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Somatization and Coping in Ethnic Minority Recruits

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ABSTRACT Introduction: Military service can have beneficial social effects on minorities. However, minority groups are also often at greater risk of somatizing psychological distress and coping maladaptively. In military training this would result in lower mental health of minorities and contribute to higher drop-out rates. We thus examined if recruits with different ethnocultural backgrounds report different somatization levels and coping styles. Materials and Methods: Seven hundred and forty male recruits of the Swiss Armed Forces aged 18–26 took part in a cross-sectional study during basic training. Participants filled out self-rating questionnaires covering sociodemographics, somatization (SCL-90-R), coping styles (INCOPE-2), and social support (F-SozU). The recruits' ethnic self-identification was used to compare three groups: native Swiss (89%); Turkish or Balkan minority (5%); heterogeneous ethnic minority (6%). Group differences in somatization scores were tested with a Kruskal–Wallis test; group differences in coping styles were tested with a multivariate ANCOVA, controlling for the level of social support experienced. Results: Recruits from the heterogeneous ethnic minority group reported significantly greater levels of somatization than their native Swiss comrades. Coping styles did not differ between the three ethnic groups, but higher levels of social support were associated with better coping. Conclusion: Military doctors ought to place importance on the differential diagnosis of medically unexplained physical symptoms in ethnic minority recruits. This would contribute to minimize the risk of misdiagnosis. Military mental health professionals who counsel recruits reporting somatic symptoms are advised to be sensitized to an ethnic minority status. Physical complaints could mask affective problems or be part of an adjustment disorder symptomatology.

INTRODUCTION

Military sociological studies suggest that military service contributes to the construction of cohesive national communities because of its socializing effect and by enabling contacts between various ethnic, religious, and socioeconomic groups.¹ With their bridging hypothesis, Browning, Lopreato, and Poston proposed that military service especially benefits ethnic minorities, as it provides them with experiences that facilitate their entry into the civilian workforce.² This has indeed been shown to be the case in all-volunteer forces.³ Furthermore, due to the current demographic changes, experts argue that adapting to ethnic minorities will be imperative for European armed forces confronted with challenges in recruitment and retention.^{4,5} There are 87 distinct European ethnicities, of which 33 form the majority population in at least one European nation, while the remaining 54 constitute ethnic minorities.⁶ Both the end of World War 2 and the Cold War were followed by extensive migration movements both inside of, as well as into Europe. In this context, research on populations with a

migration background (commonly defined as anyone – both foreign nationals and citizens – whose parents were born abroad) pertains to a large degree also to ethnic minorities.

Successfully completing military service can thus contribute to the social situation of ethnic minorities. However, there is a risk that basic military training itself might result in greater stress and higher drop-out rates for minority recruits, thus preventing any bridging effect. Individuals with a migration background have been shown to be more vulnerable to stressors and have a higher prevalence of stress-related mental problems, as they experience several stressors related not only to the preparation and process, but also the aftermath of migration.^{7,8} There are also strong indications that psychopathological symptomatology and coping mechanisms in minorities vary by their ethnic background,⁹ especially regarding medically unexplained physical symptoms (MUPS).¹⁰

Ethnic background is also associated with social support, as it is commonly more associated with non-Western traditional cultures.^{7,9} Social support is an important salutogenic factor in the psychological well-being of children,¹¹ is more predominant amongst adolescents of specific ethnic minority groups,¹² and has a beneficial effect on the mental health of immigrants and on immigrant adaptation, i.e., the processes by which newcomers adjust and integrate within a new host society.^{13,14} Social support specifically moderates the relation between acculturative stress, i.e., the psychological impact of adaptation to a new culture, and symptoms of anxiety and depression.^{15,16}

Transcultural mental health studies recommend surveying the specific ethnicity of study subjects.¹⁷ In this study, we

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focused on somatization (i.e., the unconscious process of expressing psychological distress in the form of physical symptoms) in recruits with an ethnic background from Turkey and the Balkans. Firstly, these ethnicities are often immigrants of the first or second generation, make up half of all naturalized Swiss citizens in the recent years,¹⁸ and share many cultural and religious similarities due to a shared history in the Ottoman Empire. Second, transcultural psychiatric research has shown that Turkish minorities in Europe somatize depressive disorders more strongly.^{19–23} Data also indicate that while Turkish and Balkan minorities utilize medical services significantly more often than their Swiss counterparts, the frequency of their utilization of mental health services does not differ.²⁴ This is consistent with their abovementioned proclivity to somatize psychological distress and lends credence to the suggestion of Uluşahin, Başoğlu, and Paykel²⁵ of an underlying distinctive sickness behavior that is more likely modeled after parental behavior than resulting from a shared environment. Considering the patriarchal culture of Turkey and the Balkans, Choi and Park's study further explains this phenomenon.²⁶ They found that male adolescents who endorse a culture of machismo consider the expression of psychological symptoms a weakness and view the expression of somatic symptoms as more acceptable.

