

# Ethnic discrimination and psychological distress: A study of Sami and non-Sami populations in Norway

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## Abstract

The prevalence of psychological distress and its association with ethnic discrimination was examined among 13,703 participants (36 to 79 years of age) in a population-based study of health and living conditions in areas with indigenous Sami, Kven (descendants of Finnish immigrants), and Ethnic Norwegian populations (the SAMINOR study). Sami and Kven males reported greater levels of stress than Ethnic Norwegians. Ethnic discrimination was strongly associated with elevated levels of psychological distress. Results suggest that ethnic discrimination is a major potential risk factor for poor mental health, and may contribute to ethnicity-related differences in mental health between Sami and non-Sami populations.

## Keywords

ethnic discrimination, mental health, psychological distress, Sami, SAMINOR

Discrimination based on ethnicity has been an unfortunate reality for Sami people in Norway (Hansen, Melhus, Høgmø, & Lund, 2008). As an indigenous people, the Sami have been exposed to discrimination and prejudice as the consequences of colonization and forced assimilation (Hansen et al., 2008; Lund et al., 2007). During the so-called *Norwegianization period* from approximately 1850 to 1960, the Norwegian government made intense efforts to force the Sami to adopt the Norwegian language and alter basic value structures inherent to Sami culture and identity (Jensen, 2005). During this period, discrimination and negative attitudes toward the Sami were widespread in practically all aspects of society (Bals, Turi, Skre, & Kvernmo, 2010). A similar approach to ethnic minorities was implemented

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in other Nordic countries and elsewhere in Europe, due to the emergence of nationalism and the rapid development of nation states. In Norway, minorities such as the Sami and Kvens were considered a major security risk, partly because they inhabited northern territories in close proximity to Russia (Gaski, 1997). The resulting policy of Sami and Kven assimilation focused on education, language, and identity (Hoëm, 1976, 1986). The policy of Norwegianization continued until the late 1950s, when the education system was reformed (Jensen, 2005). However, various forms of assimilation were imposed on the Sami as late as the 1970s, and they continued to be discriminated against and marginalized socially and politically (Eidheim, 1977). Although the outcome of the Norwegianization policy and the ethnic revitalization movement has varied according to the different regions inhabited by the Sami (Turi, Bals, Skre, & Kvernmo, 2009), Sami today are forced to deal with at least two “worlds”: that of traditional Sami culture and the Westernized Norwegian culture.

Today there are officially some 40,000 indigenous Sami among the 500,000 inhabitants of northern Norway. However, because information on ethnicity in public registers is limited, this estimate may be very conservative. Although historically, the Sami were nomadic reindeer herders or small-scale farmers and fishermen along the coastline, currently less than 10% are occupied in this traditional way of life, and most have ordinary Western lifestyles (Sørli & Nergaard, 2005). However, despite strong efforts to assimilate the Sami, their original language, traditions and belief systems have been largely preserved. On the other hand, for many Sami, as for other indigenous peoples worldwide, colonization and assimilation have led to an extensive loss of ethnic identity, language, and traditional knowledge (Turi et al., 2009). In recent decades Sami society has undergone an ethnic and cultural revival (Hansen et al., 2008; Pedersen & Høgmo, 2004). Although the Sami have suffered the consequences of former racist policies, the current political climate favours implementing measures to promote the education, health, research, arts, and politics of the indigenous population. Indeed, the Sami enjoy greater cultural equality with the majority population and social development than indigenous peoples of some other nations (Young & Bjerregaard, 2008). For example, there is a growing class of well-educated Sami, led in particular by a new generation of Sami women (Samiske tall forteller 2, 2009; Statistics Norway, 2008). Most Sami children are bilingual and have either Sami or Norwegian as their first language in school. Despite these developments, the Sami population remains more likely to face ethnic discrimination and bullying than the general population (Hansen et al., 2008).

Discrimination may be defined as negative behaviour towards a group or one of its members, whereas *prejudice* is an attitude that can lead to discrimination (Hall, 2005). Ethnic discrimination is often based on stereotypes, that is, unstructured prejudices as derogatory simplifications and generalizations regarding ethnic groups different to one's own. Three types of discrimination have been distinguished: classic discrimination, overt discrimination, and aversive racism. Classic discrimination occurs when one can clearly determine who is discriminating against

a person and how they are doing this. Overt discrimination is when someone wants to maintain superiority over a group through the exercise of power. Aversive racism is an unintentional form of discrimination based on one's values and negative attitudes towards certain people (Hall, 2005). Ethnic discrimination exists in multiple domains, including interpersonal, environmental, institutional, and cultural spheres (Krieger, 1999).

A number of studies have suggested that ethnic discrimination has significant health-related consequences (Ahmed, Mohammed, & Williams, 2007; Gee, Spencer, Chen, Yip, & Takeuchi, 2007; Hansen, Melhus, & Lund, 2010; Harris et al., 2006a, 2006b; Karlsen & Nazroo, 2002; Pascoe & Smart, 2009; Williams & Mohammed, 2009; Williams, Neighbors, & Jackson, 2003) and that mental health is the aspect most affected (Paradies, 2006). Epidemiological studies have found perceived interpersonal discrimination to be associated with increases in the incidence of mental disorders including psychosis (McKenzie, 2006). How discrimination affects mental health is difficult to investigate because of its complex interaction with multiple risk factors at molecular, genetic, individual, interpersonal, and environmental levels (Krieger, 1999). Discrimination has an impact on mental health in many ways, including through economic and social inequality, decreased mobility (i.e., reduced opportunities for education, employment, and loans), inequality of access to positive aspects of the social environment, inappropriate medical care, and targeted marketing of commodities that may be harmful to health, notably alcohol, tobacco, and drugs (Krieger, 1999). On the individual level, discrimination may be a mental and physical stressor that results in other forms of morbidity, such as high blood pressure and cardiovascular reactivity (Ong, Fuller-Rowell, & Burrow, 2009; Williams & Mohammed, 2009).

The theory of stress, appraisal, and coping (Lazarus & Folkman, 1984) provides a framework for understanding how stressors such as discrimination can induce psychological disorders in some people whereas others are unaffected. According to Lazarus and Folkman (1984), events become stressful if they represent a burden that exceeds available coping resources and are considered a threat to the individual's well-being. The individual evaluates whether an event is a potential threat to well-being and health (primary appraisal) and the degree to which available coping resources (found internally within the person and/or externally in the environment) are adequate for dealing with these stressors (secondary appraisal) (Frydenberg, 1997; Lazarus & Folkman, 1984).

