Nordic Journal of Psychiatry

ISSN: 0803-9488 (Print) 1502-4725 (Online) Journal homepage: http://www.tandfonline.com/loi/ipsc20

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To cite this article: Snefrid Møllersen, Harold C. Sexton & Arne Holte (2009) Effects of client and therapist ethnicity and ethnic matching: A prospective naturalistic study of outpatient mental health treatment in Northern Norway, Nordic Journal of Psychiatry, 63:3, 246-255, DOI: 10.1080/08039480802576043

To link to this article: https://doi.org/10.1080/08039480802576043

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Effects of client and therapist ethnicity and ethnic matching: A prospective naturalistic study of outpatient mental health treatment in Northern Norway

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Møllersen S, Sexton HC, Holte A. Effects of client and therapist ethnicity and ethnic matching: A prospective naturalistic study of outpatient mental health treatment in Northern Norway. Nord J Psychiatry 2009;63:246–255.

We explored the effects of ethnicity on mental health treatment in the population of North Norway that largely consists of indigenous Sami and non-Sami Norwegians. As the two groups are comparable in their socio-economics, ethnic effects can be separated from their most common confounders. The effect of client and therapist ethnicity and client–therapist ethnic match on treatment was examined among psychiatric outpatients in this setting. Client ($n = 335$) and therapist ($n = 33$) demographics and ethnicity were recorded prior to intake. Self-reported psychosocial distress was recorded at intake, termination and 20-month follow-up. Therapists reported their clinical assessment, treatment delivery at intake and discharge. The results indicated that therapist ethnicity was associated with the amount and type of service provided but improvement was not. Both the delivery of treatment and improvement did not differ significantly by client ethnicity. Ethnic matching was associated with greater symptomatic improvement in treatments of moderate duration.

• *Ethnicity, Ethnic match, Indigenous population, Outpatient mental health treatment.*

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This study addressed the influence of ethnicity on mental health service delivery and treatment outcome. Most studies support the clinical impression that client ethnicity impacts access to mental health services and treatment benefit (1–4). However, this finding is not consistent (5–7). Ethnicity in client–therapist pairs has been infrequently studied, though there is a general consensus that when therapist and client share ethnic background it is more likely that the therapist is attuned to the needs of the client and treatment attendance increases (9, 10). Studies that have focused on ethnic match and treatment outcome have reached divergent conclusions (5, 11–15).

Therapist ethnicity has only occasionally been empirically studied. Findings from a single study in the USA (14) found no difference in service utilization, but some difference in treatment benefit for clients visiting Hispanic, black and white therapists. Ethnicity contributes to variations in attitudes regarding mental health and problem solving (16), yet little is known about how ethnic background influences the therapist role.

The findings are complicated by the use of inconsistent terminology regarding the ethnic variable (17, 18). In addition, factors such as socio-economic disadvantage, immigrant status and language disabilities influence the totality of life in many ethnic minority groups and can serve to confound the results (19).

The relationship between treatment outcomes and various aspects of the treatment process remains insufficiently understood. The relationship among treatment factors, ethnic match and outcomes adds additional complexity. Obviously, where there is limited treatment effectiveness it is unlikely to find an ethnic effect on clinical improvement (20). The amount of treatment has been found to be a general predictor of clinical outcome. Within an outpatient setting, clinical improvement seems to be greatest in treatments of moderate length (i.e. 8–18 sessions) (21). Thus, it would seem that any ethnic variations in treatment response would be more likely in treatments of moderate duration.

In this prospective follow-up study, we investigated naturalistic outpatient treatment among Sami

 DOI: 10.1080/08039480802576043

and non-Sami Norwegians residing in the rural northernmost county of Norway, the Sami homeland. The Sami comprise about 30% of the 75,000 inhabitants of Finnmark County (22). Obvious physical differences between Sami and non-Sami Norwegians are minor. Earlier governmental assimilation practices have curtailed the use of the Sami language and weakened traditional cultural markers (23). Nevertheless, Sami mobility has been low, and the Sami have managed to preserve their identity and revitalize their culture. The Sami have shared in the recent prosperity of the Norway, perform well academically and occupy positions at all levels of society (24). Furthermore, the local authorities have developed mental health services to better address the needs of its multiethnic population (25, 26).

We examined ethnic differences in treatment delivery and treatment outcome. Specifically, we addressed whether there were variations in the effect of client or therapist ethnicity or client–therapist ethnic matching 1) on the delivery of treatment and the time that the clients remained in treatment, 2) in treatment outcome or improvement, and 3) in improvement within different treatment durations.

