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Socio-economic status and emotional distress of female Turkish immigrants and native German women living in Berlin

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ABSTRACT

Keywords:
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Background.- Many immigrants face more economic strains and hardship than non-immigrants. Income inequality and an increasing social gap between immigrants and non-immigrants in Europe warrant further studies on the impact of socioeconomic factors on health in immigrant groups. The purpose of this study was to examine the association of socioeconomic status (SES) and emotional distress in women of Turkish descent and in women of German descent.

Methods and Subjects.- A total of 405 women of German or Turkish descent residing in Berlin were interviewed. Emotional distress was assessed by the General Health Questionnaire-28 (GHQ-28), and SES was examined by level of education, employment status, and income. The associations of emotional distress and SES were estimated in multivariate linear regression analyses.

Results.- Unemployment was associated with increased levels of emotional distress in all women, with the highest level of distress in the group of unemployed Turkish women. The overall SES level was related to a greater level of emotional distress in Turkish women, but not in German women (- 3.2, 95%CI -5.9 – -.5; p=.020 vs. -.8, 95%CI -2.7 – 1.2; p=.431). Further stratified analyses by relationship status revealed that the association of SES and emotional distress only remained significant among single women.

Conclusion.- The impact of socioeconomic hardship appears to be complicated by social roles and expectations related to these. Further in-depth study of the complex nature of the interaction of social roles and socioeconomic position in female Turkish immigrants in Germany is needed to better understand differing risk patterns for emotional distress.

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1. Introduction

Income inequality and a continuously increasing gap between social groups in Europe [51] is not only challenging social politics, but also poses a challenge for effective public health efforts. Increased vulnerability for mental health problems among people who live in poverty [11], or have less access to social resources [44] has been reported since early in the last century [1,41]. Alongside more 'traditional' risk groups such as single parents and the unemployed [38,46], immigrants have been a societal group at particular risk for lower socio-economic status (SES) [49,58]. Some epidemiological studies examining mental health in immigrant and ethnic minority groups suggest an increased risk for psychotic disorders in specific immigrants groups such as Caribbean immigrants in the UK [14,17]. Less

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clear is the picture regarding depressive disorders. Current evidence points to an increased [3,7,10,43] as well as decreased risk [31,59,61,67]. The risk patterns vary according to the examined ethnic group as well as the country of residence [9,12].

It is important to stress at the outset that immigrants are not one homogeneous population, but constitute a great variety of sub-groups, whose social realities will be determined by factors such as the pre-migration history, levels of education, motives for migration, and the extent to which they can acculturate in the new society. Given the diversity of socio-cultural realities social predictors of mental disorders are likely to vary at least to some extent between regions and cultures [57,61], and may even differ between subsequent generations of immigrants [34]. The process of migration itself demands adjustments when settling in a new societal and cultural environment, which can create additional stress [64]. Culture and language related barriers [6,50], as well as societal and structural characteristics of the country of settlement such as attitude towards immigrants [8] or immigration regulations [56], may cause many immigrants to live in segregated areas with a higher ethnic density and less favourable social environment. Racism, ethnic discrimination [49], the process of acculturation or acculturative stress [65], more exposure to stressful life events [48], and lower levels of SES [2,40] have been proposed as possible predictors for mental disorders in immigrants.

As mentioned above, no generalizations can be made about risks for mental disorders, in particular affective disorders, in immigrant groups. To explain this great variability SES factors have frequently been cited as possible mediators or moderators for increased as well as decreased risk [27]. The erosive effect of low levels of SES may particularly impact the association of ethnicity and emotional distress [60,62]. Furthermore, it may be more difficult for immigrants, especially those with lower levels of education and professional training, to receive well-paid jobs. Despite high levels of education, immigrants may have difficulties to get access to jobs in their original field of training [20]. Considering the social hardship and inequalities faced by some immigrant populations [45], a link between risk for mental disorders in immigrants and SES appears plausible. While some studies suggest that SES does not reliably account for differences in mental health status between immigrants and native residents [16,30], several other studies do indeed suggest that differences in mental health between immigrants and native residents are mainly accounted for by SES [29,57,60,62]. It could be hypothesized that not only does the prevalence of mental disorders vary according to SES in immigrants, but also the degree of the association between level of distress and SES. Yet, studies examining this relationship in Europe are scarce [47], and this hypothesis warrants further research.