Despite the negative consequences of discrimination, recent studies suggest that the harmful effects may be moderated by the individual's ethnic identification (Yip, Gee, & Takeuchi, 2008). There are two hypotheses as to how ethnic identity influences the link between discrimination and health: (a) if the person's ethnic identity represents a protective resource, it should buffer the negative effects of discrimination; and (b) an individual reporting discrimination based on an important and central aspect of his or her identity may be expected to report higher levels of negativity. However, research on the impact of ethnic identity on the association between discrimination and mental health is equivocal (Brondolo, Brady Ver,

Pencille, Beatty, & Contrada, 2009; Yip et al., 2008). Some of the inconsistencies in this literature may be related to the use of different definitions of ethnicity.

The term *ethnicity* refers to a distinct group of people or a cultural minority, such as the Sami. In everyday language, the term *ethnic group* typically refers to a minority group (for example, the Sami) as distinguished from the general population (i.e., the ethnic majority). The concept of ethnicity, however, applies to the majority as well. Ethnicity involves culture, language, religion, traditions, and other essential qualities that groups of people employ to establish and maintain their collective status and identity (Erikson, 1971). Ethnicity defines populations with a shared history in which interaction generates and perpetuates a coherent social unit; cultural signifiers create contrasts to other groups of comparable order (Barth, 1982, 1998). Above all, ethnicity is an aspect of social relations and thus remains a matter of people's sense of belonging to a particular group. Ethnicity comes into being and manifests itself when cultural differences between groups are made salient in interaction with others (Barth, 1998). Being a member of a particular ethnic group affects exposure to different risk factors that may influence mental health (Kleinman, 1988).

There are few studies of the mental health of the Sami in Norway. This is mainly because the Sami are officially considered and registered as Norwegian citizens, making it difficult to produce data on them as a distinct population. The few studies to date have not found differential levels of mental health among Sami adolescents or adults compared to their counterparts in the general population (Bals et al., 2010; Kvernmo, 2004; Møllersen, Sexton, & Holte, 2005). A previous study with the same sample as that in the present report found that Sami used less sleep medication than the general population, which may indicate less frequently occurring or less severe psychological ailments in Sami populations (Bakken, Melhus, & Lund, 2006).

The present study had two objectives: (a) to determine the prevalence of psychological distress within Sami and non-Sami populations in Norway, and (b) investigate the associations between ethnic discrimination and psychological distress.

## Methods

This paper is based on the data from the population-based SAMINOR study of health and living conditions in areas with mixed Sami, Kven, and Norwegian populations, for which data were collected during 2003 and 2004. The study has been described in detail elsewhere (Lund et al., 2007). Information on ethnicity, experiences of ethnic discrimination, mental health, and sociodemographic characteristics were collected by questionnaires. The questionnaires were self-administered, but the respondents were reminded to fill out the questions about ethnicity during screening. The questionnaires were available both in the Norwegian and Sami languages.

## **Setting**

The study included selected municipalities in Norway in which more than 5% of the population had reported to be of Sami descent in the 1970 Population Census (Aubert, 1978) as well as some districts that had reported a lower percentage of ethnic Sami because the census assumed that self-reported Sami ethnicity was underreported due to the long history of intensive assimilative pressure (Aubert, 1978). A total of 24 municipalities stretching from Trøndelag county in central Norway to Finnmark county in northern Norway were included in the survey.

The sample was further divided into locations, within and outside the Administrative Area of the Sami Language. In 1990 the Norwegian government amended the Sami Act (of 1987) regarding language to make Sami an official language of Norway specific to the municipalities of Kautokeino, Karasjok, Kåfjord, Nesseby, Porsanger, and Tana. Today, Tysfjord (2006), Snåsa (2008), and Lavangen (2009) have also been incorporated. These municipalities are referred to as The Administrative Area of the Sami Language (Act of 12 June 1987; The Sami Act, 1987). The purpose of the act was to safeguard and develop the language, culture, and way of life of the Sami people. Within the Administrative Area, the Sami population has the right to receive public correspondence in the Sami language, to use the language in public transactions, and adopt the language within the public school system. Even outside these designated municipalities individuals have the right to receive instruction in the Sami language (Jernsletten, 1993).

## **Sample**

Everyone in the defined SAMINOR area between 36 and 79 years of age (a total of 27,151 persons) was invited to participate in the study; 16,538 people chose to participate and gave informed consent to medical research, giving a response rate of 60.9% (Lund et al., 2007). Our sample was further restricted to the 13,703 individuals who responded adequately to questions about mental health (50.5% of those who were invited to participate in the study). In terms of ethnic distribution, the survey recorded 34.6% Sami, 7.9% Kven, and 57.5% Ethnic Norwegian. Females constituted 50.7% of the sample. For additional study sample characteristics, see Tables 1–4.

## **Classifying ethnicity**

When classifying ethnicity, it is important to recognize that historical lines of division between Sami and non-Sami populations have blurred due to the Sami cultural revival that has taken place in recent decades. This revival has brought about an increased sense of Sami belonging and an acceptance of diversity (Stordahl, 1991). Further, individuals may provide different answers based on how questions are phrased and preferences regarding the use of certain “ethnic labels.” Some may

