

# **The relationship between internalizing and externalizing symptoms and cultural resilience factors in indigenous Sami youth from Arctic Norway**

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## **ABSTRACT**

**Objectives.** To examine whether enculturation factors, like cultural activities, ethnic pride, and native language competence, are related to decreasing internalizing and externalizing symptoms in indigenous Sami youth from Arctic Norway. The impact of self-efficacy on the relationship between enculturation factors and mental health problems was also examined.

**Study design.** Population-based, cross-sectional questionnaire study.

**Methods.** The Norwegian Arctic Adolescent Health Study was conducted among 10<sup>th</sup> graders in junior high schools in North Norway during 2003-2005. The study sample consisted of 450 indigenous Sami youth, aged 15-16 years. Internalizing symptoms were measured with the Hopkins Symptom Check List-10 (HSCL-10), while externalizing symptoms were measured by two subscales of the Strengths and Difficulties Questionnaire (SDQ).

**Results.** For boys, participating in cultural activities and self-efficacy were associated with decreasing internalizing symptoms. Additionally, self-efficacy interacted with Sami language competence and cultural activities: when self-efficacy increased, these enculturation factors were related to symptom reduction. For girls, self-efficacy had an independent effect on internalizing symptoms and self-efficacy also strengthened the relationship between participation in cultural activities and reduced externalizing symptoms. Sami language competence was related to reduction of both internalizing and externalizing symptoms in girls.

**Conclusions.** In the present study, several enculturation factors and self-efficacy were identified as potential protective factors against mental health problems. In order to develop theoretical models that explain the mechanisms between cultural resilience and mental health, there is a need for both qualitative studies and longitudinal studies.

**Keywords:** adolescence, enculturation, indigenous Sami, mental health, resilience, self-efficacy

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## INTRODUCTION

Historical trauma, cultural loss and ongoing oppression have been linked to mental health problems in indigenous adolescents in the Arctic (1). To recover or develop resilience as a response to these vulnerability factors, a focus on cultural protective factors is essential. Since cultural discontinuity is causing ill health for indigenous peoples, cultural resilience may be important in healing and recovery (2, 3). Resilience is the process of overcoming ongoing and acute difficulties or risks. Resilience factors may include protective processes within the individual (self-efficacy, intelligence and communicating skills), within the family and peer network (supportive families and close relations) and within the school environment and the community (supportive communities, positive teacher influence) (4). Cultural resilience refers to the role of culture as a resource for resilience in the individual (5).

The different cultural resilience factors for indigenous youth that research has proposed all involve enculturation processes. Enculturation represents the degree to which an individual is embedded in his or her cultural traditions, by learning about and identifying with traditional practices, language, spirituality and cultural identity (6, 7). Research has demonstrated that factors such as strong cultural orientation and ethnic identity, participation in cultural practices, ethnic pride, traditional spirituality and community support are protective against different problem behaviours for indigenous youth (6, 8-15).

Cultural resilience factors may have an independent effect on emotional and behavioural problems, or may have a protective effect by operating through various individual, family or community resilience factors. Zimmerman and colleagues found that

enculturation in the presence of high self-esteem served as a protective factor against negative behaviours (16). Some studies find a positive relationship between self-esteem and enculturation, although different studies find conflicting results (17).

Previous research on cultural factors affecting the mental health of indigenous Sami adolescents has focused on ethnic identity and ethnic context (18-19). Contrary to the hypothesis that a strong ethnic identity is a protective factor, empirical findings from the Sami youth population suggest either no association to health outcome or a negative relationship (19-20). The hypothesis that Sami dominated ethnic context is related to positive mental health outcome has partly been supported by empirical studies (18-19). The ethnic context hypothesis assumes that living in a Sami dominated context (with high density of Sami) implies more cultural support in the community, and that this support is positively related to mental health outcome.

Thus, previous research on indigenous youth samples has found that enculturation factors such as cultural activities, ethnic pride and native language are acting as resilience factors. The major aim of the present study was to examine whether these enculturation factors influence externalizing and internalizing mental health problems in indigenous Sami adolescents. Additionally, the hypothesis that general resilience factors may interact with cultural factors was examined. We assumed that a high degree of self-efficacy may strengthen the relationship between cultural resilience factors and mental health problems.