In Germany the risk for socioeconomic hardship strongly varies by ethnic group and between different regions of the country. While immigrants may be more affluent in the more prosperous regions of Germany making ends meet may be difficult for immigrants in the North-Eastern parts of Germany, where overall poverty and unemployment rates are high [24,25]. Berlin, being the largest urban centre in Germany, has one of the highest poverty levels (19.0% in 2009) [23] of Germany. According to the Berlin social atlas from 2008 [55], non-German citizens were at higher risk to live in poverty than German citizens (25.7% vs. 10.6% in German citizens). This pattern is exemplified by the situation of Turkish immigrants, who constitute the largest immigrant group in Berlin, and have continuously faced socioeconomic hardship and social exclusion [42].

In this study of female Turkish immigrants and native German women living in Berlin, Germany, the following hypotheses were tested: 1) The level of emotional distress is greater in women with lower levels of SES, and 2) the extent of the relationship of SES and emotional distress is greater in Turkish immigrant women than native German women.

2. Subjects and methods

2.1. Sample

The sample derives from a survey that was conducted in Berlin, Germany from January 2010 to June 2011. The sampling consisted of a random sampling step and snowball sampling. This approach was chosen since low participation rates were anticipated for female Turkish immigrants. First a random sample of 80,000 women aged 18–75 years residing in Berlin at the time of the study was drawn from the population registry of Berlin in three age strata (18-34 years, 35-54 years and 55-75 years). Then an algorithm based on name [18,37] was used to identify female Turkish immigrants and native German women from the population registry (*Meldebehörde*). For the native German group, a random sample of N=8,000 was drawn, which was randomly subdivided into waves. Of these finally only N=1,866 were contacted as part of the random sampling step. No further random sample was drawn from the women of Turkish origin, since only 3,884 were identified in the first step. Turkish women were oversampled since lower participation rates had been anticipated. Initially only N=136 (7.3%) native German women and N=63 (1.6%) female Turkish immigrants from the random sample who were contacted agreed to participate in the study. To increase participation snowball sampling was used in the next step. Here individuals with specific characteristics, e.g. membership to a specific group, are asked to provide contacts of other members of their group [39]. In this study all women willing to participate in the study were asked to provide contact details of other women they knew and who were interested in participating in the study. Via snowballing N=64 native German women and N=142 women of Turkish origin, respectively were recruited. The final sample comprised N=205 female Turkish immigrants and N=200 native German women. Recruitment and interviews were stopped at a predetermined date before the intervention phase of the study started. Interviews were conducted at respondents' home and in some cases at the study centre on campus by female interviewers. Turkish respondents had the option to choose Turkish or German as the interview language and were interviewed by bilingual interviewers. All scales and questionnaires were provided in Turkish and German. Non-responders with whom contact was established were asked to complete a short questionnaire. Additionally, all non-responders were asked to provide reasons for non-participation. A detailed non-responder analysis of the Turkish sample has been published elsewhere [13]. The study was approved by the Ethics Committee of the Charité – University Medicine Berlin (EA1/177/08).

2.2. Measures

2.2.1. Emotional distress

Emotional distress was assessed using the General Health Questionnaire (GHQ-28) [32,33]. The GHQ-28 has been used in different migrant populations in Germany [28,66] as well as cross-nationally [54] to screen for minor mental disorders and emotional distress. The GHQ-28 score ranges from 0 to 84, with a higher score indicating higher levels of emotional distress. It contains 4 subscales for physical symptoms, anxiety/insomnia, social dysfunction and severe depression. The answers were coded on a 4-point Likert scale (0-1-2-3) and a sum score was calculated based on answers to individual items.