**Table 1.** Sample characteristics by ethnicity (men, N = 6755<sup>1</sup>)

	Sami I (n = 762)		Sami II (n = 1081)		Sami III (n = 493)		Kvens (n = 535)		Ethnic Norwegians (n = 3884)		Statistical test
	%	n	%	n	%	n	%	n	%	n	
Age group (years)											
36–49	32.2	(245)	40.9	(442)	32.5	(160)	31.0	(166)	37.0	(1436)	$\chi^2 = 42.8$
50–64	42.8	(326)	43.6	(471)	45.8	(226)	47.9	(256)	44.3	(1721)	df=8
65–79	25.1	(191)	15.5	(168)	21.7	(107)	21.1	(113)	18.7	(727)	p < .0001
Discriminated against											
Often	9.6	(61)	4.2	(38)	2.5	(10)	0.9	(4)	0.5	(17)	
Sometimes	28.2	(180)	16.3	(149)	12.3	(49)	6.9	(32)	3.0	(98)	$\chi^2 = 1131.1$
Seldom	28.2	(180)	23.6	(180)	24.8	(99)	15.1	(70)	9.9	(329)	df=8
Never	34.0	(217)	55.9	(511)	60.5	(242)	77.2	(358)	86.6	(2868)	p < .0001
Marital status											
Single	30.0	(190)	27.9	(254)	21.0	(84)	20.3	(93)	17.9	(595)	$\chi^2 = 74.9$
Married/cohabiting	70.0	(443)	72.1	(658)	79.0	(316)	79.7	(365)	82.1	(2724)	df=4
Education in number of years											
High	23.7	(175)	29.2	(303)	32.1	(151)	28.8	(151)	33.3	(1245)	$\chi^2 = 63.9$
Medium	17.0	(125)	22.8	(236)	16.8	(79)	19.5	(102)	21.9	(817)	df=8
Low	59.3	(437)	48.0	(497)	51.1	(240)	51.7	(271)	44.8	(1675)	p < .0001
Household income in NOK											
Low	16.2	(111)	8.0	(82)	9.6	(44)	8.2	(42)	5.9	(216)	
Medium low	59.4	(407)	57.6	(593)	56.0	(257)	51.8	(264)	55.8	(2061)	$\chi^2 = 123.6$
Medium high	15.8	(108)	23.1	(238)	20.5	(94)	25.3	(129)	25.1	(926)	df=12
High	8.6	(59)	11.3	(116)	13.9	(64)	14.7	(75)	13.2	(489)	p < .0001
Sami Language Act's district											
Within the area	77.8	(593)	45.3	(490)	31.6	(156)	26.0	(139)	10.2	(397)	$\chi^2 = 1771.8$
Outside the area	22.2	(169)	54.7	(591)	68.4	(337)	74.0	(396)	89.8	(3487)	df=4

<sup>1</sup>Subgroups may not total 6,755 due to missing values.

**Table 2.** Sample characteristics by ethnicity (women, N = 6948<sup>1</sup>)

Ethnic classification	Sami I (n = 783) % n	Sami II (n = 1018) % n	Sami III (n = 491) % n	Kvens (n = 495) % n	Ethnic Norwegians (n = 4161) % n	Statistical test
Age group (years)						
36–49	39.3 (308)	46.4 (472)	39.5 (194)	34.9 (173)	40.5 (1685)	$\chi^2 = 46.6$
50–64	38.6 (302)	40.4 (411)	40.9 (201)	40.6 (201)	41.8 (1741)	df = 8
65–79	22.1 (173)	13.3 (135)	19.6 (96)	24.4 (121)	17.7 (735)	p < .0001
Discriminated against						
Often	7.3 (48)	4.3 (38)	2.1 (9)	1.1 (5)	0.5 (18)	
Sometimes	26.1 (173)	12.5 (111)	7.1 (30)	5.5 (24)	2.7 (99)	$\chi^2 = 1156.6$
Seldom	26.3 (174)	18.6 (165)	16.6 (70)	8.0 (35)	5.5 (198)	df = 12
Never	40.3 (267)	64.6 (573)	74.2 (313)	85.4 (375)	91.3 (3313)	p < .0001
Marital status						$\chi^2 = 34.2$
Single	29.7 (192)	25.1 (222)	26.6 (112)	27.8 (121)	21.0 (763)	df = 4
Married/cohabiting	70.3 (455)	74.9 (662)	73.4 (309)	72.2 (314)	79.0 (2867)	p < .0001
Education in years						
High	34.5 (254)	35.7 (343)	39.3 (185)	33.2 (157)	37.4 (1474)	$\chi^2 = 23.1$
Medium	14.4 (106)	19.7 (189)	16.1 (76)	19.9 (94)	19.1 (754)	df = 8
Low	51.2 (377)	44.6 (428)	44.6 (210)	46.9 (222)	43.5 (1714)	p < .005
Household income in NOK						
Low	16.9 (114)	9.9 (92)	11.4 (51)	13.1 (59)	9.2 (347)	
Medium low	58.7 (395)	56.8 (527)	59.4 (265)	56.1 (252)	54.1 (2041)	$\chi^2 = 72.3$
Medium high	15.3 (103)	22.2 (206)	19.7 (88)	20.0 (90)	24.0 (906)	df = 12
High	9.1 (61)	11.1 (103)	9.4 (42)	10.7 (48)	12.7 (480)	p < .0001
Sami Language Act's district						$\chi^2 = 1934.6$
Within the area	82.6 (647)	45.9 (467)	35.6 (175)	28.7 (142)	11.3 (471)	df = 4
Outside the area	17.4 (136)	54.1 (551)	64.4 (316)	71.3 (353)	88.7 (3690)	p < .0001

<sup>1</sup>Subgroups may not total 6,948 due to missing values.

