2005; Middel, et al., 2006). In the present study, where matched reference groups were used, possible recall bias is presumably the same in different groups, supporting the importance of reference groups. Although data exist on other groups, the validity in comparing epidemiological data was strengthened as new geographically matched reference populations were constructed.

A main strength of the study is the mixed-methods design (Teddlie & Tashakkori, 2009). Qualitative data are necessary when studying complex and cultured phenomena (Hjelmeland, 2010; Hjelmeland & Knizek, 2010), and a combination of different methods and integrative assessments will disclose different aspects, especially when investigating mental health problems such as suicidal expressions (Hjelmeland & Knizek, 2010; Teddlie & Tashakkori, 2009). Using both quantitative and qualitative data will perhaps not provide definitive and sure answers, but in the light of previous research on reindeer-herding, this study tries to advance our understanding of the mental health of a familiar but highly exposed and relatively unexplored group.

Limitations

Generally speaking, a cross-sectional design where all measures are gained at one specific moment does not allow us to draw conclusions regarding cause and effect, even if terms like ‘determinants’ in logistic regressions may lead to that false perception. It is therefore important that the reader knows that determining the influence of a certain expression is within the boundaries of a model if other variables are held equal.

Due to both practical and ethical considerations there is a lack of information regarding the Sami village chairpersons’ distribution of questionnaires to the individual reindeer-herders, which is the most severe limitation of Study I. The lack of information gives little control over possible type I or type II errors, which especially affects external validity. As support regarding bias, the information provided by the chairpersons in the follow-up does not indicate selection bias in terms of the characteristics of responding reindeer-herders.

An aggravating circumstance in relation to both internal and external validity is the uniqueness of the studied population. It is an occupational group that is targeted, but studies have shown that reindeer-herding per se is not viewed as an occupation, but rather as a way of life (Nordin, 2007). Then the question arises as to which instruments to use and which occupational group to compare with, e.g. when measuring work-related stress. Therefore the version of the JCQ instrument used in the study has limitations in regard to internal validity. Reindeer-herders are also the core culture of an arctic indigenous group (Åhrén, 2009), which research has shown does not display the same health patterns as other indigenous groups (Hassler, 2005). Then the issue is raised as to which culture or specific groups to compare them with. For this reason, the thesis does not include comparisons with other indigenous or occupational groups, but geographically matched reference groups in different ages. The lack of proper comparable reference groups is however a limitation.

The thesis aims at investigating mental health problems, and mental health is not only the absence of sickness (WHO, 2010), but includes for instance salutogenic protective factors and socioeconomical variables. To meet the need of feasibility of the questionnaire, the deselection of instruments influences internal validity in a negative matter, thereby limiting external validity. The list of information that would have been desirable but which we chose (for various reasons) not to ask about is long.

Conclusions

The thesis shows that the reindeer-herding right, which is the border between reindeer-herding Sami and all other individuals, plays an important part when trying to understand the mental health problems in the group. It is a socially constructed institution that preserves a specific part of Sami culture, but it also excludes, includes and encloses individuals and basic assumptions of reindeer-herding and reindeer-herders in a mutually constructing process, and it is a construction with its origin in a historical acculturation process legislated by the Swedish Government and now currently influencing the intersectional distribution of access to both social and material resources defining ethnicity, gender and class as in ethnical hierarchy. The boundary is not possible to pass without consequences in access to unique Sami rights, for the individual reindeer-herder and for future generations.

As reindeer-herding is a specific life-form and lifestyle, rather than an occupation, this thesis also hypothesizes that the legal and social boundary is an element in the experienced distance to those who are not within it and especially important for reindeer-herders when the psychological pressure is vast. At present, the situation for reindeer-herders is strained, both for practical reasons like predator pressure, exploiting interests and difficult finances, and as a result of feelings of unfairness and of circumstances that feel impossible to influence. Furthermore there is a lack of social support, except from the closest part of the family, and experiences of multi-layered conflicts, all expressed as experiences of inner and outer pressure. This – together with norms that say that the reindeer-herder is a man who doesn't show weakness, has the 'right' interest, 'bites the bullet' and endures – plays a role in the present mental health problems of the Swedish reindeer-herding population. This applies especially to young and middle-aged reindeer-herding men.

Implications for further research: cross-national and multidisciplinary

This thesis has put forward that much research still needs to be done, and that it is important that future research does not avoid sensitive subjects.