Mental health and experience of distress are closely linked to coping styles and behavior. Adolescents from ethnic minorities engage in more maladaptive coping under psychological distress,²⁷ while avoidance coping has been found to be an adaptive strategy for adolescents from ethnic minorities that are exposed to chronic and severe stressors.^{28,29} Similarly, adolescents from ethnic minorities in Switzerland reported to be more pessimistic and had lower self-efficacy expectations than their native Swiss counterparts.^{30,31}

To summarize, research has shown that ethnic minorities from Turkey and the Balkans somatize psychological distress more strongly, and that ethnic minority adolescents exhibit less healthy coping than their majority counterparts. We maintain that it is important for military leadership to know if and how somatization and coping differs between recruits of varying ethnic backgrounds. The incidence of somatic health problems during basic training is significantly elevated compared to the civilian baseline, and together with accidents, somatic health issues constitute the principal reason for recruits to drop out of basic training.³² Identifying high-risk groups is thus indispensable to develop sustainable health promotion. Elevated drop-out rates of ethnic minority groups in basic training also undermine draft equity in a conscription-based army such as the Swiss Armed Forces. Military service would thus risk increasing social divisiveness and prevent any positive socioeconomic effects for minority groups as postulated by the bridging hypothesis.²

Given the above described theoretical background, we formulated the following two hypotheses. First, that recruits with an ethnic background from Turkey or the Balkans

exhibit significantly higher levels of somatization during basic training when controlling for social support. Second, that recruits with any ethnic minority background report to engage in significantly less functional coping strategies and significantly more dysfunctional coping strategies during basic training.

METHODS

Participants and Procedure

A total of 741 male recruits (aged 18–26 years, $M = 20.01$, $SD = 1.11$) of the Swiss Armed Forces were examined in a cross-sectional study during the third week of the second basic military training course of 2017. Officers of the Psychological-Pedagogical Service conducted the survey. Regarding educational level, 1.2% had attended remedial class, 33.3% lower junior secondary school (vocation-centered), 44.7% higher junior secondary school, 14.2% grammar school, and 6.6% had a tertiary degree. The sample was drawn from seven different military companies and four different training grounds to obtain a balance between combat and support troops. Participants were informed about the basic outlines of the study's aims, the voluntary nature of participation and the secure and anonymous data handling. They gave written informed consent and completed a series of standardized questionnaires covering sociodemographics, psychological distress, coping styles and social support. The institutional review board of the Armed Forces Personnel (J1) approved the study, which was performed in accordance with the principles laid down in the Declaration of Helsinki.

Measures

Socio-demographic data

Participants completed a questionnaire covering gender, age, educational level, vocational training, occupational level, and marital status.

Ethnic background

Ethnic background was operationalized based on the recruits' self-reported predominant use of their parents' native language at home. Language proficiency is a valid and objective measure for cultural maintenance,³³ an essential component of the ethnic identity of minority adolescents,³⁴ and a predictor of ethnic identity across different ethnicities.³⁵ Swiss-German and French were coded *Native* and constituted the native group. Turkish, Serbo-Croatian, Bosnian, Albanian, Macedonian, Greek, Bulgarian, Slovenian and Romanian were coded as *Turkish & Balkans*.³⁶ All other languages (i.e., European, Asian and African) were coded as *Other*. As a result, 660 (89.1%) of the sample were *Native*, 37 (5.0%) were *Turkish & Balkans*, and 44 (5.9%) were *Other*. Since all participants spoke one of Switzerland's two dominant national languages, they received all instructions and questionnaires in either German or French.

Somatization

Somatization was measured using the *Somatization* dimension (12 items) of the Symptom Checklist-90-Revised (SCL-90-R), a self-report symptom inventory designed to reflect psychological symptom patterns with a time reference of the past seven days.³⁷ The dimension reflects distress arising from bodily perceptions, including the cardiovascular, gastrointestinal, and respiratory system, as well as other systems with autonomic mediation. Distress severity is rated on 5-point rating scales with the anchor points 0 (=not at all) to 4 (=extremely). The dimension has a Cronbach's α of 0.86,³⁸ and its separate use validly assesses somatization and MUPS.³⁹ The SCL-90-R itself is widely used and a valid and reliable measure for psychological distress, both in English, German, and French.^{40,41}

Coping

Coping strategies were assessed with the Individual Coping Questionnaire (INCOPE-2), a 23-item questionnaire consisting of six subscales that reflect a variety of individual coping strategies for psychosocial stress.⁴² Items are rated on 5-point rating scales with respect to the frequency with which a subject self-reportedly uses each coping strategy in everyday life, with anchor points 0 (=never) and 4 (=always). Cronbach's α for the entire scale is 0.72. The subscales Ruminant; Expression of Negative Emotions; Negative Relaxation Strategies; and Withdrawal/Avoidance form the dimension *Dysfunctional Coping*. Positive Self-Verbalization and Active Problem Solving form the dimension *Functional Coping*. The two main dimensions have internal consistencies of $\alpha = 0.71$ respectively $\alpha = 0.70$ and demonstrate satisfactory concurrent and predictive validity.⁴² For the francophone participants, a French version was created through forward and back translation of the German original by a bilingual officer of the Psychologic-Pedagogic Service.