**Table 3.** Prevalence of psychological distress by ethnicity (men, N = 6755<sup>1</sup>)

	Sami I % n	Sami II % n	Sami III % n	Kvens % n	Ethnic Norwegians % n	p-value Total % n
Overall	7.7 (59)	8.1 (88)	5.9 (29)	8.2 (44)	5.9 (229)	6.5 (449) 004 <sup>2</sup>
Age group (years)						
36–49	10.2 (25)	10.0 (44)	6.3 (10)	10.2 (17)	6.6 (95)	$\chi^2 = 7.2, df = 8$
50–64	7.7 (25)	8.1 (38)	6.6 (15)	7.0 (18)	5.8 (99)	
65–79	4.7 (9)	3.6 (6)	3.7 (4)	8.0 (9)	4.8 (35)	.51 <sup>3</sup>
Discriminated against						
Often/sometimes	12.4 (30)	12.8 (24)	10.2 (6)	19.4 (7)	19.1 (22)	14 (89)
Seldom	5.0 (9)	8.8 (19)	5.1 (5)	11.4 (8)	9.1 (30)	$\chi^2 = 69.3, df = 8$
Never	4.6 (10)	6.1 (31)	4.5 (11)	7.0 (25)	4.8 (137)	.001 <sup>3</sup>
Marital status						
Single	12.1 (23)	14.6 (37)	11.9 (10)	14.0 (13)	9.6 (57)	$\chi^2 = 12.4, df = 4$
Married/cohabiting	5.9 (26)	5.6 (37)	3.8 (12)	7.4 (27)	4.9 (133)	.02 <sup>3</sup>
Education in number of years						
> 13 years	5.7 (10)	8.6 (26)	5.3 (8)	6.6 (10)	5.5 (69)	$\chi^2 = 10.9, df = 8$
10–12 years	5.6 (7)	8.1 (19)	7.6 (6)	8.8 (9)	5.8 (47)	
< 10 years	9.2 (40)	7.8 (39)	5.0 (12)	9.2 (25)	6.4 (108)	.21 <sup>3</sup>
Household income in NOK						
< 150,000	13.5 (15)	19.5 (16)	13.6 (6)	14.3 (6)	16.2 (35)	$\chi^2 = 8.3, df = 12$
150,000–450,000	7.1 (29)	7.9 (47)	6.2 (16)	10.2 (27)	6.1 (126)	
451,000–600,000	6.5 (7)	6.7 (16)	2.1 (2)	5.4 (7)	4.4 (41)	
≥ 601,000	1.7 (1)	3.4 (4)	1.6 (1)	2.7 (2)	2.5 (12)	.76 <sup>3</sup>
Sami Language Act's district						
Within the area	8.1 (48)	8.4 (41)	5.8 (9)	7.2 (109)	6.3 (25)	$\chi^2 = 127.0, df = 4$
Outside the area	6.5 (11)	8.0 (47)	5.9 (20)	8.6 (34)	5.9 (204)	.001 <sup>3</sup>

<sup>1</sup>Subgroups may not total 6,755 due to missing values.<sup>2</sup>Cochran–Mantel–Haenszel test, adjusted for age.<sup>3</sup>Evaluated by  $\chi^2$ -test.



Table 4. Prevalence of psychological distress by ethnicity (women, N = 6948<sup>1</sup>)

Ethnic classification	Ethnic				Statistical test Total % n	
	Sami I % n	Sami II % n	Sami III % n	Kvens % n		Norwegians % n
Overall	8.3 (65)	11.4 (116)	10.8 (53)	9.5 (47)	9.9 (413)	10 (694) $p = .34^2$
Age group (years)						
36–49	7.8 (24)	13.1 (62)	13.4 (26)	6.9 (12)	10.4 (176)	$\chi^2 = 17.8, df = 8$
50–64	9.9 (30)	10.9 (45)	10.0 (20)	12.4 (25)	11.2 (195)	
65–79	6.4 (11)	6.7 (9)	7.3 (7)	8.3 (10)	5.7 (42)	$p = .02$
Discriminated against						
Often/sometimes	13.6 (30)	19.5 (29)	12.8 (5)	27.6 (8)	29.9 (35)	19 (107)
Seldom	7.5 (13)	15.8 (26)	12.9 (9)	8.6 (3)	19.2 (38)	$\chi^2 = 114.9, df = 8$
Never	4.1 (11)	7.9 (45)	10.2 (32)	8.0 (30)	8.5 (283)	$p < .001$
Marital status						
Single	9.9 (19)	15.8 (35)	13.4 (15)	9.1 (11)	12.3 (94)	$\chi^2 = 4.3, df = 4$
Married/cohabiting	7.5 (34)	9.8 (65)	9.7 (30)	9.6 (30)	9.0 (259)	$p = .36$
Education in number of years						
> 13 years	8.3 (21)	9.3 (32)	10.8 (20)	4.5 (7)	8.3 (122)	$\chi^2 = 9.9, df = 8$
10–12 years	8.5 (9)	12.2 (23)	14.5 (11)	9.6 (9)	8.8 (66)	
< 10 years	8.2 (31)	13.3 (57)	9.5 (20)	13.5 (30)	11.7 (200)	$p = .272$
Household income in NOK						
< 150,000	11.4 (13)	22.8 (21)	11.8 (6)	13.6 (8)	17.6 (61)	$\chi^2 = 11.9, df = 12$
150,000–450,000	8.9 (35)	12.9 (68)	11.7 (31)	9.5 (24)	10.3 (211)	
451,000–600,000	7.8 (8)	5.3 (11)	11.4 (10)	6.7 (6)	8.1 (73)	
≥ 601,000	3.3 (2)	7.8 (8)	7.1 (3)	6.3 (3)	8.1 (39)	$p = .45$
Sami Language Act's district						
Within the area	8.2 (53)	12.2 (57)	7.4 (13)	7.7 (11)	8.7 (41)	$\chi^2 = 195.8, df = 4$
Outside the area	8.8 (12)	10.7 (59)	12.7 (40)	10.2 (36)	10.1 (372)	$p < .001^3$

<sup>1</sup>Subgroups may not total 6,948 due to missing values.<sup>2</sup>Cochran–Mantel–Haenszel test, adjusted for age.<sup>3</sup>Evaluated by  $\chi^2$ -test.

have concerns about how their answer might be used (Møllersen et al., 2005). In previous studies explicit recognition of Sami identity and Sami language proficiency have been considered strong indicators of Sami ethnicity. The questionnaire used in this study asked about the language used at home and the language used by parents and grandparents. The available choices were “Sami,” “Norwegian,” “Kven,” or “Other (specify).” The same response options were used for questions regarding the ethnic background of participants and their parents. In addition, survey participants were also asked about self-perceived ethnicity. For all questions, participants were allowed to give more than one answer. Based on these questions, five identity categories were developed for use in analyses:

- *Sami I*: The Sami language was used at home by the respondent, the respondent’s parents and the respondent’s maternal and paternal grandparents.
- *Sami II*: The respondent reported having at least two Sami-speaking grandparents.
- *Sami III*: Sami language or ethnicity applied to the respondent or at least one parent or grandparent.
- *Kven*: The respondent was a descendant of Finnish-speaking migrants from northern Finland or Sweden (who settled in northern Norway in the 1700s and 1800s).
- *Ethnic Norwegian*: The respondent reported no Sami or Kven ethnicity.