Material and Methods

Subjects

Clients and therapists were recruited from the five outpatient psychiatric clinics in Finnmark County, Norway. Two of the clinics were located in the highland where the proportion of Sami is high. Three of the clinics were located in coastal areas where the Norwegian majority population and culture predominate.

All 366 clients reported for their first session between October 1999 and May 2001 subsequent to referral from their primary physician. Those with a psychotic disorder, organic mental disorder or substance abuse were excluded ($n = 7$). Twenty-four clients were excluded because they had completed the questionnaires inadequately.

Therapists initially provided data for 255 clients, as some therapists were not willing to participate in the study. At 12 months, 182 (54.3%) of the clients had returned adequately completed questionnaires (response rate: 37.7% for clients with fewer than three sessions and 63.6% for clients with more than three sessions). At 20 months, 186 (55.5%) clients completed the final questionnaires.

Measures

Ethnicity

Ethnicity is a theoretical construct representing a multifaceted social entity that is manifested in a diversity of ways at the individual, group and societal level. Our focus was upon the individuals within the therapeutic dyad and we used an ethnic variable reflecting ethnicity from the personal point of view.

The questionnaire was designed to classify ethnicity in Northern Norway (27). We used ancestry, language and affiliation with the Sami and the non-Sami groups or cultures as ethnic indicators as ethnicity can be a sensitive topic in the region (17, 18). We classified subjects as Sami when they expressed Sami affiliation, identity or reported the use of the Sami language themselves or among their parents or grandparents. The non-Sami group was composed of those who did not report any of these characteristics. Ethnicity in client–therapist pairs was dichotomized into ethnic match and mismatch based on whether or not the client and therapist shared the same ethnic classification.

Client and therapist demographics

Clients recorded their gender, age, education, employment/source of income, travel distance and travel time to the clinic. Therapists reported their gender, age, profession, years of therapeutic experience and years of residence in the region.

Client status, self-reported

Regarding help-seeking, previous treatment or consultation regarding mental health problems was coded into none, community services or specialized mental health treatment. Preferences for the type of help were condensed to no help/uncertain, referrals/medication and verbal treatment.

The Brief Symptom Inventory (BSI) was used as a measure of clients' symptomatic distress. The BSI (28) consists of 53 statements of psychological problems and symptoms, scored on a 5-point Likert scale. The General Symptom Index (GSI), the item mean, was used in this study.

Social dysfunction was addressed with three questions addressing social functioning in public situations, with friends and family, and at work (29). These were recorded on a 5-point scale and taken together formed a measure of global social dysfunction (Cronbach's alpha $= 0.68$).

Therapists' assessments

Therapists rated clients' symptoms and social functioning using the Global Assessment of Functioning (GAF-S/F). The GAF is generally considered a reliable global assessment of overall psychological and social functioning (30).

Diagnoses were recorded using the ICD-10 Checklist, short version (31). These were then condensed to neurosis (F40), depression (F30) and other (mainly F50, F60 for behavioral syndromes and personality disorders, respectively).

Treatment delivery

Therapists reported the type of intervention. The number of sessions and length of contact were obtained from the clinical records. Finnmark County is sparsely populated with long travel distances. Thus we assumed that the duration of treatment contact was a more appropriate measure of treatment amount than the number of sessions. Treatment duration was categorized into three groups: brief < 2 months, moderate 2–11 months and long > 11 months.

Treatment improvement

Improvement was the differences between clinical status (GSI, social functioning and GAF) at intake and at discharge or follow-up.

A more detailed description of the measures is reported elsewhere (29).

Prior to the study start, the therapists' received training in the measures and in performing GAF ratings. This included comparison of the individual therapist's GAF ratings with the ratings made by other therapists of the same clients. However, the data was not available so that formal reliability testing could not be carried out. All patient questionnaires were made available in both Norwegian and Sami languages. Professional translators were used to produce the Sami translation, including the appropriate use of independent back-translation.

Procedure

The study was approved by the Regional Committee for Medical Research Ethics. Both clients and therapists participated voluntarily in the study after providing written informed consent. Information from clients and therapists was mailed separately and directly to the researchers.

Prior to the first session, clients and therapists recorded their demographic and ethnic background information. Clients recorded their psychological status (BSI and social functioning) and their reasons for seeking help while therapists reported their initial clinical assessments after the first session. After treatment termination or 1 year after intake (if treatment was ongoing) the clients again reported their psychological status. Therapists recorded the GAF, diagnoses and treatment type. Twenty months after intake, clients completed the BSI and the measure of social functioning.