Social support

Social support was measured with the Social Support Questionnaire F-SozU.⁴³ The F-SozU operationalizes social support as perceived support from one's social surroundings. It assesses the subjective belief of receiving support from others in the event of need as well as the prediction of being able to fall back on resources from one's social environment. Items are rated on 5-point rating scales with respect to

agreement to the statements contained, with anchor points 1 (=strongly disapprove) and 5 (=strongly approve). Higher scores represent more social support. To reduce subject burden and increase rate of completion we used the short version (K-14) of the F-SozU. This unidimensional version consists of 14 items and exhibits very good psychometric item properties and reliability (Cronbach's $\alpha = 0.94$). The scale's validity reveals strong evidence for its usefulness.⁴⁴ For the francophone participants, a French version was created through forward and back translation of the German original by a bilingual officer of the Psychologic-Pedagogic Service.

Statistical Analyses

Testing the assumptions of the statistical analyses revealed that social support was independent of *Somatization* but associated with coping styles (see section Results). We thus used social support as a covariate only in the testing of our second hypothesis. Additionally, variances and covariances of the dependent variable *Somatization* were heterogeneous in the unequally sized ethnic groups, with smaller samples exhibiting larger variances than the larger sample. This resulted in a significant Box's *M*-test even when using the more conservative level of significance of $\alpha < 0.001$, as advised with unequal sample sizes. Accordingly, for our first hypothesis we used a Kruskal-Wallis test with ethnic background as categorical factor and *Somatization* as dependent variable. *Post hoc* pairwise comparisons using Mann-Whitney *U* tests were used to identify the source of a significant result. For our second hypothesis, we used a MANCOVA with ethnic background as categorical factor, *Social Support* as covariate, and *Functional Coping* and *Dysfunctional Coping* as the two dependent variables. The nominal level of significance was set at $\alpha < 0.05$. All statistical computations were performed with SPSS 24.0 (IBM Corporation, Armonk NY, USA) for Windows.

RESULTS

Statistical Assumptions

Pearson correlations revealed that the level of social support during basic training was significantly associated with both *Functional Coping* and *Dysfunctional Coping*, but not with *Somatization* (Table I). An ANOVA revealed that the level

TABLE I. Pearson Correlations Between Social Support, Somatization, and Coping Strategies ($N = 648$)

	1	2	3	4
1) F-SozU (Social Support)				
2) SCL- 90 – Somatization	-0.048			
3) INCOPE-2 Functional Coping	0.222**	-0.136**		
4) INCOPE-2 Dysfunctional Coping	-0.089*	0.077*	-0.054	
<i>M (SD)</i>	3.50 (0.60)	0.66 (0.74)	2.20 (0.57)	1.36 (0.50)

* $p \leq 0.05$, ** $p \leq 0.01$.

of social support during basic training was independent of the recruits' ethnic background, $F(2,729) = 0.546$, n.s.

Somatization (SCL-90-R)

Somatization levels were significantly different between the ethnic groups, $\chi^2(2, N = 654) = 12.83$, $p \leq 0.01$, $\eta^2 = 0.02$. *Post hoc* Mann-Whitney *U* tests examined pairwise differences among the three groups, controlling for Type I error across tests by using the Bonferroni approach. These tests indicated a significant difference only between the ethnic groups *Native* ($N = 590$, $Mdn = 0.42$) and *Other* ($N = 38$, $Mdn = 0.75$), $U = 7,731.5$, $p \leq 0.01$, $r = 0.13$.

Coping Strategies (INCOPE-2)

Results of the multivariate tests showed that coping strategies did not differ between the ethnic groups, but were related to social support levels, $F(2/725) = 18.93$, $p \leq 0.01$, Wilks' $\Lambda = 0.95$, partial $\eta^2 = 0.050$. There was no interaction effect, either. Between subject effects showed that the recruits' social support levels were significantly associated with both *Functional Coping* ($F(1/726) = 32.46$, $p \leq 0.01$, partial $\eta^2 = 0.043$) as well as *Dysfunctional Coping* ($F(1/726) = 6.87$, $p \leq 0.01$, partial $\eta^2 = 0.009$). For the strength and direction of these associations, see the correlation coefficients in Table I.

