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The association of religious factors with mental health-service utilisation and satisfaction in a mixed Sámi and Norwegian adult population: Adopting the SAMINOR 2 Questionnaire Survey

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ABSTRACT

The Indigenous Sámi have poorer mental health than the majority population and fairly equal access to professional mental healthcare. Despite this condition, certain studies indicate that this group is underrepresented among the users of such services. Religion or spirituality (R/S) often influences mental health-service utilisation and satisfaction among other Indigenous peoples and ethnic minorities. Thus, this study examines the situation in Sámi-Norwegian areas. We utilised cross-sectional data from the population-based SAMINOR 2 Questionnaire Survey (2012; sub-sample $n = 2,364$; 71% non-Sámi) in mixed Sámi-Norwegian regions of Northern and Central Norway. We analysed the associations between R/S factors and past-year mental health-service utilisation and satisfaction among individuals reporting mental health problems, substance use, or addictive behaviours. Multivariable-adjusted regression models considering sociodemographic factors, including Sámi ethnicity, were applied. Religious attendance was significantly associated with infrequent past-year use of mental health services (OR = 0.77) and fewer mental health problems, indicating that the R/S fellowship may buffer mental distress and represent an alternative psychological support to professional services. R/S was not significantly associated with lifetime mental health-service satisfaction. We found no ethnic differences in service utilisation or satisfaction.

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Introduction

The Sámi are Indigenous people of the northern and central regions of Norway, Sweden, and Finland and the Russian Kola Peninsula. Although their total number is difficult to assess, a crude estimation is 80,000–115,000, of whom the assumed largest portion of Sámi lives in Norway [1]. Historically, the Norwegian government subjected the Sámi to an intensive Christian missionary activity from the early 18th century. From the latter part of the 19th century, the Nordic Arctic region was strongly influenced by the teetotalist Christian Laestadian revival movement, named after the Swedish Lutheran state church vicar Lars Levi Laestadius (1800–1861). The movement originated about 1845 in the Finnish-Sámi population of Swedish and Finnish Lapland and was brought by Sámi and Finns to their ethnic peers in Norway. Only later, Laestadianism spread to the Swedish and Norwegian

populations [2]. During the enforced Norwegian governmental assimilation programme from about 1850 to about 1980 [3], Sámi and Finns/Kvens (a national Finnish minority in North Norway) found acceptance of their native language and culture in the movement [4]. In Arctic Norway, Laestadianism is an acculturative phenomenon different from Laestadianism in other parts of the world and is still associated with Sámi ethnic minority affiliation [5].

Similar to other Indigenous peoples, the Sámi have poorer mental health than the majority population in their region, e.g. more prevalent suicidal behaviour [6–9], anxiety, depression, posttraumatic stress, and exposure to emotional, physical, and sexual violence during childhood [10]. Despite these conditions and fairly equal access to mental health services [11], the Sámi are underrepresented among users of mental health services in Northern Norway, e.g. in treatment facilities

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for alcohol and substance abuse [12], and among Sámi adolescents with behavioural problems [13]. However, these studies are few and partly old, showing low generalisability. An analysis of the somatic healthcare expenditure showed no significant differences between the Sámi and non-Sámi municipalities in Norway [11]. Another study on the mental health services in the district of Finnmark found neither drop-out rates nor patients' perception of therapeutic alliance related to ethnicity [14]. However, in the large population-based 2003–2004 SAMINOR 1 Study, Sámi-speaking patients are less satisfied with their local general practitioner than Norwegian-speaking patients [15]. On the contrary, the use of traditional healing, often involving prayers or the laying on of hands [16], is more frequent among the Sámi than non-Sámi psychiatric in- and outpatients in Sámi-Norwegian areas [17,18]. Among Sámi psychiatric patients, users of traditional healing give greater importance to religion and spirituality in dealing with illness than non-users [18]. Moreover, the Sámi are more often Christians, religiously active, and affiliated with the Laestadian Revival Movement than non-Sámi in the region [5,19]. Among Sámi, mental diseases and their causes are sometimes perceived differently than in the majority population and believed to represent punishment from God or evil spirits sent by other persons [20]. In the Sámi areas, traditional healing plays a significant role in the local society and is a well-known and accepted healthcare modality among local professional health workers [16]. This healing tradition is a religious or spiritual phenomenon. The religion of the Sámi was the animist *Noaidevuohhta* until the completion of the Christian mission in the 17th and 18th centuries [21]. Nevertheless, the present Sámi healing institution is an integrated part of the Christian cultural heritage, and many Laestadian leaders are respected healers [22,23].

Following contemporary scholars, we define religion or spirituality (R/S) as a multilevel-multidimensional concept encompassing culture, identity, relationship, and practice. Religion typically means the external and organised aspects of faith traditions, whereas spirituality usually connotes the internal and personal dimensions of belief, also outside organised religion [24].