## METHODS

### Sample and procedure

The Sami are the indigenous people residing in the Arctic region of northern Scandinavia (Norway, Sweden, Finland and Russian Kola Peninsula), and are estimated to

comprise approximately 60,000-110,000 individuals in these four countries (21).

Approximately 70 % of the Sami people live in Norway, where they are formally considered an indigenous people with their own culture and native language.

From January 2003 to January 2005, The Norwegian Arctic Adolescent Health Study (NAAHS) was conducted among 10<sup>th</sup> graders in junior high schools in the three northernmost counties in Norway: Finnmark, Troms and Nordland. A total number of 5,877 students were invited to participate, and 4,880 accepted (RR: 83 %). In the present study, only indigenous Sami adolescents were included. The study sample consisted of 450 Sami adolescents, 15-16 years old. Sami ethnicity was measured by an assessment of Sami parentage and Sami self-labelling, with participants having one or both of these classified as having Sami ethnicity (22-23). The questionnaires were administered in classroom settings, monitored by project staff. The students and their parents were given written information about the study, and the students gave written consent. The questionnaire was available in both the Sami and Norwegian languages. The study obtained approval and consent from the Regional Medical Ethical Committee, the Norwegian Data Inspectorate and the school authorities. The data collection was conducted and funded by the Centre for Sami Health Research at the University of Tromsø and the Norwegian Institute of Public Health in collaboration.

## Measures

*Internalizing symptoms.* Internalizing symptoms were measured with The Hopkins Symptom Checklist-10 (HSCL-10), which is designed to measure symptoms of anxiety and depression (24). Adolescents recorded their own estimates of symptom severity present during the preceding week, on a four-point scale ranging from (1) not at all troubled to (4) extremely troubled. The internal consistency on the 10-item scale was  $\alpha = 0.86$ .

*Externalizing problems.* Externalizing problems were measured by two subscales of the “Strengths and Difficulties Questionnaire” (SDQ), (25), the hyperactivity subscale and the conduct problem subscale, with five items each. Each one of the items can be rated (0) not true, (1) somewhat true or (2) certainly true. The internal consistency on the ten items was  $\alpha = 0.72$ .

*Ethnic context.* Communities were classified as either Sami dominated or Norwegian dominated. The Sami dominated context is characterized by high density of Sami (> 60 %) and a high degree of ethnic support. Several Sami national institutions are located here and Sami and Norwegian language have equal status. In the Norwegian dominated context there is a lower density of Sami, fewer Sami speakers and there is less ethnic support from the community compared with the Sami dominated context. Ethnic context was dummy coded as Norwegian dominated context = 1 and Sami dominated context = 2.

*Socio-economic status (SES).* Participants were asked about both their mothers’ and fathers’ occupations. This information was classified according to the International Standard Classification of Occupation ISCO-88 (26), which is also the basis for the Norwegian occupational standard. The categories of ISCO-88 were reclassified into five categories, based on the parent with the highest rated occupation. SES was dummy coded as high SES = 2 (the two highest rated occupations) and low SES = 1 (the other occupations).

*Sami language competence.* The adolescents were asked to report whether they had learned Sami language at home or as a first or second language at school (no = 1 and yes = 2).

*Ethnic pride.* The statement “I have a lot of pride in my ethnic group and its accomplishments” was rated on a four-point scale ranging from (1) strongly disagree to (4) strongly agree. This item is adopted from the 12-item Multigroup Ethnic Identity Measure (27).

*Cultural activities and traditions.* The statement “I participate in cultural practices of my own group such as special food, music or customs” was rated on a four-point scale ranging from (1) strongly disagree to (4) strongly agree. This item is adopted from the 12-item Multigroup Ethnic Identity Measure (27).

*Self-efficacy.* Self efficacy was measured with five questions: a) “I can always solve a difficult problem if I try hard enough”, b) “ Even when people work against me, I can figure out how to reach my goals”, c) “When I have a problem I can’t figure out, I know that eventually I will find a solution “, d) “I am sure that I can deal with unexpected events effectively” and e) “I remain calm when there are problems, I do trust in my own ability to cope with problems”. The adolescents responded on a scale ranging from (1) strongly disagree to (4) strongly agree. The internal consistency on the five-item scale was  $\alpha = 0.77$ .