DISCUSSION

The key findings of the present study were that Swiss minority recruits with a heterogeneous ethnic background exhibited significantly higher levels of somatization in the third week of basic training than their Swiss native comrades or those with an ethnic background from Turkey or the Balkans. Coping styles did not differ among these groups. However, social support showed a small association with dysfunctional coping and an almost medium association with functional coping.

Even though somatization levels were associated with ethnic minority status, our first hypothesis itself was not met, nor was our second hypothesis. In our opinion, the present data add nonetheless to the current literature in an important way, as we could show that greater somatization in members of ethnic minorities occurs also in naturalized young adults in a highly specific situation such as basic military training.

Before interpreting these results, a few issues need to be addressed. Although our sample was twice as large as required to be considered representative in random sampling,⁴⁵ factual constraints guided the drawing of the sample, thus limiting representativeness. The two minority groups were comparably small, and especially the group *Other* was ethnically heterogeneous. Variance in this group was thus large and may partially account for the results. Furthermore, the effect size of the significant difference was small. Lastly, there was no possibility to assess whether there was a non-participation bias amongst any of the three ethnic groups,

since the Swiss Armed Forces does not survey the ethnic background of recruits as a general practice.

Regarding the higher levels of somatization, transcultural psychology indicates this may stem from a culturally distinct experience of body and mind. Many non-Western cultures endorse a holistic anthropology, where mind and body constitute a unity and psychosocial distress is expressed accordingly.^{10,46} Western Europeans, however, subscribe to a Cartesian mind-body dichotomy and in expressing psychosocial distress focus on the mind, neglecting physical experiences.⁴⁷ Cultural differences in somatization rates thus have a likely foundation in a differing attention to symptoms.⁴⁸ Somatization might also be the most expedient way of communicating psychological distress,¹⁰ as ethnic minorities – especially if they are first generation immigrants – lack fluency in their host nation's language. Somatic problems are much easier to communicate to a health care professional. Second (and maybe even third) generation immigrants would likely adopt and thus continue this behavior by modeling, as Uluşahin, Başoğlu, and Paykel suggest.²⁵ This effect would be exacerbated in a military setting, where lacking mental resilience is more stigmatized than a deficit in physical resilience, in turn discouraging service members from ethnic minorities to seek necessary mental health counseling.⁴⁹

There is regrettably little to speculate on the fact that only the ethnically heterogeneous minority subjects exhibited higher somatization levels while those with an ethnic background more commonly associated with this phenomenon (i.e., Turkey and Balkans) did not. One reason might be that intra-minority intergroup relations (i.e., attitudes and behaviors of one minority group towards members of another minority group) might mirror classic majority-minority relations.⁵⁰ Recruits of Turkish or Balkan extraction constitute majorities amongst the minority. The several smaller minority groups that formed the group *Other*, however, lack this strength in numbers and the related social capital and informal privileges. Negative intra-minority intergroup relations can result in members of smaller (especially "visible") minority groups to experience discrimination and marginalization not only from the majority group, but also from dominant minority groups. And perceived discrimination has been shown to act as a moderator for both mental and physical health in ethnic minorities.^{51,52}

The fact that functional coping was positively associated with higher levels of perceived social support (and vice versa) would also support this line of reasoning. It also supports those coping models that identify social support seeking as a specific coping strategy. While seeking social support is distinct from perceived social support itself, it is unsurprisingly an important contributing factor to the latter.^{53,54} The recruits' reported level of social support may thus reflect the result of active coping activity, and not just a passive experience of support from their family or community.

These findings have ramifications for both military cadre, military doctors and military health care professionals.

Military cadre in basic training should be aware that if recruits from ethnic minorities complain about physical discomfort, it need not be a medical problem or a sign of malingering, but rather a symptom of psychological distress. Accordingly, they will be better suited to exercise their responsibility as military leaders to adequately manage these cases. Military doctors and military mental health professionals, too, should consider these results when engaging with recruits from ethnic minorities, as cross-cultural miscommunication can hamper clinical encounters.⁵⁵ Predominantly somatic complaints or MUPS can mask affective problems or be part of an adjustment disorder symptomatology. Awareness of this can contribute to reducing the risk of misdiagnosis. As human resources are not as readily available to armed forces anymore, even in countries with the conscription, taking these findings into account is not only in the best interest of the recruit himself, it could also increase the military's retention rate. Every recruit – independent of ethnicity – has both the obligation and the right to do his military service in an environment that is both challenging and supportive. Only thus can armed forces legitimately assert their claim of not only training soldiers ready for operations but also supporting them in becoming valuable members of society. For as Leuprecht put it, “armed forces like to think of themselves of turning citizens into soldiers, but they play just as important a role in turning soldiers into citizens.”⁵

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