Analyses

Chi-square and one-way analysis of covariance (ANOVA) were used to compare Sami and non-Sami clients and therapists by their pretreatment characteristics. The association between the ethnic variables (Sami vs. non-Sami clients, Sami vs. non-Sami therapists and ethnically matched vs. ethnically mismatched client–therapist pairs) and the dependent variables (treatment delivery, clinical status and improvement) were examined with binary logistic regression analyses for categorical variables. Analyses of variance (SPSS GLM, general linear model procedure) were used for the continuous dependent variables, both adjusted and unadjusted for the relevant covariates (therapist's sex, years residing in the region and profession).

The sample was then examined to determine if the overall changes were related to any of the three ethnic variables. This was done by constructing linear growth curve (random effects) models using SAS Proc Mix. Each patient had his/her own starting point (random intercept). First we examined the entire data set for improvement in the three outcome measures (GSI, social functioning and GAF). Unstructured error was used for the repeated measures based in the Akaike Information Criterion best model fit criteria for all the analyses. We then contrasted the improvement among the Sami and non-Sami clients, among ethnically matched and mismatched client–therapist pairs, and among Sami and non-Sami therapists within the entire sample.

The sample was then subdivided by the duration of treatment contact (brief < 2 months, moderate 2–11 months and long > 11 months) and examined for the effects of the ethnicity/match variables upon the outcome measures within treatment duration. These analyses included the interactions between the slope of improvement and the two predictors, the respective ethnic/match variable and the treatment length and the three-way interaction (time $\times$ ethnic variable $\times$ treatment duration). This indicated whether the ethnic variable of interest impacted the slope of outcome variable within treatment duration. The analyses were subsequently adjusted for the number of sessions and treatment type. As the results were essentially identical, the unadjusted results are reported here. Post hoc power calculations indicated that the random effects models could have detected a small effect size between groups in the overall sample and a moderate effect size between groups within the three treatment durations (80% probability of detecting a significant difference $P < 0.05$ within the duration) (32).

Results

Sample characteristics

Client and therapist's characteristics are shown in Table 1. A total of 335 clients, 110 (32.8%) Sami and 225 (66.9%) non-Sami clients and 33 therapists, 13 (39.4%) Sami and 20 (60.6%) non-Sami therapists participated in the study. There were 136 ethnically matched client therapist pairs, 45 (17.6%) in which both client and therapist were of Sami background and 91 (35.7%) pairs in which both had non-Sami background. There were 139 ethnically mismatched client–therapist

Table 1. Ethnic variation in client and therapist characteristics.

		Sami		non-Sami		Difference		
		n (%)	Mean (*s*)	*n* (%)	Mean (*s*)	*F*	χ^2 (df)	*P*
Clients								
Age	17–81 years	110	34.4 (12.2)	225	36.8 (11.7)	3.04		0.08
Sex	Female	71 (64.5)		135 (60.0)			0.65 (1)	0.42
Employment	Yes	59 (53.6)		143 (63.3)			3.04 (1)	0.08
Education	Primary school	23 (21.1)		64 (28.6)			4.02 (2)	0.66
	High school	71 (65.1)		120 (53.6)				
	College	15 (13.8)		40 (17.9)				
Travel distance	<50km/1 hour	80 (72.7)		156 (69.3)			0.41 (1)	0.52
Previous contact	None	36 (32.7)		87 (38.7)			1.12 (2)	0.36
	Community services	35 (31.8)		65 (28.9)				
	Specialist mental health services	39 (35.5)		73 (32.4)				
Preferred help	None	24 (21.8)		40 (17.8)			1.29 (2)	0.27
	Medication/referral	21 (19.1)		38 (16.9)				
	Verbal therapy	65 (59.1)		147 (65.3)				
Alcohol & drug use	None	54 (55.0)		113 (50.2)			0.04 (2)	0.86
	Mild	46 (45.2)		92 (40.9)				
	Risk	10 (9.8)		20 (8.9)				
Diagnosis	Neurosis	29 (34.2)		51 (30.1)			0.82 (2)	0.37
	Depression	33 (43.0)		69 (42.3)				
	Other	19 (22.8)		46 (27.6)				
GSI	1.0–4.7	108	2.5 (0.7)	207	2.4 (0.7)	0.26		0.61
Social function	3–15	108	7.9 (3.1)	218	7.8 (3.4)	0.00		0.95
GAF	19–90	79	54.3 (12.7)	162	56.0 (10.9)	1.23		0.27
Therapists								
Profession	Doctor/psychiatrist	1 (7.7)		10 (50.0)			7.12 (3)	<0.01
	Psychologist	4 (30.8)		5 (25.0)				
	Psychiatric nurse	4 (30.8)		3 (15.0)				
	Clinical social worker	4 (30.8)		2 (10.0)				
Sex	Female	11 (84.6)		11 (55.0)			3.11 (1)	0.08
Age	28–61years	13	44.9 (10.8)	20	44.6 (9.9)	0.01		0.93
Childhood in County	Yes	9 (69.2)		6 (30.0)			4.89 (1)	<0.05
Residence in county	0–55 years	13	27.2 (15.1)	20	11.0 (15.7)	9.12		<0.01
Experience	0–27 years	13	9.4 (9.4)	20	8.5 (10.4)	0.08		0.79

GSI, Global Symptom Index; GAF, Global Assessment of Functioning.

pairs, 40 (15.9%) that consisted of a Sami client and a non-Sami therapist and 79 (31.0%) in which the client was non-Sami and the therapist was Sami.