Despite having poorer mental health, Indigenous peoples and other ethnic minorities are often underusers of mental health services [25–28] or have an increased risk of disengaging from treatment [29]. This phenomenon is often due to language and cultural barriers, the lack of culturally sensitive services, alternative aetiological conceptions of mental diseases, social stigma, and mistrust towards Western psychiatry [25,26,30]. R/S is often an essential factor of attitudes

towards mental health services among Indigenous peoples and other ethnic minorities [25,30–38]. Among American Indians, traditional healing is a significant and independent source of healthcare, particularly for mental health problems. The prevalence of its use in this population is much higher than the utilisation of complementary and alternative medicine in non-American Indian samples [25]. The use of traditional healing in these Indigenous contexts is associated with high spirituality and strong American Indian identity scores [25]. There is little research on other Indigenous peoples regarding R/S and mental health-service use, but among another ethnic minority, African Americans, the Church is a strong social, psychological, and religious support system [31]. They are the most religiously active ethnic group in the US [32]. Their religious counselling services for mental health problems are an important substitute for and often preferred to professional mental health treatment in this population [31,32].

Although little is published about Indigenous populations on R/S and attitudes towards mental health services, the literature we reviewed finds two main rationales for the association between R/S and negative attitudes towards or the insufficient use of professional mental healthcare in other ethnic minorities and religious contexts. The first explanation is having religious or spiritual beliefs about the aetiology of mental diseases, as found in the studies on ethnically mixed samples of Muslim and Asian minorities in Western countries, being the most studied groups. Professional help-seeking often depends on a scientific perception of mental disorders [30,33,38]. The second reason is the belief in or use of R/S methods of handling mental health problems. For example, positive religious coping, finding spiritual meaning in the suffering, and the belief in the efficacy of R/S counselling for mental health problems are common among ethnic minorities and religious contexts like Filipino Americans [35], Latino Americans [36], and American rural veterans, respectively [39]. However, studies on the association between R/S and the use of and attitudes towards mental health services show differing results. In certain studies, the importance of R/S is associated with negative attitudes towards or insufficient use of mental health services, e.g. among American adolescents [40] and African Americans [32]. In other populations, the importance of R/S is related to the frequent use of professional mental health services, as in African immigrants in the US [41]. Other studies find no such correlations, e.g. the American rural veteran study [39], another African American study [42], and a survey of a small sample ($N=119$) of Canadian Latter Day Saints [43].

Furthermore, church attendance is associated with the use of mental health services among Korean women but not in Korean men [44], the latter African American sample [42], nor in the small sample of Canadian Latter Day Saints [43].

This study examines the association between R/S and mental health-service satisfaction and utilisation in a Nordic and Arctic context. Due to certain underrepresentation of Sámi among users of mental health services in Northern Norway [12,13], along with the importance of R/S and traditional healing in this population, we aimed to examine the association between R/S factors and mental health-service utilisation and satisfaction in Sámi-Norwegian areas.

Methods

Procedure and sample

This study used data from the second wave of the “Population-based Study on Health and Living Conditions in Regions with Sámi and Norwegian Populations – The SAMINOR 2 Questionnaire Survey”. Following the 2003–2004 SAMINOR 1 Survey, this study was conducted in 2012 by the Centre for Sámi Health Research, UiT – The Arctic University of Norway [45]. All residents aged 18–69 years in 25 municipalities and districts with mixed Sámi and Norwegian settlements in Central and Northern Norway received the invitation. The response rate was 27%, resulting in a sample of 11,600 participants (68.7% from Finnmark, 18.0% from

Troms, 7.8% from Nordland, and 5.5% from Trøndelag districts). To solve our research questions, we needed a study sample including only users and potential users of mental health services. Thus, we excluded respondents who reported no past-year mental health problems, substance use, addictive behaviours, or mental health-service utilisation or satisfaction score and did not answer questions regarding R/S. The present study subsample of The SAMINOR 2 Questionnaire Survey comprised 2,364 participants (Figure 1), with 55.3% female and 28.6% Sámi.

Instruments and variables

Outcome variables: mental health-service utilisation and satisfaction

The questionnaire tapped the respondents’ past-year use of mental health services: “During the past 12 months, have you been examined or treated for mental health problems at a psychiatric hospital, district psychiatric center, private specialist, or none?” The respondents could mark separately for the different categories. We summarised the positive answers and set a dichotomous past-year utilisation variable (yes vs. no). Users of mental health services, including previous years, could answer the question, “All in all, how satisfied are you with the care and treatment you received?” The respondents checked off on a Likert scale from 0 (“least satisfied”) to 10 (“most satisfied”). We dichotomised the answers in a variable of mental health-service