2.3. Migration status

The aim was to recruit women born in Turkey or whose parents' country of birth was Turkey. Despite acknowledging the difficulties of such a broad definition of origin, which neglects the diversity of female Turkish immigrants living in Germany, this definition was chosen to permit comparisons to official statistical figures. According to the Federal Statistical Office Germany *"Persons with a "migration background" are defined (…) as: all immigrants migrating to the present territory of the Federal Republic of Germany after 1949, as well as all foreigners born in Germany and all born as Germans in Germany with at least one immigrant parent or one foreign parent born in Germany"[21].*

2.4. Socioeconomic status

As indicators for SES, current employment status, educational attainment, and poverty risk were used. Employment status was questioned in detail and later categorised as employed, unemployed, retired/being a homemaker or currently in training, and being disabled/in early retirement or disability retirement. For linear regression analysis employment status was further dichotomised in unemployed vs. all other categories. Educational attainment was constructed from school-leaving degree and highest achieved secondary training degree, and categorised according to the International Standard Classification of Education (ISCED) [63]. Educational attainment was then categorized in primary level of education, secondary level of education and tertiary level of education. Level of income was calculated according to OSCE categories for Germany. Self-reported net household income per month in € was adjusted for persons per household with a weight of 1 in single households, plus a weight of 0.5 for any additional person aged 14 years or older and an additional weight of 0.3 for every person aged 13 years or younger living in the household [22]. To examine the specific effects of living below at-risk-of-poverty threshold, adjusted per-capita net income per month was further dichotomized in below at-risk-of-poverty threshold (according to at-risk-of-poverty threshold for 2009): <742 € and above: ≥742 € [23]. Besides the individual contribution of employment status, educational attainment, and poverty risk, an aggregated variable for SES was constructed from employment status (unemployed=0 vs. the

rest=1), educational level (primary=0, secondary=1 and tertiary education=2) and poverty risk (below=0 vs. above risk level=1). A lower value of the composite variable for SES corresponded to a lower overall SES level (range: 0 – 4).

2.5. Covariates

As additional covariates age and relationship status were included as well-known risk factors for depressive symptoms [4,35]. Age, measured in years, was assessed as a continuous variable based on date of interview and reported date of birth. Relationship status was categorised as being married or in a relationship vs. being single.

2.6. Statistical analysis

In order to test for significant associations in categorical data, χ2-tests were performed. For continuous data independent student-t tests and univariate ANOVA were performed. For the total sample and the subsamples (by migration status) linear regression models were calculated. As covariates employment status, educational attainment, poverty risk, age, and relationship status were included in linear regression analyses. All analyses were conducted using STATA statistical software version 10.1.

3. Results

3.1. Population characteristics

A total of N=405 women participated in the study. The mean age was 40.7 (SD=14.5) years, and 20.5% (N=83) were living alone. The level of unemployment was approximately the same in both groups with a total of 9.9% (N=39) who were currently unemployed (X2 (1, N=405)=0.57, p=.447). Significantly more German women had reached ISCED level of 5 or higher (X2 (1, N=405)=5.42, p=.020). More Turkish than German women were at risk for poverty (X2 (1, N=355)=6.15, p=.013). The majority of participants lived in districts of a lower overall social index, such as Neukölln (18.6%, N=75) and Mitte (15.8%, N=64). While the majority of female Turkish immigrants resided in the districts Neukölln (25.5%; N=52), Mitte (22.1%; N=45), and Friedrichshain-Kreuzberg (12.8%; N=26), which are areas with a high fraction of Turkish immigrants. The districts Steglitz-Zehlendorf (14.5%; N=29) and Tempelhof-Köpenick (12.5%; N=25) ranked highest in the native German group, though followed by Neukölln (11.5%; N=23). Native German participants were less clustered in specific districts. The sociodemographic characteristics of the sample by migration status are presented in table 1 (Table 1).