The distribution of Sami and non-Sami clients closely represented their relative distributions in the population. There were no significant differences in the pretreatment characteristics of the Sami and non-Sami clients or in the therapist's initial clinical assessment. The Sami therapists had lived in the region longer than the non-Sami therapists and physicians were over-represented in the non-Sami therapist group.

Treatment characteristics

Clients attended 1–49 sessions (mean = 9.0, standard deviation, $s = 8.0$) within the 12-month period. The mean duration of treatment contact was 7.2 ($s =$ 4.9) months. Nearly 96 (29.1%) attended <2 months, 146 (44.2%) for 2–11 months and 88 (26.7%) for at least 11 months. Mean session frequency was 1.4 times per month ($s = 0.7$).

Verbal therapy was the main treatment modality for 153 (66.7%) clients, while medication was the main treatment for 31 (13.6%). The treatment contact was limited to a clinical assessment for 45 (19.7%). A total of 80 clients (34.9%) were prescribed medication. Treatment duration and type of treatment were not related (months in treatment contact for verbal therapy and medication were 8.0 and 8.3, respectively).

At termination or 12 months after intake, the average improvement in GSI-score was mean (s) = 0.22 (0.63), $n = 173$, ES $d = 0.40$. The average improvement in social functioning was mean (s) = 1.06 (3.37), $n = 171$, ES $d =$ 0.36. The GAF showed an average improvement mean (s) = 6.26 (10.82), $n = 217$, ES $d = 0.51$. For clients attending moderate treatment duration, the effect size was higher, 0.65, 0.51 and 0.55 for GSI, social functioning and GAF, respectively. The correlation between improvement in GSI and GAF was modest ($r = 0.24$, $P < 0.05$, $n = 111$).

Twenty months after intake overall improvement in both GSI [mean (s) = 0.30 (0.64), n = 175, ES d = 0.47] and social functioning [mean (s) = 1.34 (3.09), n = 181, ES d = 0.49] had increased.

Ethnicity and delivery of treatment

Session frequency was the only treatment variable that was significantly associated with client ethnicity. Sami ethnicity predicted higher session frequency (Table 2).

Therapist ethnicity was associated with both treatment type and treatment amount (Table 2). The clients of the Sami therapists were the most frequent users of medication while non-Sami therapists used verbal therapy more frequently, had more sessions with their clients, and continued treatment for a longer period. We examined the relationship between therapist profession and treatment delivery variables. Verbal therapy differed significantly by therapist profession [n = 225, chi-squared (3) = 27.43, r = 0.33, P < 0.001] with physicians/psychiatrists being the least frequent users of verbal therapy. Consequently, the increase in use of verbal therapy in the non-Sami therapist group where physicians were over-represented did not appear to be a result of biased representation of professions.

Ethnic match of the client–therapist pairs was associated only with the use of less verbal therapy (Table 2).

Ethnicity and overall outcome

When the entire sample was examined, ethnicity did not predict any of the outcome measures examined (Table 2). We also examined the data with a series of random effects (growth curve) models and did not find any significant effects of ethnicity on outcome (the interaction of each ethnic variable × time was not significant).

Improvement within treatment durations

At discharge or 12 months after the start of treatment, if it was still ongoing, client-reported social functioning, client-reported GSI and therapist GAF ratings showed the greatest improvement within the moderate treatment duration although the difference between treatment durations was significant only for the GSI (Table 3).

At follow-up/20 months after intake, improvement in GSI was significant for clients attending treatments of more than 2 months' duration (Table 4).

Ethnic variation in improvement within treatment durations

Finally, duration of treatment contacts were examined to determine if there were differences in the rates (slopes) of improvement in outcome measures that were related to ethnic factors within the different treatment durations. The predictor variables were treatment duration and either the ethnicity of the client, therapist or ethnic match and their two- and three-way interactions.

Client and therapist ethnicity

We did not find any significant variation in improvement between Sami and non-Sami clients or therapists within the treatment durations (the interaction, duration × ethnic variable × time (slope), was not significant; Tables 3 and 4).