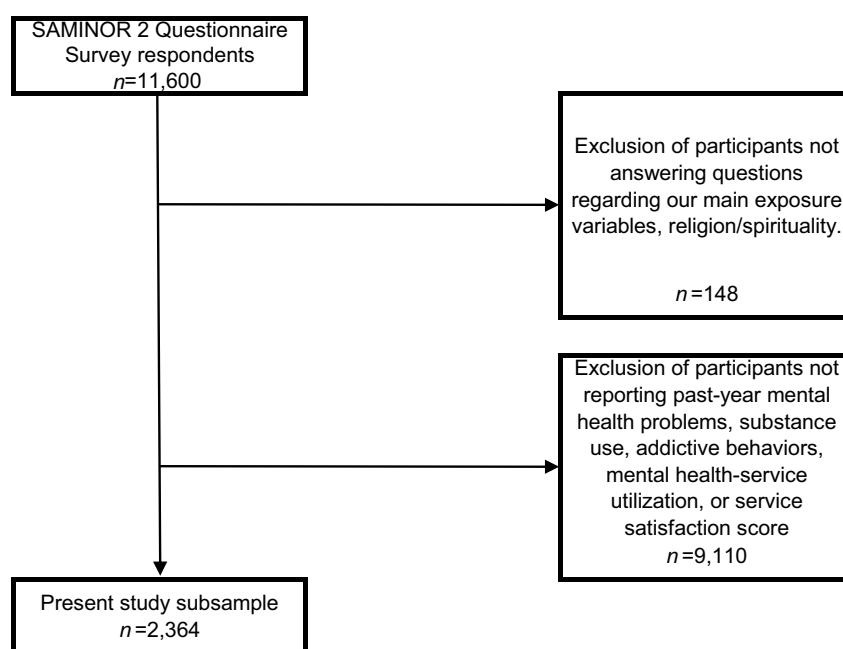


Figure 1. Flow chart of inclusion.

satisfaction: “least satisfaction” (0–5) or “moderate to large satisfaction” (6–10).

Independent variables: religious/spiritual factors

We used the two measures of general R/S, which are appropriate to a religiously homogeneous population dominated by traditional Lutheranism [5,46,47].

The view of life and the importance of religious beliefs comprised four categories [19] “I am a believer/confessing or personally Christian” (“religious”); “I believe there is a god, but religion is not so important in my everyday life” (“less devoted believer”); “Unsure”; “I do not believe there is any god” (“non-believer”).

Religious attendance rate during the past 6 months at (a) a church, (b) congregation house, or (c) other religious building was reported separately as “more than 3 times a month”, “1–3 times a month”, “1–6 times”, or “never”. The total participation rate in all three building categories was pooled and dichotomised as “once or more often during the past 6 months” or “not during the past 6 months”.

Due to the historical importance of Laestadianism as an R/S factor in the Sámi areas, information about the affiliation to a Laestadian congregation or Laestadian family background (a parent or grandparent having such affiliation) was available [5]. However, the number of Laestadians included in our sample ($n = 76$) was low. Significance test of Laestadian affiliation and Laestadian family background ($n = 489$) revealed no significant association between these factors and our outcome variables in the bivariate and multivariable analyses. Thus, we did not include these variables in the presented models.

Control variables: past-year mental health problems and sociodemographic factors

To analyse mental health-service utilisation, we included only respondents revealing current mental health problems, substance use, or addictive behaviours. We defined mental health problems based on reports of at least one of the following difficulties: *past-year* suicide attempt, suicide ideation, or (non-suicidal) self-injury; or *past-month* anxiety and depression symptoms measured by a score above the clinical cut-off level of 1.85 on the Hopkins Symptom Checklist–10 (HSCL–10). This checklist is a short instrument consisting of two subscales, anxiety (5 items) and depression (5 items), giving a total score (from 0 to 4) measuring overall psychological distress and predicting mental disorder [48]. To allow for other mental health problems not revealed or covered by our questions, the numbers include all persons receiving mental health services for

the past 12 months (extending the sample by 179 individuals). We defined substance use and addictive behaviours by reports of at least one of the following difficulties: *past-year* use of hashish and other illegal drugs, periodic drinking pattern, drinking more than three times a week, or problematic gambling behaviour (need to gamble with increasing amounts of money, lying to intimates about gambling activities, or returning to gamble after losing money) or *past-month* alcohol intoxication more than twice.

We included the following control variables in our analyses: sex, age, educational level (1–9 years; 10–12 years; 13–15 years; >15 years), total household gross income (NOK <301,000; NOK 301,000–750,000; NOK >750,000; indicating socioeconomic status), municipality, and ethnicity. We based our ethnic categories (subjective criteria [49] on the participants’ report of their ethnic self-ascription and personal ethnic background (Norwegian, Sámi, Kven, and “other” [any combination was possible])). Our final ethnic categories were “Sámi” (Sámi self-ascription or background, including 16.2% bi-ethnic Kvens) and “non-Sámi” (mainly ethnic Norwegians in addition to 4.1% Kvens) [49]. Sámi-speaking patients may be less satisfied with health services [15]. However, significance tests of Sámi as the home language ($n = 336$) showed no significant association between home language and the outcome variables in our bivariate and multivariable analyses. Therefore, we did not include Sámi home language in the presented models.