The Sami population is divided by national borders and different nations have related to the Sami population in different ways, so comparative studies within the Sami population living in Sápmi would give new opportunities for gaining knowledge on topics on both distinct levels and more abstract subjects. As research on the Sami population *per se* involves several scientific perspectives, a broad interdisciplinary and cross-national project would be of importance.

Implications for further research: longitudinal and participatory across groups

Research on issues regarding Swedish reindeer-herders should include two aspects. One is the longitudinal design, which offers the ability to assess cause and effect, and the other is the design of participatory research, which involves the population in the research process and includes implementation and action (Cook, 2008; Wicks & Reason, 2009). Regarding future research, this thesis puts forward that ‘the population’ does not mean Swedish Sami reindeer-herders. The specific conditions studied are socially and mutually created by reindeer-herding men and women, non-reindeer-herding Sami and non-Sami Swedes in contact with reindeer-herding in some way. Therefore participatory research may include many different groups, creating an open space for communication and action in a research process, which is also in line with Schein’s proposal for development regarding organisational culture (Schein, 2010).

Implications for actions regarding mental health among the reindeer-herding Sami population in Sweden

The experiences from this thesis point out needs on several levels. As the analysis of mental health in the group is on two levels, suggested implications may be structured accordingly, first on implementations in order to relieve pressure and secondly on the cultural level of basic assumptions.

At first it is evident that the pressure within the reindeer-herding community is vast, and efforts to reduce the load are needed. This includes issues like financial security, predator pressure, social support, conflicts etc. It is preferable for suggestions on practical matters to be given by the reindeer-herding group rather than by a researcher, but we can assume that a general increase in knowledge

about reindeer-herders' rights and their historical origins is important.

Regarding preventive contributions on suicide the so called "Papageno effect" (Niederkrötenhaler, et al., 2010) has been shown to be positive, i.e. public reports of people who have gone through difficult times and received help in managing their situation have a tendency to present new perspectives.

Regarding central and normative basic assumptions, it is difficult to suggest interventions other than making social constructions explicit in ways that promote the feeling that 'things could be different'. The obstacle is that, when basic assumptions are made explicit in a stigmatised group, their shared beliefs are to some extent questioned, which generally raises anxiety, which in turn strengthens the norms that in themselves protect stability. Thereby the self-protecting system is always difficult to change, and this is the case in any strained group, small or large.

One construct influencing mental health among reindeer-herding Sami is the construct of a border. However, this thesis does not have the answer or a proposal for how a just and fair system should be constructed regarding the legislated border surrounding reindeer-herding, or what the social norms of reindeer-herding should be. What can be put forth is that a system that organises and supports co-operation, equitably distributing opportunities and access to social and material resources for men and women, would be a system that could promote mental health.

Acknowledgements

All my heartfelt thanks:

To my wife Camilla and my children Olle and Fröjdis for being close, sharing and giving me true reasons.

To my brother Andreas for being ever surprised and slightly impressed, and for letting me know that it is a luxury to actually have time to both study and conduct research during PhD studies.

To my supervisor Ellinor. Along my long and tedious journey of PhD studies you proved to be not only competent as a researcher and teacher, but also very empathetic when not for a single moment miss noticing when I was in difficulty and in need of support and backing.

To my assistant supervisor Lars for believing in the most impossible missions, letting everyone prove their worth, for putting all research do's and do not's in perspective, and for being sincerely interested. A true inspiration.

To my colleague Terje, for being my fearless and foolhardy teacher and co-worker in everything that had to do with the reindeer-herding culture. During our endless driving sessions between interviews all around Sápmi, the process of putting results in the perspective of history and in light of psychological theory received all the time that was necessary.

To my fellow PhD students for being an enormous support. Even though you were intelligent, clever, humorous, and gifted beyond words, I still never had to hesitate to raise the most unconsidered questions and propositions, and I can only recollect being patronized a few times☺

To the young men who took me in and opened up in talks about the most difficult subjects. I sincerely hope that this thesis makes a difference in a positive way for you.

To Maggan and Bettan for being ever present and supportive.

To my office roommate Martin for teaching me the essentials of ice hockey.

To all the wonderful staff at the Division of Psychiatry.

This study was supported by grants from the Swedish Council for Working Life and Social Research (FAS). The authors wish to thank all participants for their cooperation.

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