Ethnic match in client–therapist pairs

Treatments in which client and therapist were ethnically matched were contrasted with treatments of ethnically mismatched pairs. At 12 months or treatment completion, the differences in the rates of improvement showed a non-significant trend in the favor of ethnically matched clients in their symptomatic improvement (Table 3, notes). When the 20-month follow-up was included, the difference between the matched and the mismatched group was significant for GSI scores, within the moderate treatment duration (the interaction duration × ethnic variable × time (slope) was significant; Table 4).

Discussion

Outpatient treatment did not have any marked shortcomings for the indigenous Sami clients in this study. However, it appeared that ethnic matching positively impacted outcome in treatments of moderate duration, a duration we thought most likely to demonstrate any ethnic differences, if indeed they were present. Furthermore, therapist ethnicity seemed to influence both the choice of treatment type and amount of treatment provided to individual clients.

Many indigenous populations and immigrant minorities in Western countries have reduced access to mental health services resulting from the combined effects of disadvantaged socio-economic status and ethnic alienation (33, 34). Comparing across ethnic groups can become difficult as these factors interact with mental health accessibility and ethnicity in a way that may be difficult to control adequately (2, 8). The social conditions of the Sami and non-Sami populations in North Norway are fairly comparable, the localization of mental health clinics and availability of services have been tailored to both population groups (24–26). This would likely reduce the potential impact of any ethnically related social inequity upon the results.

Ethnicity may be regarded as a social unit that makes up a field of communication and interactions that are realized within shared cultural values (35). Thus, people in different ethnic groups may think about and/or respond to dysfunction or treatment differently and this may impact service utilization and/or treatment outcome (36).

Table 2. Ethnicity, treatment delivery and clinical status at discharge and follow up.

	Sami/non-Sami clients			Sami/non-Sami therapists			Client–therapist ethnic match/mismatch		
Treatment indicators	*n*	*B* (SE)	Exp (*B*)	*n*	*B* (SE)	Exp (*B*)	*n*	*B* (SE)	Exp (*B*)
Treatment type									
Medication (No/Yes)	228	0.53 (0.4)	1.69	225	2.03 (0.7)	7.63**	225	0.05 (0.3)	1.06
Verbal therapy (No/Yes)	228	0.00 (0.3)	1.00	225	−1.28 (0.5)	0.28**	225	−0.82 (0.3)	0.44*
	n	*B* (SE)	*t*	*n*	*B* (SE)	*t*	*n*	*B* (SE)	*t*
Treatment amount									
Sessions, number	330	0.91 (0.9)	0.97	244	−3.53 (1.2)	−2.86**	244	−0.49 (1.0)	−0.51
Length of contact (months)	330	−0.12 (0.6)	−0.22	244	−2.11 (0.8)	−2.57*	244	−0.90 (0.6)	−1.40
Session frequency	330	0.19 (0.1)	2.18*	244	0.08 (0.1)	0.66	244	0.07 (0.1)	0.77
Clinical status, discharge									
GSI	184	0.12 (0.1)	0.92	131	−0.10 (0.2)	−0.51	131	−0.04 (0.1)	−0.30
Social functioning	174	0.71 (0.5)	1.33	124	−1.41 (0.9)	−1.66	124	0.67 (0.6)	1.12
GAF	221	−1.43 (1.8)	−0.80	219	3.50 (2.2)	1.59	219	−1.04 (1.7)	−0.62
Clinical status, 20 months									
GSI	186	0.05 (0.1)	0.40	134	0.03 (0.2)	−0.15	134	−0.08 (0.1)	−0.56
Social functioning	186	0.55 (0.5)	1.16	134	0.30 (0.7)	0.44	134	−0.12 (0.5)	−0.26

GSI, General Symptom Index, mean of Brief Symptom Inventory scores; GAF, Global Assessment of Functioning.
*$P < 0.05$, **$P < 0.01$.
Binary logistic regression was used for categorical variables (treatment type), and general linear model (GLM) for continuous variables. Positive *t*-values indicate larger values among Sami or ethnically matched pairs. Therapist sex, profession and years of living in the area were adjusted for. Multivariate tests (GLM) indicated that there were overall significant differences in treatment amount by therapist ethnicity [$F(3, 235) = 4.80$, $P = 0.003$], but not significant for client ethnicity and treatment duration or clinical status.

Table 3. Ethnicity, ethnic match and improvement within treatment durations at discharge or 12 months after intake.