This study defined Kvens as those proficient in the Kven language or those who considered that Kven ethnicity applied to themselves, a parent, or a grandparent. As we were particularly interested in the Sami population, respondents with mixed (Sami and Kven) backgrounds were classified as Sami; participants classified as immigrants with no Sami, Kven, or Norwegian ethnicity or language (272 respondents) were excluded from the analysis.

The Sami I group was found to be very strongly associated with self-reported Sami ethnicity (98%) and self-perceived Sami ethnicity (94%) (Hansen et al., 2008; Lund et al., 2007). The Sami II and Sami III groups tended to have mixed backgrounds (combinations of Sami, Kven, and Norwegian ethnicity) and were less strongly associated with self-reported (62% and 42%, respectively) and self-perceived (43% and 26%) Sami ethnicity. A majority of participants classified as Sami II or Sami III conceived of themselves as more Norwegian than Sami. Thus, in this article we take cultural lifestyle and self-perceived and self-reported ethnicity into account by using Sami language proficiency as the criterion for categorization of ethnicity. Further details on the categorization of ethnicity in the SAMINOR study have been published previously (Hansen et al., 2008; Lund et al., 2007).

*Psychological distress.* A 10-item version of the Hopkins Symptoms Check List (HSCL-10) was used to measure global psychological distress, primarily anxiety and depression (Strand, Dalgard, Tambs, & Rognerud, 2003). Specifically, this

shortened version measures respondents' feelings during the previous week of panic, anxiousness, dizziness, tension, sleeplessness, sadness, worthlessness, hopelessness, self-blame, and finding everything burdensome. Each item is rated on a 4-point scale from 1 = "Not at all" to 4 = "Extremely." The HSCL-10 score is calculated by summing the items and dividing the total score by 10. Missing values were replaced with the sample mean value for each item. Response sheets with three or more missing items were excluded from analysis (Søgaard, Bjelland, Tell, & Røysamb, 2003). Using this procedure, the number of valid subjects totalled 13,703. Of these, 602 respondents had missing data on one item and 167 had missing data on two items. In the total sample, the internal consistency of the scale was high (Cronbach's  $\alpha = .89$ ) and remained high for all ethnicities (range 87 to 89). Based on several studies a cut-off point of 1.85 is recommended as a valid predictor of psychological distress (Strand et al., 2003).

A second measure of mental health was obtained with a question about psychological problems for which the respondents have sought professional help.

*Ethnic discrimination and bullying.* In this study, ethnic discrimination was assessed by self-report. Participants were asked "Have you ever experienced bullying or discrimination on account of your ethnic (Sami, Kven, Russian, Tamil, Norwegian, etc.) background?" The available responses were "Very often," "Sometimes," "Rarely," and "Never." The question was a measure of lifetime experience and did not distinguish between interpersonal, institutional, or structural level or type of discrimination.

*Socioeconomic status.* Respondents' level of education was categorized according to how many years they had spent in educational institutions (including primary and secondary school), with the response options "Low" (less than 10 years), "Medium" (between 10 and 13 years) and "High" (more than 13 years). Respondents' household incomes (2003–2004) were categorized according to gross household income (in Norwegian crowns, NOK), with "Low income" defined as less than NOK 150,000, "Medium low income" NOK 150,000–450,000, "Medium high income" NOK 451,000–600,000, and "High income" for incomes of more than NOK 600,000. Marital status was reported as single, married, or in a de facto relationship (cohabitants).

*Ethics.* The necessary permissions to conduct the project were obtained from the Regional Medical Ethics Committee and the Norwegian Social Sciences Data Services. All respondents provided written consent to participate.

### *Data analysis*

The Statistical Package for the Social Sciences (SPSS for Windows, Version 17, SPSS Inc., Chicago, IL, USA) was used in data analysis. Cross tabulations were analysed using Pearson's chi-square test and the Cochran–Mantel–Haenszel test

(when adjusted for age) to compare ethnic populations (Sami and non-Sami) on the prevalence of psychological distress by age, discrimination, marital status, education, income, and living area. To analyse the link between exposure to distress and all other variables as independent variables, a logistic regression model (with exposure to distress as the dependent variable) was used to estimate the adjusted odds ratios in two forward stepwise regression analyses. The analyses were stratified according to gender. Finally, we explored the interaction between ethnic discrimination and ethnicity.

## Results

There were significant differences in demographic characteristics across groups (see Tables 1 and 2). Sami respondents were more frequently unmarried and of lower socioeconomic status than Ethnic Norwegians. Kvens and the mixed Sami–Norwegian groups (Sami II and Sami III) were similar in terms of socioeconomic status. Participants belonging to the Sami I category mainly lived within the Administrative Area of the Sami Language (80%) whereas most Ethnic Norwegians lived outside the Administrative Area (90%).

In total, 6.5% of men and 10% of women reported experiencing psychological distress in the clinical range (measured by HSCL > 1.85) (see Tables 3 and 4). Psychological distress in men was somewhat more prevalent in the Sami groups I and II and in Kvens (Table 3). In females there were no significant differences in prevalence of distress between the different ethnic groups (see Table 4). Both male and female Sami respondents reported being more discriminated against than Ethnic Norwegians. Among those who reported being discriminated against “Often” and “Sometimes” stress levels were higher, at 14% in men and 19% in women. Sami who perceived discrimination as happening “Often” and “Sometimes” reported somewhat lower levels of distress than did Kvens and Ethnic Norwegian peers (see Tables 3 and 4).

In general, females reported having psychological problems for which they have sought treatment more frequently than males. Sami-speaking females (Sami I) reported less psychological problems than the other groups. In males, ethnicity did not affect the prevalence rate for reporting psychological problems. Comparing the two measures of mental health, more respondents reported psychological problems than psychological distress, with the exception of Sami-speaking males and females (Sami I), who reported similar prevalence of psychological problems and distress. For both genders, given that the respondent had reported psychological distress (HSCL > 1.85), between 1 in 3 and 1 in 2 people reported that they had sought help for psychological issues (see Table 5).

Bivariate analyses showed that for both males and females, being single was associated with distress ( $p < .001$ ). Sami I males within the Administrative Area reported more distress than those outside it. When compared to females outside the Administrative Area, females inside reported lower levels of distress (with the exception of Sami II females) (see Tables 3 and 4).