Statistical analyses

Using Stata 17 and a 5% significance level, we applied chi-squared tests to estimate the unadjusted total effect of the different R/S categories on mental health-service utilisation and satisfaction. Mixed-effect logistic regression models were used to measure the direct impact of R/S on service utilisation and satisfaction when adjusted for sociodemographic factors. For the regression models, the outcome variables were mental health-service utilisation and satisfaction, respectively. The model included the following low-level fixed variables: Religious attendance, religious importance, sex, age, ethnicity, educational level, and household income level. Municipality was added to the models as a high-level random group variable, including the effect of assumed, unmeasured local differences. We also made corresponding fixed-effect logistic regression analyses excluding municipality from the models. As these models did not change the main findings, we do not present these results. Finally, we tested for

interaction effects on mental health-service utilisation and satisfaction between the sociodemographic and R/S factors by including each R/S–sociodemographic factor interaction term in turn in the logistic regression models.

Ethical considerations

The Norwegian Regional Committees for Medical and Health Research Ethics approved this study (reference code 2006/1766/REK nord). The study is based on participant consent and follows the Declaration of Helsinki. The project adheres to the Ethical Guidelines for Sámi Health Research, adopted by the Sámi Parliament in 2019.

Results

Sample description

The overall sample prevalence of past-year mental health-service utilisation among persons reporting mental health problems, substance use, or addictive behaviours was 21.8% ($n = 488$), being almost twice as high in females (27.4%) than males (14.7%) and higher in the youngest age group (18–39 years: 25.1%) than in the oldest (55–69 years: 15.8%, Table 1). Of the total sample, 79.2% reported large to moderate satisfaction with mental health services, with significantly more females (82.2%) than males (73.7%) reporting satisfaction. Mental health-service utilisation and satisfaction did not differ significantly between Sámi and non-Sámi. Anxiety and depression symptoms (reported by 50% of the total sample), problematic drinking behaviour

Table 1. Sample description and bivariate analyses of mental health-service utilisation and satisfaction – subsample of The SAMINOR 2 Questionnaire Survey.

	Sample description		Past-year mental health-service utilization among persons with mental health problems ^a or substance use/addictive behaviors ^b			Lifetime mental health-service satisfaction ^c		
	<i>n</i>	%	<i>n</i>	%	χ^2	<i>n</i>	%	χ^2
Total sample	2,364	100.0	488	21.8	–	521	79.2	–
Religious/spiritual indicators								
Religious attendance rated								
Not during the past 6 months	831	35.5	181	22.4	0.6	173	74.9	3.5
Once or more often during the past 6 months	1,509	64.5	297	21.0		340	81.2	
Religious importance and view of life								
I do not believe there is any god	511	21.8	92	18.5	25.9***	96	77.4	1.0
Unsure	449	19.2	98	23.1		98	77.8	
I believe there is a god, but religion is not so important	995	42.5	183	19.4		205	79.8	
Religious (I am a believer/confessing Christian)	386	16.5	112	31.4		117	81.8	
Sociodemographic factors								
Sex								
Male	1,058	44.8	148	14.7	52.4***	171	73.7	6.5*
Female	1,306	55.3	340	27.4		350	82.2	
Age								
18–39 years	879	37.2	213	25.1	19.6***	207	78.4	1.4
40–54 years	808	34.2	175	23.0		182	77.8	
55–69 years	677	28.6	100	15.8		132	82.5	
Ethnicity								
Non-Sámi	1,678	71.4	342	21.5	0.2	362	78.5	0.7
Sámi	672	28.6	143	22.4		157	81.4	
Educational level (years)								
1° or lower 2° school (1–9)	376	16.1	70	19.2	5.3	71	75.5	7.0
Upper 2° school (10–12)	621	26.6	119	20.6		136	76.0	
College or university (13–15)	657	28.1	132	20.9		131	77.1	
University (>15)	682	29.2	159	24.7		174	85.3	
Total household income (gross income)								
Low (NOK <301,000 NOK)	555	24.2	144	27.6	22.3***	140	70.7	13.6**
Intermediate (NOK 301,000–750,000)	1,163	50.7	239	21.8		262	81.1	
High (NOK >750,000)	574	25.0	88	15.8		101	87.1	

Notes: *n*=number of observations. Bold values are cells with adjusted residuals of *p*-value ≤ 0.05 .

^aPast year suicide attempts or ideation or self-injury; or past month anxiety and depression symptoms. To allow for other mental health problems not covered by our questions, the numbers include all persons receiving mental health services past 12 months.

^bPast year use of hashish or illegal drugs, periodic drinking pattern, problematic gambling behaviour, or drinking 4 times or more per week; or past month alcohol intoxication 3 times or more.