		Social functioning				GSI				GAF			
Treatment duration	Ethnicity	*B (SE)*	df	*t*	*P*	*B (SE)*	df	*t*	*P*	*B (SE)*	df	*t*	*P*
Brief		−1.85 (0.82)	498	−2.27	<0.05	−0.49 (0.16)	496	−3.02	<0.01	6.43 (1.97)	658	3.26	<0.01
Moderate		−0.017 (0.04)	498	−3.91	<0.0001	−0.04 (0.01)	496	−4.72	<0.0001	0.56 (0.11)	658	4.91	<0.0001
Long		−0.025 (0.03)	498	−0.78	0.44	−0.01 (0.01)	496	−0.94	0.35	0.39 (0.09)	658	4.20	<0.0001
	Client*												
Brief	Sami	−1.69 (1.9)	368	−0.88	0.38	−0.31 (0.38)	367	−0.82	0.41	5.52 (2.67)	614	2.07	<0.05
Brief	Non-Sami	−1.22 (1.0)	368	−1.15	0.25	−0.13 (0.24)	367	−0.54	0.6	1.31 (1.88)	614	0.7	0.48
	Moderate Sami	−0.21 (0.10)	368	−1.98	0.05	−0.06 (0.02)	367	−2.54	<0.01	0.85 (0.27)	614	3.19	<0.01
	Moderate non-Sami	−0.13 (0.50)	368	−2.62	<0.01	−0.04 (0.01)	367	−3.34	<0.001	0.59 (0.16)	614	3.70	<0.001
Long	Sami	0.001 (0.06)	368	0.02	0.98	0.01 (0.01)	367	0.51	0.6	0.56 (0.17)	614	3.34	<0.01
Long	Non-Sami	−0.11 (0.05)	368	−2.21	<0.05	−0.02 (0.01)	367	−1.80	0.07	0.45 (0.15)	614	2.95	<0.01
	Client–therapist†												
Brief	Match	−1.46 (1.95)	368	−0.75	0.45	−0.15 (0.42)	367	−0.35	0.72	3.18 (2.22)	614	1.43	0.15
Brief	Mismatch	−1.28 (1.08)	368	−1.20	0.23	−0.21 (0.22)	367	−0.95	0.34	2.20 (2.13)	614	1.04	0.3
	Moderate Match	−0.15 (0.06)	368	−2.28	<0.05	−0.06 (0.01)	367	−4.40	<0.0001	0.62 (0.19)	614	3.29	<0.001
	Moderate Mismatch	−0.15 (0.06)	368	−2.25	<0.05	−0.02 (0.01)	367	−1.68	0.09	0.71 (0.20)	614	3.55	<0.001
Long	Match	−0.07 (0.05)	368	−1.44	0.15	0.01 (0.01)	367	0.65	0.52	0.51 (0.16)	614	3.21	<0.001
Long	Mismatch	−0.05 (0.06)	368	−0.98	0.32	−0.01 (0.01)	367	−1.05	0.3	0.49 (0.16)	614	3.07	<0.01
	Therapist‡												
Brief	Sami	−1.06 (1.08)	368	−1.0	0.32	−0.09 (0.24)	367	−0.38	0.7	3.15 (1.80)	614	1.76	0.08
Brief	Non-Sami	−2.02 (1.98)	368	−1.0	0.30	−0.39 (0.38)	367	−1.02	0.31	1.36 (2.90)	614	1.47	0.64
	Moderate Sami	−0.14 (0.07)	368	−2.2	<0.05	−0.033 (0.15)	367	−2.22	<0.05	0.89 (0.21)	614	4.15	<0.0001
	Moderate non-Sami	−0.15 (0.06)	368	−2.36	<0.05	−0.046 (0.01)	367	−3.51	<0.001	0.52 (0.18)	614	2.94	<0.01
Long	Sami	−0.1 (0.05)	368	−1.46	0.14	−0.01 (0.01)	367	−0.66	0.5	0.62 (0.17)	614	3.58	<0.001
Long	Non-Sami	−0.05 (0.05)	368	−1.16	0.25	−0.01 (0.01)	367	−0.8	0.4	0.43 (0.15)	614	2.86	<0.01

GSI, Global Symptom Index, Brief Symptom Inventory; GAF, Global Assessment of Functioning.
Duration of treatment contact: brief = <2 months; moderate = 2–11 months; long >11 months.
*Sami and non-Sami clients.
†Match, ethnically matched therapy pairs; mismatch, ethnically mismatched therapy pairs.
‡Sami and non-Sami therapists.
All models included the main effects as well as the two- and three-way interactions. The interactions indicated differences by treatment duration: social functioning, $F(2,494) = 3.40$, $P < 0.05$; GSI, $F(2,494) = 5.41$, $P < 0.01$; GAF, $F(2,656) = 1.41$, $P = 0.2$.
The interaction time × duration × ethnic variable indicated whether the ethic variable differentially impacted improvement within treatment durations.
Client ethnicity × duration × time interactions: social functioning, $F(5,368) = 1.22$, $P = 0.3$; GSI, $F(5,367) = 1.93$, $P = 0.09$; GAF, $F(5,614) = 1.04$, $P = 0.4$.
Client–therapist ethnic match × duration × time: Social functioning, $F(5,368) = 0.67$, $P = 0.6$; GSI, $F(5,367) = 2.18$, $P = 0.06$; GAF: $F(5,614) = 0.57$, $P = 0.7$.
Therapist ethnicity × duration × time: Social functioning: $F(5,368) = 0.73$, $P = 0.6$; GSI: $F(5,367) = 1.4$, $P = 0.2$; GAF: $F(5,614) = 1.06$, $P = 0.4$.