#### Statistical analyses

Stepwise hierarchical regression model was conducted in order to identify predictors of internalizing and externalizing symptoms. The independent variables were Sami language competence, ethnic pride, cultural activities, self-efficacy and ethnic context, while socio-economic status was a control variable. To control for multicollinearity, a correlation analysis was made between all the independent variables. None of the correlations were above  $r = .40$ , except the correlation between ethnic context and Sami language competence, which was  $r = .68$ .

Firstly, some preliminary analyses were run to decide which variables should be included in the full models. Six small regression models were conducted for each gender and each dependent variable. Every model included two cultural resilience factors together with their interaction term: 1) Ethnic context, Ethnic pride, and Ethnic context x Ethnic pride, 2) Ethnic context, Cultural activities, and Ethnic context x Cultural activities, 3) Ethnic context,



Self-efficacy, and Ethnic context x Self-efficacy, 4) Self-efficacy, Sami language, and Self-efficacy x Sami language, 5) Self-efficacy, Ethnic pride, and Self-efficacy x Ethnic pride, 6) Self-efficacy, Cultural activities, and Self-efficacy x Cultural activities. The variables that occurred as statistically significant on a 0.05 level for one or both of the genders were included as predictors for internalizing symptoms and/or externalizing symptoms in either of the full models. Then, the full stepwise hierarchical models for internalizing and externalizing symptoms were conducted separately for boys and girls. In step one, ethnic context and socioeconomic status were included even if they did not remain statistically significant in the preliminary analyses. In step two, resilience factors were included if they remained significant in the preliminary analyses: Sami language, ethnic pride, cultural activities and self-efficacy. In step three, the interaction terms that were statistically significant in the preliminary analyses were included.

## RESULTS

The greatest differences between youth from Sami dominated and Norwegian dominated contexts were that a larger proportion of youth from Sami dominated contexts had learned the Sami language at school ( $\chi^2 (1) = 2.01, p = < .001$ ), and they participated in more cultural activities than youth from Norwegian dominated contexts ( $t (402) = -4.28, p < .001$ ). There were few gender differences in the baseline reports of the study variables (Table I).

[Please insert Table I here]

For boys, the main effects most strongly associated with decreasing internalizing symptoms were participation in cultural activities and self-efficacy (Table II). Self-efficacy

interacted with Sami language competence and cultural activities for boys: increasing self-efficacy combined with Sami language competence was related to decreasing levels of internalizing symptoms, and when both self-efficacy and cultural activity were low, internalizing symptoms were increasing. For girls, Sami language competence and self-efficacy were associated with decreasing internalizing symptoms (Table II).

[Please insert Table II here]

None of the enculturation variables were individually related to externalizing symptoms for boys: for girls, Sami language competence was related to decreasing externalizing symptoms (Table III). Ethnic pride interacted with ethnic context for both genders. Boys living in a Sami dominated context with high ethnic pride had decreasing externalizing symptoms, while for boys in a Norwegian dominated context ethnic pride did not associate with symptoms. For girls, the opposite relationship was found: living in Sami dominated contexts with high ethnic pride was associated with increasing externalizing symptoms. Lastly, for girls, there was an interaction effect between cultural activity and self-efficacy. Girls with a high degree of cultural activities and a high degree of self-efficacy had decreasing externalizing symptoms (Table III).

[Please insert Table III here]

## DISCUSSION

This study showed that enculturation factors are significantly but moderately associated with decreasing mental health problems in indigenous Sami adolescents. The

enculturation factors most strongly associated with mental health symptoms in the Sami youth population were participation in cultural activities and native language competence. As hypothesized, ethnic context and self-efficacy interacted with some of the enculturation factors. Self-efficacy was also independently associated with decreasing symptoms. Finally, there were gender differences as to which resilience factors were important for internalizing and externalizing problems.