^cLarge to moderate vs. least satisfaction. Rating includes lifetime use of mental services.

^dAt a church, congregation house, or religious building.

^eEthnic self-ascrption. The non-Sámi group comprises mostly ethnic Norwegians and 4.1% Kvens. The Sámi group includes 16.2% biethnic Kvens.

* $p \leq 0.05$.

** $p < 0.01$.

*** $p < 0.001$.

Table 2. Sample description by types of mental health problems, substance use, and addictive behaviours ($n = 2,364$) – subsample of The SAMINOR 2 Questionnaire Survey.

	Ethnicity					Religious attendance					Religious importance and view of life								
	Non-Sámi $n = 1,678$		Sámi $n = 672$			Not during the past 6 months $n = 831$		Once or more often during the past 6 months $n = 1,509$			I do not believe there is any god $n = 511$		Unsure $n = 449$		I believe there is a god, but religion is not so important $n = 995$		Religious (I am a believer/ confessing Christian) $n = 386$		
<i>Mental health problems, substance use, and addictive behaviors</i>	<i>n</i>	<i>%</i>	<i>n</i>	<i>%</i>	χ^2	<i>n</i>	<i>%</i>	<i>n</i>	<i>%</i>	χ^2	<i>n</i>	<i>%</i>	<i>n</i>	<i>%</i>	<i>n</i>	<i>%</i>	<i>n</i>	<i>%</i>	χ^2
Anxiety and depression symptoms ^a	826	49.2	357	53.1	2.9	420	50.5	753	49.9	0.1	235	46.0	221	49.2	513	51.6	206	53.4	6.1
Problematic drinking behavior ^b	621	37.0	221	32.9	3.5	336	40.4	507	33.6	10.9***	223	43.6	172	38.3	349	35.1	94	24.4	37.1***
Suicidal behavior or self-injury ^c	229	13.7	96	14.3	0.2	144	17.3	176	11.7	14.6***	89	17.4	63	14.0	117	11.8	56	14.5	9.2*
Problematic gambling behavior ^d	92	5.5	51	7.6	3.7	53	6.4	87	5.8	0.4	36	7.1	22	4.9	57	5.7	26	6.7	2.4
Drug use ^e	96	5.7	42	6.3	0.2	72	8.7	66	4.4	17.8***	65	12.7	23	5.1	36	3.6	12	3.1	58.9***

Note: n =number of observations. Bold values are cells with adjusted residuals of p -value ≤ 0.05 . Multiple mental health problems are possible; thus, the table adds up to more than 100%.

^aHopkins Symptom Checklist–10 score above cut-off level (1.85) past 4 weeks (vs. below cut-off or missing answer), predicting mental disorder.

^bPast-year periodic drinking pattern or drinking 4 times or more per week; or past month alcohol intoxication 3 times or more (vs. non-problematic drinking behaviour or missing answer).

^cPast-year suicide attempts or ideation, or self-injury (vs. no past-year reports or missing answer).

^dPast-year need to gamble with increasing amounts of money, lying to intimates about gambling activities, or returning to gamble after losing money (vs. non-problematic gambling behaviour or missing answer).

^ePast-year use of hashish or illegal drugs (vs. no past-year reports or missing answer).

* $p \leq 0.05$.

** $p < 0.01$.

*** $p < 0.001$.

(prevalence 36%), and suicidal behaviour or self-injury (prevalence 14%) were the most frequent mental health problems in the sample, independent of the R/S category (Table 2). Compared with religious attendees and believers, we found more suicidal behaviour or self-injury, problematic drinking behaviour, and substance use among the non-attendees and non-believers. No significant differences were noted in the prevalence of anxiety and depressive symptoms or problematic gambling behaviour between the R/S categories. Furthermore, we found no significant ethnic differences in the distribution of mental health problems, substance use, or addictive behaviours (Table 2).

Bivariate analyses and logistic regression models for past-year mental health-service utilisation and satisfaction in multivariable-adjusted models: religious/spiritual findings

In the bivariate tests, mental health-service utilisation was most frequent among the religiously self-ascribed respondents and least frequent among non-believers (Table 1). However, after a post hoc stratification on religious

attendance, this difference was insignificant in the non-attending group (not tabulated). Also, religious self-ascription was only significantly associated with service use in the oldest age groups (not tabulated). Religious self-ascription remained significantly associated with more frequent use of mental health services in the adjusted model, compared with all other categories. However, following our bivariate findings, we found an interaction effect on service use between religious self-ascription and age (OR = 1.03 per year, 95% CI 1.00–1.05, not tabulated). Adding this interaction term in the model completely removed the association between religious self-ascription and the use of mental health services. Also, a post hoc Bonferroni test of the oldest age group revealed that the mean HSCL–10 score, i.e. the level of mental distress, among the religiously self-ascribed (1.92) was significantly higher than among the non-believers (1.58, $p < 0.001$), unsure (1.58, $p < 0.001$), and the not-so-devoted believers (1.92, $p = 0.016$, $F = 8.44$, not tabulated). There were no significant differences in HSCL–10 scores across religious importance and view of life in the other age groups.