Table 4. Ethnicity, ethnic match and improvement within treatment durations, 20 months after intake.

		Social functioning				GSI			
Treatment duration	Ethnicity	*B* (SE)	df	*t*	*P*	*B* (SE)	df	*t*	*P*
Brief		−0.07 (0.05)	512	−1.40	0.16	−0.01 0.01)	476	−1.60	0.11
Moderate		−0.07 (0.04)	512	−1.65	0.10	−0.02 (0.01)	476	−3.22	<0.01
Long		−0.09 (0.05)	512	−2.00	<0.05	−0.02 (0.01)	476	−2.85	<0.01
	Client*								
Brief	Sami	−0.14 (0.06)	506	−2.49	0.01	−0.02 (0.02)	472	−1.46	0.15
Brief	Non-Sami	−0.06 (0.04)	506	−1.37	0.17	−0.01 (0.01)	472	−1.18	0.24
Moderate	Sami	−0.01 (0.05)	506	−0.15	0.88	−0.05 (0.01)	472	−3.52	<0.001
Moderate	Non-Sami	−0.08 (0.03)	506	−3.08	<0.01	−0.02 (0.01)	472	−2.47	<0.05
Long	Sami	−0.03 (0.04)	506	−0.63	0.53	−0.04 (0.01)	472	−3.79	<0.001
Long	Non-Sami	−0.12 (0.04)	506	−3.01	<0.01	−0.01 (0.01)	472	−1.39	0.16
	Client–therapist†								
Brief	Matched	−0.09 (0.05)	508	−1.87	0.06	−0.00 (0.01)	470	−0.47	0.64
Brief	Mismatched	−0.09 (0.05)	508	−1.71	0.09	−0.03 (0.01)	470	−2.23	<0.05
Moderate	Matched	−0.06 (0.03)	508	−1.97	0.05	−0.05 (0.01)	470	−4.87.	<0.0001
Moderate	Mismatched	−0.08 (0.04)	508	−2.30	<0.05	−0.01 (0.01)	470	−1.24	0.21
Long	Matched	−0.11 (0.04)	508	−2.90	<0.01	−0.02 (0.01)	470	−2.10	<0.05
Long	Mismatched	−0.03 (0.04)	508	−0.75	0.45	−0.02 (0.01)	470	−2.56	<0.05
	Therapist‡								
Brief	Sami	−0.09 (0.05)	506	−1.88	0.06	−0.02 (0.01)	470	−1.71	0.09
Brief	Non-Sami	−0.09 (0.05)	506	−1.75	0.08	−0.00 (0.01)	470	−0.34	0.74
Moderate	Sami	−0.06 (0.04)	506	−1.57	0.12	−0.01 (0.01)	470	−1.59	0.11
Moderate	Non-Sami	−0.09 (0.03)	506	−2.77	<0.01	−0.03 (0.01)	470	−3.21	<0.01
Long	Sami	−0.06 (0.05)	506	−1.17	0.24	−0.02 (0.01)	470	−2.19	<0.05
Long	Non-Sami	−0.10 (0.04)	506	−2.60	<0.01	−0.02 (0.01)	470	−2.20	<0.05

Duration of treatment contact: brief = <2 months; moderate =2–11 months; long >11 months.
*Sami and non-Sami clients.
†Match, ethnically matched therapy pairs; mismatch =ethnically mismatched therapy pairs.
‡Sami and non-Sami therapists.
All models included the main effects as well as the two- and three-way interactions. The interactions indicated non-significant differences by treatment duration: social functioning $F(2, 512) = 0.29$, $P = 0.75$; GSI $F(2, 476) = 0.62$, $P = 0.54$.
Non-significant differences by client ethnicity: social functioning $F(5,506) = 1.35$, $P = 0.24$; GSI $F(5,472) = 1.91$, $P = 0.09$.
Non-significant differences by therapist ethnicity: social functioning $F(5,506) = 0.23$, $P = 0.95$; GSI $F(5,470) = 0.90$, $P = 0.48$.
Differences by client–therapist ethnic match: social functioning $F(5,508) = 0.66$, $P = 0.65$; GSI $F(5,470) = 2.95$, $P = 0.01$. A secondary analysis limited to only to treatments of moderate duration indicated that there were differences by matching (GSI time ×match $F(1, 208) = 6.26$, $P < 0.01$, ES $d = 0.35$. Matched slope within moderate duration t =4.76, df =208, $P < 0.0001$; mismatched slope $t = -1.38$, df =208, $P = 0.17$).