**Table 5.** Prevalence of psychological problems for which respondents sought help by gender and ethnicity

	Sami I % (n)	Sami II % (n)	Sami III % (n)	Kvens % (n)	Ethnic Norwegians % (n)	p-value <sup>a</sup>
<b>Men</b>						
Psychological problems (PP)	7.3 (54)	10.2 (107)	8.8 (42)	8.7 (45)	8.2 (308)	0.22
PP HSCL-10 >1.85 <sup>b</sup>	45.6 (26)	35.6 (31)	33.3 (9)	38.6 (17)	45.5 (100)	0.42
<b>Women</b>						
Psychological problems (PP)	9.0 (69)	14.9 (148)	13.7 (65)	13.3 (64)	14.6 (587)	0.001
PP HSCL-10 >1.85 <sup>b</sup>	32.3 (20)	51.8 (59)	51.0 (26)	55.6 (25)	49.9 (195)	0.08

<sup>a</sup>Cochran–Mantel–Haenszel test, adjusted for age.

<sup>b</sup>Of respondents who sought help, number who also reported high level of psychological distress.

Logistic regression was used to investigate the association between discrimination and distress in males and females. The main effect of age, ethnicity, marital status, discrimination, education, household income, as well as living within the Administrative Area were included one by one as predictors. Similarly to the bivariate analyses, the multivariate age-adjusted odds ratio (OR 95% CI) estimates also indicated an elevated risk of psychological distress for the Sami (Sami I and Sami II) and Kven males in comparison to the Norwegian majority population. When marital status was included in the model, the estimates declined slightly and were no longer significant for Sami males. Independently of ethnicity and gender, the decrease in the odds ratio estimations of psychological distress was most significant after ethnic discrimination was included in the model (see Tables 6 and 7).

The likelihood of psychological distress increased with the frequency of discrimination in a dose-response fashion. Independent of ethnicity, respondents who reported discrimination as happening “Often” were more likely to report distress than those who did not report any discrimination; in females the adjusted estimate was OR = 6.02 (CI 3.87–9.37) and in males OR = 5.22 (CI 3.21–8.47) (after controlling for age, ethnicity, and marital status). Adjusting for socioeconomic disadvantage made little change in these estimates; there was a marginal decline in the ratio for males with OR = 4.50 (CI 2.63–7.69) and, in fact, an increase in the estimate for females OR = 6.33 (CI 3.88–10.22). Independent of gender, no interaction between discrimination and identity was observed at the cut-off point of 1.85.

Across ethnic groups, reported ethnic discrimination was associated with increased levels of psychological distress. In multiple regression analyses, independent of ethnicity and after inclusion of all predictors, there were some gender-related differences in protective factors against distress. In the case of females, factors such as having education above the primary school level and living within the Administrative Area of the Sami Language were significant protective

**Table 6.** Logistic regression of social determinants of psychological distress in men

Variable	Model					
	Age + ethnicity OR (95% CI)	+ Marital status OR (95% CI)	+ Ethnic discrimination OR (95% CI)	+ Education OR (95% CI)	+ Household income* OR (95% CI)	+ Administrative Area OR (95% CI)
Ethnicity						
Sami I	1.38 (1.03–1.86)	1.25 (0.90–1.74)	0.69 (0.48–1.02)	0.69 (0.48–1.02)	0.60 (0.40–0.90)	0.60 (0.39–0.94)
Sami II	1.38 (1.07–1.79)	1.29 (0.97–1.71)	0.93 (0.68–1.26)	0.92 (0.68–1.26)	0.89 (0.65–1.23)	0.89 (0.64–1.25)
Sami III	1.02 (0.68–1.52)	0.95 (0.60–1.49)	0.75 (0.47–1.19)	0.73 (0.45–1.18)	0.75 (0.46–1.22)	0.75 (0.46–1.22)
Kvens	1.48 (1.06–2.07)	1.59 (1.11–2.28)	1.46 (1.02–2.10)	1.46 (1.01–2.10)	1.46 (1.00–2.15)	1.46 (1.00–2.15)
Ethnic Norwegians						
Marital status						
Single		2.32 (1.86–2.89)	2.30 (1.84–2.89)	2.22 (1.77–2.80)	1.51 (1.15–1.98)	1.51 (1.15–1.98)
Married/cohabiting						
Discriminated against						
Often			5.22 (3.21–8.47)	4.65 (2.83–7.65)	4.50 (2.63–7.69)	4.50 (2.63–7.69)
Sometimes			2.80 (2.01–3.92)	2.76 (1.97–3.86)	2.92 (2.06–4.17)	2.93 (2.06–4.17)
Seldom			1.61 (1.20–2.16)	1.56 (1.15–2.10)	1.68 (1.24–2.30)	1.68 (1.24–2.30)
Never						
Education						
High				0.75 (0.57–0.97)	0.75 (0.52–1.08)	0.75 (0.52–1.08)
Medium				0.74 (0.55–0.99)	0.74 (0.51–1.08)	0.74 (0.51–1.08)
Low						
Income (NOK)						
Low					1.95 (1.29–2.95)	1.95 (1.29–2.95)
Medium low					(ref)	(ref)
Medium high					0.49 (0.28–0.86)	0.49 (0.28–0.86)
High					0.09 (0.01–0.63)	0.09 (0.01–0.63)

(continued)

Table 6. Continued

Model						
Variable	+ Ethnicity OR (95% CI)	+ Marital status OR (95% CI)	+ Ethnic discrimination OR (95% CI)	+ Education OR (95% CI)	+ Household income* OR (95% CI)	+ Administrative Area OR (95% CI)
Sami Language Administrative Area						
Within the area						1.00 (0.75–1.34)
Outside the area						1
Model improvement - 2xlog likelihood	51.1		58.8	6.1	53.5	0
Degrees of freedom	1		3	2	3	1
P value	<.001		<.001	.05	<.001	.995
Included in analysis						
Cases	6,755	5,722	5,664	5,486	5,259	5,259

Note:  $R^2 = .04$  (Cox & Snell),  $.09$  (Nagelkerke). Model  $\chi^2 (21) = 192.49, p < .001$ .

\*The interaction between education and household income is included in the model.