Table 3. Odds ratios for mental health-service utilisation and satisfaction in multivariable-adjusted models – subsample of The SAMINOR 2 Questionnaire Survey.

	Past-year mental health-service utilization among persons with mental health problems ^a or substance use/addictive behaviors ^b (n=2,213)	Lifetime mental health-service satisfaction ^c (n=614)
	OR (95% CI)	OR (95% CI)
Religious/spiritual indicators		
Religious attendance rate^d		
Not during the past 6 months	1.00	1.00
Once or more often during the past 6 months	0.77(0.60–0.97)*	1.38(0.87–2.19)
Religious importance and view of life		
I do not believe there is any god	1.00	1.00
Unsure	1.34(0.96–1.89)	0.83(0.44–1.59)
I believe there is a god, but religion is not so important	1.05(0.77–1.44)	1.01(0.55–1.86)
Religious (I am a believer/confessing Christian)	1.97(1.38–2.83)***	1.04(0.51–2.14)
Sociodemographic factors		
Sex		
Male	1.00	1.00
Female	1.99(1.58–2.51)***	1.58(1.03–2.41)*
Age (year)		
	0.99(0.98–0.99)**	1.00(0.99–1.02)
Ethnicity^e		
Non-Sámi	1.00	1.00
Sámi	0.93(0.72–1.21)	1.14(0.70–1.85)
Educational level (years)		
1° or lower 2° school (1–9)	1.00	1.00
Upper 2° school (10–12)	1.03(0.72–1.47)	0.90(0.47–1.72)
College or university (13–15)	1.10(0.77–1.59)	0.96(0.49–1.89)
University (>15)	1.47(1.03–2.10)**	1.37(0.68–2.76)
Total household income (gross income)		
Low (NOK <301,000)	1.00	1.00
Middle (NOK 301,000–750,000)	0.70(0.54–0.91)**	1.64(1.04–2.58)*
High (NOK >750,000)	0.51(0.37–0.70)***	2.47(1.25–4.87)**

Notes: Mixed-effect logistic regression-models including municipality as a random effect (not shown in the table) and age (year) as a continuous variable. n=number of observations. OR=odds ratio (95% confidence interval). Bold values are ORs significant at 0.05 level.

^aPast year suicide attempts or ideation or self-injury; or past month anxiety and depression symptoms. To allow for other mental health problems not covered by our questions, the numbers include all persons receiving mental health services past 12 months.

^bPast year use of hashish or illegal drugs, periodic drinking pattern, problematic gambling behaviour, or drinking 4 times or more per week; or past month alcohol intoxication 3 times or more.

^cLarge to moderate vs. least satisfaction. Rating includes all previous use of mental services.

^dAt a church, congregation house, or religious building.

^eEthnic self-ascription. The non-Sámi group comprises mostly ethnic Norwegians and 4.1% Kvens. The Sámi group includes 16.2% biethnic Kvens.

* $p \leq 0.05$.

** $p < 0.01$.

*** $p < 0.001$.

In the adjusted models, religious attendance was associated with less frequent use of mental health services, compared with no attendance (OR = 0.77 [95% CI 0.60–0.97], Table 3). However, a post hoc Bonferroni test revealed that the mean HSCL-10 score among the religious attendees (1.83) was lower than among the non-attendees (1.90, $p = 0.017$, $F = 5.66$, not tabulated).

Our R/S factors were not significantly related to lifetime mental health-service satisfaction. Furthermore, we found no significant ethnic or gender differences in the association between the R/S factors and mental health-service utilisation and satisfaction or other R/S–sociodemographic factor interaction effects.

Logistic regression models for past-year mental health-service utilisation and satisfaction in multivariable-adjusted models: sociodemographic findings

In the adjusted model, female gender (OR = 1.99 [95% CI 1.58–2.51]) and younger age (OR = 0.99 [95% CI 0.98–0.99] per year) were significantly associated with frequent use of mental health services (Table 3). University-level education significantly predicted mental health-service utilisation (OR = 1.47 [95% CI 1.03–2.10], compared with the primary education level). High and middle household income levels were associated with less frequent use of mental health services

(OR = 0.70 [95% CI 0.54–0.91] and 0.51 [95% CI 0.37–0.70], respectively) compared with the low-income level.

Female gender (OR = 1.58 [95% CI 1.03–2.41]) and household income were significantly associated with lifetime mental health-service satisfaction. The odds ratios in the high- and middle-income groups were 1.64 (95% CI 1.04–2.58) and 2.47 (95% CI 1.25–4.87), respectively, compared with the low-income group.

We found no significant interaction effects between the sociodemographic factors.