Client ethnicity

Empirical studies on the mental health service delivery and client ethnicity have often demonstrated ethnic variations (2, 4–6, 8). The minor differences in our study between the Sami and the non-Sami client group would seem to indicate that client ethnicity has limited impact on treatment utilization and response to treatment in absence of social inequity between ethnic groups. Furthermore, a cultural awareness among the therapists may have shaped treatment to be more in correspondence to the clients' culture (10, 29). If this is correct, the mental health services of Finnmark County have succeeded in developing services that are culturally responsive.

Therapist ethnicity

Therapist ethnicity is rarely studied as an independent predictor in mental health treatment. This may be related to an assumption that therapeutic professionalism overrides ethnic differences. This view receives some support from Ortega & Rosenheck (14) who found no differences in service utilization among clients of Hispanic, black and white therapists in the USA. Our results contrast with this. However, these two studies focus on ethnic minority populations with different histories and socio-political status, varying levels of ethnic homogeneity and with one residing in a rural and the other in an urban setting. Speculatively, perhaps our findings reflect differences in the therapists' conception of the helper role and/or treatment process. In Western medicine, the helper is an expert whose interventions attempt to guide the sick person into a healthier way of being. Thus the therapist would need a strong relationship with the client. Traditionally, the Sami helper is a negotiator that asks "the spiritual world" for the healthy soul of the sick person (26). Thus the Sami helper would require a strong relationship with the

"spiritual realm" and the time spent with the client would not be as central as it is in the Western view. Ethnic background possibly implies unconscious cultural perceptions that could influence the shaping of treatment.

Client–therapist ethnic match

Client–therapist ethnic congruence is thought to increase the possibility of common patterns of thinking, adequate non-verbal interaction and to provide culturally congruent explanatory models and treatment expectations (10). Previous findings have indicated that treatment attendance and amount of treatment contact is increased with ethnically matched client–therapist pairs (5, 9, 11). At the same time, there is no consensus about the impact of ethnic matching on outcome (5, 11, 13–15).

Our results did not demonstrate an overall advantage in attendance for ethnically matched client–therapist pairs. An explanation for this may be that the rural setting of this study increases the likelihood that when client and therapist share ethnicity, they often share the same social group. Perhaps treatment might have been constrained by a lack of a necessary therapeutic distance.

Treatments of moderate duration are known to predict clinical improvement in outpatient settings (21), and we found that the client–therapist ethnic matching appeared to impact outcome among these. Sue (10) suggests that cultural competence is important in providing appropriate treatment. Predispositions to common cognitive patterns and social responses intrinsic to ethnic affiliation (35) possibly affect the subtle interactions of the therapy process, ease deeper communication and allow the therapist to almost intuitively apply culturally concordant interventions. It is likely that relevant cultural competence is available when therapist and client share ethnic background.

Limitations

This study was conducted in the small multiethnic communities in Northern Norway. The sample size was moderate and the rural setting may limit the relevance of the results to ethnic populations in other environments. The types of interventions were globally categorized, largely because of the naturalistic setting in which the study took place. Furthermore, the measures used to describe clinical status were global and may have served to obscure variations within the client group. The lack of formal reliability data from the therapists' evaluations (GAF) is a decided shortcoming.

Another potential weakness is the variation in the professions and years of residence in the region between the Sami and non-Sami therapists. That we did not find any effects of therapist profession and therapist time of residence in the region mitigates this possibility. While not unique to our study, the use of a categorical ethnic classification may have served to veil the complexity of the interaction between ethnicity and treatment.

Yet, within these limitations, the findings indicate that ethnic matching positively impacted outcome in treatments of moderate duration. It is worth noting that the most common ethnic confounders were not prominent in our sample. It appeared that the outpatient treatment that was provided here had no marked shortcomings for the indigenous Sami minority in this study. The ethnic background of the therapists seemed to influence their choice of and amount of treatment. Little is known about how therapist ethnicity shapes treatment, something that warrants further investigation.

Acknowledgements—This study was supported by a grant from the Norwegian Research Council (Grant nr. 135253/330) and from the Health Department of Finnmark County.

Declaration of interest: The authors report no conflicts of interest. The authors alone are responsible for the content and writing of the paper.

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