Theories about the exact mechanisms between cultural resilience and health outcome are sparsely developed. However, our theoretical framework is that enculturation factors may act as resilience factors through both the individual level, and the relational or contextual level. On the individual level, learning about ethnic culture may strengthen the self-esteem, ethnic identity and self-regulation skills of adolescents (8, 9). On the relational level, sharing the cultural knowledge and practice with others may increase the in-group cohesiveness and support (13). A strong ethnic group affiliation may give the adolescents an experience of “shared meaning making” (9, 15). The skills, self-esteem and feeling of support developed through enculturation may give the young persons strength to overcome difficulties.

As with findings from the present study, previous research has identified native language competence and cultural practices as possible resilience factors. A recent study provided empirical evidence that efforts to preserve and revitalize traditional language in indigenous communities were associated with lower suicide rates compared with communities not engaged in such efforts (28). The authors concluded that indigenous language competence seems to be a strong predictor of well-being in indigenous communities. Further, a study by Whitbeck and colleagues found that participation in traditional activities was associated with reduced depressive symptoms (29).

Moreover, the findings from the present study can be related to, although not easily compared with, previous research on the association between ethnic identity and mental

health in indigenous Sami youth. Using a global measure of ethnic identity developed by Phinney (27), Kvernmo and Heyerdahl did not find a relationship between ethnic identity and mental health outcome (19). According to Phinney's measure, ethnic identity includes both the exploration of practices, values and beliefs related to one's ethnic group, and the degree of personal commitment to these issues. Unlike a global measure of ethnic identity, the focus of the present study was measures of few specific behaviours and attitudes related to ethnic enculturation. These specific factors are, however, partly overlapping and also related to Phinney's concept of ethnic identity. Thus, differences in the definition of the core concepts may explain the contrasting findings between Kvernmo and Heyerdahl's study and the present study. The use of a global measure of ethnic identity, like Phinney's ethnic identity-scale, may hide potential variations in how different aspects of identity relate to emotional and behavioural problems. The differentiation between enculturation factors, however, makes identification of specific factors related to mental health problems possible.

Girls and boys have different genetic or biological dispositions, and when these dispositions interact with environmental factors, this may result in gender differences in mental health and factors related to mental health (30). Kvernmo and Heyerdahl found that strong ethnic identity in the Sami dominated context was associated with externalizing problems for Sami girls; this effect was not found for Sami boys (19). Likewise, the results from the present study suggested that high ethnic pride was associated with increasing externalizing problems for girls in the Sami dominated context, while high ethnic pride was related to decreasing externalizing behaviour problems in boys. Thus, for girls, what was expected to be a resilience factor, actually seemed to be associated with increasing externalizing problems. There may be several possible explanations for this. Strong ethnic pride may act as a risk factor when your ethnic group is being discriminated against, which generally is the case for the Sami. Perhaps then, girls this age are more sensitive to ethnic

discrimination than boys. Or, maybe boys and girls differ in their developmental paths with regard to ethnic pride. Research has in fact demonstrated that in the ethnic socialization of girls, parents tend to emphasize ethnic pride, while focusing more on coping with racism in the socialization of boys (17).

Self-efficacy seemed to be important both in its own right, and in some instances it also seemed to strengthen the impact of the enculturation factors on problem behaviour. Thus, both general resilience factors and cultural resilience factors may be important health promoting factors for indigenous youth. Several theorists have pointed out that the integration of the unique experiences (i.e. enculturation factors) of minority children to general theories of development (i.e. general resilience factors like self-efficacy) is lacking (8, 31). The unique experiences of minority groups may determine how general developmental processes can lead to diverse outcomes (32). The findings from the present study highlight this particular principle: cultural factors should not be studied in isolation; neither should general processes be studied without including culture and context.

There are some limitations to the present study. The data are cross-sectional, which makes any causal arguments problematic. For example, we do not know if participating in cultural activities originates prior to internalizing or externalizing problems or if the activity occurs in response to problem behaviour, or in response to confounding variables not controlled for in the analyses. Another limitation of this study is that the scales used are not validated for the Sami adolescent population. The limited age-span of the adolescents in this study (15-16 years) may create an uncertainty as to whether the results can be generalized to older or younger adolescents. Due to small effect sizes, the findings must be interpreted with appropriate caution. The major strengths of this study are the population-based design and high response rate.