Discussion

This study examined the importance of R/S factors for mental health-service utilisation and satisfaction among adult individuals reporting past-year mental health problems, substance use, or addictive behaviours in Sámi-Norwegian areas. We used quantitative data from the SAMINOR 2 Study and mixed-effect logistic regression models controlling for R/S and sociodemographic factors. Religious attendance was associated with infrequent use of mental health services in the past year across gender and ethnic categories, a finding possibly related to the lower level of psychological distress among religious attendees. We found an overall positive effect of religious self-ascription on mental health-service utilisation. However, a positive interaction effect on service use between religious self-ascription and age explained this correlation. This finding may be partly related to the higher level of mental distress among the religiously self-ascribed in the oldest age group. Additionally, religious attendance and belief were associated with less frequent past-year suicidal behaviour or self-injury, problematic drinking behaviour, and illicit substance use. We found no significant total or direct effect of R/S on lifetime mental health-service satisfaction. High socioeconomic status was related to less frequent service use, but greater service satisfaction. Finally, we found no ethnic differences in mental health-service utilisation or satisfaction.

Association between religious/spiritual factors and past-year mental health-service utilisation

In the adjusted model, we found a negative association between religious attendance and mental health-service utilisation across ethnic categories. This result may be partly due to lower need for mental health services because of the lower level of psychological distress among religious attendees, including less alcohol and illicit substance use, and suicidal behaviour [50]. These findings were partly published previously [5,47]. Also, the negative association may be related to the use

of R/S methods of handling mental health problems, e.g. through traditional healing [18], a coping strategy integrated into the Sámi and the Northern Norwegian culture [16], and other positive religious coping [35]. However, we have no information on the use of these methods in our sample. A religious fellowship may represent a social and psychological support system buffering mental distress [5,47] and influencing professional mental healthcare use in this sample, similar to the effect of the Church among African Americans [31]. In Sámi-Norwegian areas, religious family networks actively contribute to the patient's healing process [51]. Lukachko et al. [42], studying a sample of 3,570 African American adults, found that religious attendance had a marginal inverse relationship with the use of mental health services, but not among subjects having a past-year presence of any diagnosable anxiety, mood, or substance disorder. Their findings suggest that religious African Americans have fewer mental health problems and less need for mental healthcare. Harris and colleagues [52] conducted a longitudinal study on a large national American sample comprising 64,450 individuals reporting emotional distress. They found that religious attendance was not related to outpatient mental healthcare use among persons experiencing moderate distress. However, among individuals in serious distress, religious attendance was positively associated with service utilisation, and a greater attendance rate predicted more service use. The religious support network likely encourages the use of professional mental healthcare for the severe mentally ill. Our sample is small, and is not stratified on the degree of mental distress. While our data lack direct information on general attitudes towards mental health services that could explain the decreased service use among religious attendees, our analyses did not reveal any significant relationship (positive or negative) between religious attendance and mental health-service satisfaction.

We found a positive interaction effect on mental health-service utilisation between religious self-ascription and age, resulting in higher service use among the religiously self-ascribed in the oldest age groups that was not observed in non-attendees. This observation may be partly related to the higher level of mental distress among the religiously self-ascribed in the oldest age group. Kiærbech et al. [5], also studying the cross-sectional SAMINOR 2 data, found that religious belief was associated with lifetime exposure to violence, but did not specify the origins and types of violence, and could not explain how the violence exposure was related to the believers. The same study also found religious belief to be associated with both Sámi

self-ascription and Sámi family background without Sámi self-ascription. We did not adjust for the latter category in our models. Although most studies finding poorer mental health among Sámi do not differentiate between these Sámi categories [6–10], we would expect both groups to be at risk for violence exposure and poorer mental health, especially in the age group that grew up during Norwegianization (until about 1980) [3].

In their large, longitudinal study, Harris and colleagues [52] also found R/S importance associated with outpatient mental healthcare use among individuals experiencing serious distress, but not in persons with moderate distress. Furthermore, past-year *increased* R/S importance predicted more service use among persons with serious distress, but not among those with moderate distress. As their models did not simultaneously adjust for religious attendance and R/S importance, the findings could relate to the religious support network's function in encouraging the use of professional mental healthcare for the most mentally ill. In another study of 13,038 American adolescents by Xie et al. [40], which did not differentiate between persons with severe and moderate distress, R/S importance was associated with less service use. In addition, a high level of subjective religiosity was associated with less positive attitudes towards mental health treatment in a small sample of African American church attendees [32]. For religious individuals with moderate psychological problems, a church leader might be more available for consultation than a mental health professional [41] and easier to talk to than to a non-believing psychologist [31]. Our analyses did not reveal any significant relationship between R/S importance and view of life and mental health-service satisfaction. However, we must note that the sample is small.