**Table 7.** Logistic regression of social determinants of psychological distress in women

Variable	Model					
	Age + ethnicity OR (95% CI)	+ Marital status OR (95% CI)	+ Ethnic discrimination OR (95% CI)	+ Education OR (95% CI)	+ Household income* OR (95% CI)	+ Administrative Area OR (95% CI)
Ethnicity						
Sami I	0.83 (0.63–1.09)	0.79 (0.59–1.08)	0.42 (0.29–0.59)	0.42 (0.29–0.59)	0.38 (0.26–0.55)	0.44 (0.30–0.66)
Sami II	1.15 (0.92–1.43)	1.13 (0.89–1.43)	0.79 (0.62–1.03)	0.78 (0.60–1.02)	0.77 (0.58–1.00)	0.83 (0.62–1.10)
Sami III	1.10 (0.81–1.49)	1.08 (0.89–1.43)	0.89 (0.64–1.25)	0.91 (0.65–1.29)	0.96 (0.68–1.35)	1.01 (0.71–1.43)
Kvens	0.98 (0.71–1.34)	0.97 (0.69–1.37)	0.89 (0.63–1.25)	0.90 (0.63–1.28)	0.81 (0.56–1.18)	0.85 (0.58–1.24)
Ethnic Norwegians	1	1	1	1	1	1
Marital status						
Single		1.54 (1.27–1.87)	1.50 (1.23–1.82)	1.55 (1.27–1.89)	1.24 (0.98–1.57)	1.23 (0.97–1.56)
Married/cohabiting		1	1	1	1	1
Discriminated against						
Often			6.02 (3.87–9.37)	5.92 (3.77–9.30)	6.26 (3.88–10.09)	6.33 (3.93–10.22)
Sometimes			2.91 (2.16–3.92)	2.98 (2.19–4.05)	3.04 (2.21–4.17)	3.17 (2.29–4.36)
Seldom			2.02 (1.55–2.64)	2.15 (1.64–2.82)	2.18 (1.64–2.88)	2.25 (1.69–2.99)
Never			1	1	1	1
Education						
High				0.50 (0.40–0.62)	0.52 (0.38–0.70)	0.53 (0.39–0.71)
Medium				0.66 (0.52–0.85)	0.59 (0.42–0.82)	0.58 (0.42–0.82)
Low				1	1	1
Income (NOK)						
Low					1.31 (0.91–1.88)	1.31 (0.91–1.89)
Medium low					1	1
Medium high					0.72 (0.36–1.44)	0.72 (0.36–1.44)
High					0.70 (0.44–1.08)	0.69 (0.45–1.08)

(continued)



Table 7. Continued

Model						
Variable	Age + ethnicity OR (95% CI)	+ Marital status OR (95% CI)	+ Ethnic discrimination OR (95% CI)	+ Education OR (95% CI)	+ Household income* OR (95% CI)	+ Administrative Area OR (95% CI)
Sami Language Administrative Area						0.77 (0.60–0.98)
Within the area						1
Outside the area						1
Model improvement						
- 2xlog likelihood	18.6		92.9	38.6	20.3	4.3
Degrees of freedom	1		3	2	3	1
p- value	< 0.001		< 0.001	< 0.001	< 0.001	0.04
Included in analysis						
Cases	6,948	6,017	5,940	5,669	5,245	5,245

Note:  $R^2 = .04$  (Cox & Snell),  $.08$  (Nagelkerke). Model  $\chi^2 (21) = 191.74, p < .001$ .

\*The interaction between education and household income are included in the model.

factors against distress. Having a high income and being married or in a de facto relationship were significant protective factors against distress in males.

## Discussion

To our knowledge, this is the first Norwegian study that has compared psychological distress among indigenous Sami and non-Sami individuals in a large, population-based sample. Overall, 10% of women reported “High” stress levels compared to 6.5% of men. This is consistent with figures from the 2005 Survey of Norwegian Living Standards (Johansen, Rognerud, & Sundet, 2008). Sami and Kven males reported higher levels of distress than the general population, and this was attributable to their more frequently being unmarried, experiencing more frequent and severe discrimination, and having lower household income. The finding that there were no significant differences in the reported levels of distress between Sami and non-Sami female respondents (and that Sami I females actually reported less psychological problems than the other groups of women studied) was unexpected and surprising, particularly because Sami females reported more discrimination and were more likely to be single (compared to Ethnic Norwegians). The fact that Sami females do well academically and socially, occupying positions across the social spectrum, may have helped reduce the impact of social inequalities when compared to non-Sami females (Lund et al., 2007; Møllersen et al., 2005; Stordahl, 1991).

In considering gender differences, it is important to note that young Sami girls and boys are raised differently within traditional Sami culture. Sami girls typically remain the responsibility of their mothers until they are married and move out of the natal home, whereas boys, while nursed by their mothers in the early years, are expected to become the responsibility of their fathers as soon as they are past early childhood. According to custom, female children’s lives are closely intertwined with their mothers’, and the female role is associated with domestic life. In Sami communities, mothers are usually more invested in maintaining school–home relations and are more or less voluntarily the supporters of their children’s schooling. Gender differentiation thus implies that mothers are inclined to teach daughters to accept society at large; the difference in roles between school and home is less for Sami girls than it is for boys (Myklevoll, 1995).

Sami boys, on the other hand, are more closely attached to their fathers, and male identity is closely linked to employment in primary industries. The postwar era was characterized by technological development and the Sami community underwent a process of economic, social, cultural, and linguistic integration with Norwegian society. Significant changes within primary industries such as fisheries, farming, and the traditional reindeer husbandry have resulted in a lack of continuity between generations. For example, access to reindeer husbandry is now regulated by the central authorities instead of the traditional institution within the society. Previously, knowledge and talent were the keys to gain access, now economic and ecological models influence this access to a much greater extent.

Great demands to accept changes have been placed on individuals involved in these industries. Several studies have shown that males in communities based on primary industries with uncertain future prospects are particularly exposed to stress (Myklevoll, 1995). Such conditions may occur for large parts of the Sami settlement areas because of the uncertain future of farming, fisheries in crisis, and turmoil within the traditional practice of reindeer herding. Thus, the slightly higher stress levels recorded in Sami males compared to Ethnic Norwegian males may represent a collision between socialization according to traditional values and altered societal demands and way of life within the primary industries.

The fact that education was a protective factor for females whereas income was a protective factor for males might also be an expression of the gender-related differences within Sami settlement areas, where education is more important to women and paid employment in primary industries is most important to males.