The largest contribution of this study is the identification of several enculturation factors that may protect against emotional problems and behaviour problems for indigenous Sami adolescents. Most previous research in this area has been conducted with Native American adolescents; very little systematic research has been conducted on cultural resilience factors in the indigenous populations of the Arctic. In order to improve and develop further theoretical models in this field, there is a need for both qualitative studies and longitudinal studies. Qualitative studies can contribute to further identifying the relevant cultural resilience factors for the Sami population and also lead to the development of culture sensitive or emic measures. Longitudinal studies, on the other hand, are needed to explore causality. Increasing the knowledge about the relationship between enculturation factors and mental health is important to the development of a culture sensitive clinical practice. Finally, the integration of local or cultural resilience factors with the well-known general resilience factors is important when designing preventive programmes targeting mental health problems in indigenous adolescents.

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## **Conflict of interest**

No conflicts declared.

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Table I: Enculturation factors, self-efficacy, internalizing and externalizing symptoms by ethnic context and gender

	Sami dominated		Norwegian dominated	
	Boys % (N)	Girls % (N)	Boys % (N)	Girls % (N)
High SES	60 (22)	71 (29)	56 (87)	52 (79)
Sami language competence	82 (37)	85 (39)	9 (17)	13 (22)
	Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)
Ethnic pride	3.21 (0.95)	3.41 (0.88)	2.99 (1.12)	3.17 (0.99)
Cultural activities/traditions	2.64 (1.01)	2.79 (1.14)	2.10 (1.14)	2.15 (1.12)
Self-efficacy	3.08 (0.48)	3.07 (0.46)	3.00 (0.58)*	2.87 (0.50)
Internalizing symptoms	1.28 (0.47)	1.66 (0.48)**	1.32 (0.38)	1.69 (0.58)**
Externalizing symptoms	3.24 (1.76)	2.60 (1.52)	3.46 (1.84)*	3.10 (1.56)

Note. \*\*p < 0.001 \*p < 0.05

Table II: Hierarchical multiple regression model of enculturation factors and self-efficacy predicting internalizing symptoms

	Boys			Girls		
	$\beta$	Final $\beta$	R <sup>2</sup>	$\beta$	Final $\beta$	R <sup>2</sup>
Step 1			.00			.01
Socio-economic status (SES)	-.03	.01		.06	.07	
Ethnic context	-.01	.10		-.06	.17	
Step 2			.10*			.08*
Sami language competence	-.03	.01		-.29*	-.29*	
Ethnic pride	.05	-.01		-.02	-.00	
Cultural activities	-.19*	-.21*		.12	.13	
Self-efficacy	-.29**	-.31**		-.15*	-.17*	
Step 3			.19**			.10
Ethnic context x Ethnic pride	-.12	-.12		-.03	-.03	
Self-efficacy x Sami language	-.22*	-.22*		-.01	-.01	
Self-efficacy x Cultural activity	.24*	.24*		-.14	-.14	

Note. \*\*p < 0.001 \*p < 0.05; SES: 1= low, 2 = high; Ethnic context: 1 = Norwegian dominated, 2 = Sami dominated; Sami language competence: 1 = no, 2 = yes

Table III: Hierarchical multiple regression model of enculturation factors and self-efficacy predicting externalizing symptoms

	Boys			Girls		
	$\beta$	Final $\beta$	R <sup>2</sup>	$\beta$	Final $\beta$	R <sup>2</sup>
Step 1			.01			.05*
Socio-economic status (SES)	-.11	-.08		-.19*	-.19*	
Ethnic context	-.11	-.03		-.13	.01	
Step 2			.03			.07
Sami language competence	-.06	-.04		-.20	-.20*	
Ethnic pride	-.07	-.15		-.01	.03	
Cultural activities	.05	.03		.07	.07	
Self-efficacy	-.19*	-.17*		-.14	-.14	
Step 3			.06*			.12*
Ethnic context x Ethnic pride	-.21*	-.21*		.19*	.19*	
Self-efficacy x Cultural activity	.09	.09		-.20*	-.20*	

Note. \*\*p < 0.001 \*p < 0.05; SES: 1= low, 2 = high; Ethnic context: 1 = Norwegian dominated, 2 = Sami dominated; Sami language competence: 1 = no, 2 = yes