R/S is a complex phenomenon with multidimensional and multi-stratificational characteristics having disparate roles and impacts in different populations and R/S groups [29]. Consequently, the social and psychological aspects of R/S may have disparate functions in the individual's life [53,54]. Additionally, the role of religious attendance in two persons' lives may differ, even if they attend religious services equally frequently [55]. Changes in non-R/S factors impacting religious attendance (e.g. health conditions, job, family, and relationships with other members) may lead to compensating engagement in noninstitutional forms of R/S [56]. Our cross-sectional study does not account for these factors. However, it is reasonable to believe that older age groups have poorer physical health, possibly

impacting participation in R/S social activities and leading to a compensating use of mental health services in age groups already underrepresented as service users.

Association between sociodemographic factors and past-year mental health-service utilisation and satisfaction

The effects of gender, age, and socioeconomic status on the use of mental health services are well known from several international studies [57]. High income is associated with a low risk of mental health problems [58]. However, in our sample, high household income (indicating high socioeconomic status) was connected to high satisfaction with mental health service, though these groups had the lowest use of such services. Furthermore, university-level education, which is still related to high income, was associated with *more* frequent use of mental health services and a non-significant tendency towards high service satisfaction. These findings may indicate that people of low socioeconomic status have the lowest confidence in (and may have the worst experiences with) such services. This group had the highest need for mental health services. In contrast, high-income patients may be better at communicating their problems and claiming their rights as patients or may be taken more seriously by mental health professionals.

In line with studies of other ethnic and Indigenous minorities [25,26,30], we expected Sámi ethnicity to affect mental health-service utilisation and satisfaction in our sample. However, our bivariate and adjusted models revealed neither a total nor a direct impact of ethnicity. This result follows the study of mental health services in Finnmark, which found no relationship between ethnicity and dropout rates or patients' perception of therapeutic alliance [14]. Sámi-speaking patients were less satisfied with municipal health services than Norwegian-speaking patients in the 2003–2004 SAMINOR 1 Study [15]. We found no ethnic differences regarding mental health-services utilisation or satisfaction in our sample from the SAMINOR 2 Study and no significant effect of Sámi language use. Although the Sámi have poorer mental health, the findings suggest that they are well integrated into Norwegian society and have access to mental healthcare comparable to the majority population [11]. Socioeconomic equality and the heightened Sámi cultural competence in mental health services in recent years, including improvements in government awareness of ethnic inequalities, may have contributed to this situation [14]. The establishment of the Sámi Norwegian

National Advisory Unit on Mental Health and Substance Use (SANKS) in 2002 is part of this development. SANKS is a psychiatric health service that provides culturally sensitive mental assessment and treatment for Sámi inhabitants in Norway.

Finally, highly educated people, who are typically atheists [5], are not equally distributed in the area, and we would observe clusters of religious individuals. Many districts are also located far from professional mental health services. However, our multilevel model, which included municipality as a random effect, accounted for these geographical differences.

Strengths and limitations

The low response rate (27%) may have caused selection bias, raising the question of the external validity and generalisability of the study [45]. Nevertheless, SAMINOR 2 is the most extensive population-based study of mixed Sámi-Norwegian areas. This study adds essential knowledge to the limited research field of R/S and mental health-service utilisation and satisfaction, particularly in the Arctic region. However, the questions included in the study do not address specific psychiatric diagnoses and provide only proxy measures of disorders related to mental health, substance use, and addictive behaviours. Furthermore, a cross-sectional study design is unsuited to determining causal relationships. Persons dissuaded from using professional mental health services may not admit this preference on the questionnaire, thus representing a possible response bias. The focus on Lutheranism and Pietism, especially their organisational dimensions, overlooks the assessment of less organised R/S, the use of traditional healing, and non-Christian R/S, e.g. so-called Sámi shamanism. However, the latter is a 21st century modern phenomenon of predominantly urban contexts of southern Norway [59]. Finally, R/S is a complex multilevel-multidimensional phenomenon with disparate impacts and roles in different populations and R/S groups [29]. Thus, our findings may not be generalisable to other contexts.

Implications for practice and further research

To religious attendees and members of an R/S fellowship in Sámi-Norwegian areas, R/S coping methods and social networks may represent preventive and therapeutic resources for mental distress. Decision makers and mental health professionals may consider this knowledge to improve mental healthcare services for this group. However, further research is needed, and we recommend larger samples that include more Laestadians and Sámi language users. Future studies should also address the use of traditional healing and social

networks, general attitudes towards mental health services, Sámi family background, and the level of mental distress. In addition, qualitative methods could provide more insight into the issues and guide the planning of new quantitative studies.

Conclusion

In our sample, religious attendance is associated with infrequent use of mental health services across genders and ethnic categories, possibly due to religious attendees experiencing fewer mental health problems. This indicates that the R/S fellowship may buffer mental distress and represent a psychologically supportive alternative to professional services. R/S was not related to mental health-service satisfaction. Higher mental health-service utilisation among the religiously self-ascribed in the oldest age groups may be due to their higher level of mental distress related to factors not adjusted for in our models.

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