On the other hand, the relatively good mental health of Sami might be explained by the notable emphasis placed on inner self-control and resilience in Sami child rearing (Javo, Alapack, Heyerdahl, & Rønning, 2003; Javo, Rønning, & Heyerdahl, 2004). However, further surveys and qualitative studies are needed to gain further insight into these issues.

Sami males did not seek professional help more frequently than did non-Sami males, despite experiencing elevated levels of psychological distress and Sami-speaking females were less likely to seek help than non-Sami females. This may be attributable to the influence of social and cultural barriers (such as the status as a “minority” population) on help-seeking behaviour (Møllersen et al., 2005). In research on barriers between indigenous peoples and health services, trust issues and negative attitudes towards the different health services are often emphasized (Johnson & Cameron, 2001). Norwegian health services may be perceived as representatives of the majority culture that throughout history has discriminated against the Sami people, resulting in a deeply felt mistrust of health care institutions (Turi et al., 2009). Research on the indigenous Sami and health services has mostly focused on satisfaction with health services.

That the Sami less frequently seek help for mental health issues may be attributable to Sami patients being significantly more reliant on traditional and complementary medicine practices than Ethnic Norwegian patients; this applies to both physical and psychological health issues. In addition, Sørli and Nergaard (2005) found that Sami patients as compared with non-Sami patients were less satisfied with psychiatric hospital treatment and the treatment alliance with their therapists. These differences may relate to the fact that the Sami patients were not offered the possibility of using the Sami language in treatment. Although most Sami patients were skilled in using the Norwegian language, for some, limitations in their ability to verbalize more nuanced and complex feelings in Norwegian may have compromised the treatment alliance. Additionally, Sami have been found to be more dissatisfied than Ethnic Norwegians with the service of general practitioners (GPs), with particular discontent regarding clinicians’ communication, understanding, and language skills (Nystad, Melhus, & Lund, 2008). Another reason why Sami

may refrain from seeking professional advice may be that mental problems are associated with shame and sin (stigma) within Sami culture and religion. This perception is based on Sami concepts of affliction which hold that illness is punishment for wrongdoing. In pre-Christian Sami religion there are accounts of illness being regarded as a consequence of evil forces seeking to take the sick person's life or soul, because someone had "inflicted evil upon them" (Bongo, 2002). Finally, Sami may be reluctant to seek treatment for psychological illness on the basis of lack of privacy or confidentiality. Particularly in rural areas, where therapists and clients often share the living environment, potential patients may find seeking help difficult because of concerns that their case would become known to the community (Møllersen et al., 2005).

The second primary finding was that ethnic discrimination was associated with increases in distress across the entire sample. The odds of experiencing psychological distress among those who were discriminated against "Often" compared to those who did not report any discrimination at all were 6.3 times greater in females and 4.5 times greater in males. There was a dose-response relationship between discrimination and distress. This finding is consistent with existing literature on the effects of discrimination on mental health (Gee et al., 2007; Harris et al., 2006a, 2006b; Kelaher et al., 2008; Paradies, 2006). Our findings suggest that discrimination based on ethnicity may be a serious health risk that contributes to inequalities between Sami and non-Sami peers. Similar effects of discrimination may apply to ethnic groups elsewhere (Harris et al., 2006a; Nazroo, 2003; Paradies, 2006).

It was interesting and unexpected to find that Sami respondents who were discriminated against (notably Sami-speaking females) reported somewhat lower levels of distress than Kvens and Ethnic Norwegians. This may reflect the resilience and intercultural competence of Sami, as discussed in the literature on how ethnic identity may buffer the negative effects of discrimination (Yip et al., 2008). However, we could not establish an association between discrimination and identity in respondents reporting high levels of distress. Additional quantitative and qualitative research is required to gain further insight into these issues.

The results should be interpreted in light of the study's limitations. In particular, the cross-sectional design makes it difficult to draw conclusions about causal relationships. Anxiety and depression may increase the tendency to perceive and report discrimination. The apparent association between psychological distress and perceived discrimination may be due to the effects of other unmeasured variables. However, the findings are consistent with other studies, including longitudinal studies examining the experience of ethnic discrimination and mental health (Williams & Mohammed, 2009). In addition, the dose-response relationship found in this study supports a causal relationship. Furthermore, self-reported measures such as the HSCL can only indicate the prevalence of symptoms of internalized distress. Such measurements should not be considered equivalent to diagnoses made by rigorous clinical evaluation (Kessler, Avenevoli, & Merikangas, 2001). The measurement of discrimination in this study is non-time-dependent and generalized (e.g., "Have you ever experienced bullying or discrimination on account of

your ethnic background?"). Because discrimination was not associated with a particular context or duration, the prediction of mental illness may have been weakened. In addition, individuals reporting discrimination may have different experiences in terms of severity and frequency. A problem with measuring discrimination is that participants described events in hindsight, thus subjecting the survey to the imperfections of human memory and recall bias (Williams, Neighbors, & Jackson, 2003). Personality traits may influence the experience of discrimination and psychological trauma; our study did not consider personality traits as factors (Paradies & Williams, 2008). Our measure of psychological distress was developed in Western societies, and is not validated in the Sami population. Finally, we are mindful of the fact that our ethnic definitions have limitations, and may have different validity for different geographic regions and subgroups of the Sami population. However, ethnic classifications used in health research in northern Norway to differentiate between Sami and non-Sami populations often incorporate several Sami subgroups into one single category. Such a system of classification may neglect variations in factors that could be important in terms of mental health (Møllersen & Holte, 2008). In our study, this predicament was avoided by employing relatively strict definitions of Sami ethnicity.

## Conclusion

This study provides evidence for a link between ethnic discrimination and mental health in the indigenous Sami population of Norway. We found that Sami and Kven males reported greater levels of stress than Ethnic Norwegians. In contrast, Sami and non-Sami females reported similar stress levels. The study shows that discrimination is strongly associated with psychological distress when other socio-demographic variables are statistically controlled. Sami males and females with perceived discrimination reported somewhat lower levels of distress than did Kvens and Ethnic Norwegians. Published data on this phenomenon are scarce despite its particular relevance from a global indigenous health perspective. More work remains to be done to understand how discrimination influences mental health in Sami and non-Sami populations.

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