3.2. SES and emotional distress

Unemployment did impact on emotional distress levels (M=60.6, SD=17.7 vs. 51.3, SD=13.8; t(377)= -3.82; p=0.0002). In the group of unemployed Turkish immigrant women the distress level was particularly high with M=62.9, SD=21.0 (vs. M=53.0,

SD=15.9; t(183)= -2.575; p=.011). Also, the negative impact of unemployment was particularly high in Turkish women living at risk for poverty (M=72.1, SD=22.6); although small subsample size (N=8) did not allow for further analysis. In the German group the effect of unemployment on the level of distress was lower, but still significantly higher than for all other employment groups (M=57.6, SD=12.5 vs. M=49.6, SD=11.3; t(192)=-2.76; p=.006), but no difference was found for the poverty risk group. In the total sample no difference was found between educational groups (high level: M=50.4, SD=13.1, medium level: M=52.0, SD=13.9, low level: M=55.1, SD=17.9; F(2, 369)=2.23; p=.109). In additional analyses of interactions between SES indicators the level of education was found to be negatively associated with employment in German women (-1.6, p=.026), but not in Turkish women (.09, p=.214). In the Turkish group poverty risk was correlated with level of education (-1.9; p=.012), but not in the German group (-.07, p=.319). Overall, mean level of emotional distress was slightly, but not significantly higher

in the poverty risk group (M=53.2, SD=15.1 vs. 51.1, SD=13.5; t(332)= -1.39; p=.166). Though, the mean GHQ-28 scores were significantly higher in the Turkish group at poverty risk compared to the German group (M=55.9, SD=16.8 vs. M=50.4, SD=1.4; t(162)= -2.32; p=.0214).

Multivariate analyses were conducted to examine the combined contribution of all SES variables. Linear regression analyses were conducted for the total sample and stratified by migration background. Table 2 presents results from linear regression analyses by migration background (Table 2).

In the total sample unemployment (ß=8.7, 95%CI=3.6-13.8; p=.001) and being single (ß=3.5, 95%CI=.2-6.9; p=.036) were strongly associated with increased levels of emotional distress. In the stratified analyses it was found that being unemployed (ß=9.6, 95%CI=1.1-17.9; p=.026), and higher age (ß=.2, 95%CI=.01-.50; p=.044) were associated with emotional distress in the Turkish group. In contrast, neither educational attainment nor poverty risk was associated with level of distress in Turkish

Table 1
Demographic characteristics of the sample.

Variable	Total sample (N=405)	Turkish sub-sample (N=205)	German sub-sample (N=200)	p-values
Age, mean (SD), years	40.7 (14.5)	37.0 (12.8)	44.5 (15.1)	t(405)=5.37; p=.000
Married, in a relationship, %	70.6 (286)	65.4 (134)	76.0 (152)	χ^2(1,N=405)=5.52; p=.019
Living alone, %	20.5 (83)	9.3 (19)	32.0 (64)	χ^2(1,N=405)=32.10; p=.000
Persons/household,mean (SD)	2.6 (1.9)	3.3 (1.4)	2.0 (1.0)	t(400)=10.32; p=.000
Employed	43.2 (170)	32.8 (62)	54.6 (100)	χ^2(1,N=394)=17.96; p=.000
Unemployed	9.9 (39)	11.1 (22)	8.7 (17)	χ^2(1,N=394)=0.57; p=.447
Homemaker/in training/retired	41.9 (165)	51.0 (101)	32.6 (64)	χ^2(1,N=394)=13.64; p=.000
Disabled/early retirement/disability pension	5.1 (20)	5.0 (10)	5.1 (10)	χ^2(1,N=394)=0.001; p=.981
High education [2], ISCED >=5, %	30.8 (122)	26.0 (51)	35.5 (71)	χ^2(1,N=396)=5.42, p=.020
Low education, ISCED 0-2, %	18.4 (73)	31.1 (61)	6.0 (12)	χ^2(1,N=396)=41.55, p=.000
Net household income/month, mean (SD) in €	2007.3 (1653.8)	1958.1 (1454.2)	2052.5 (1820.8)	t(355)=0.54; p=.588
At poverty risk, %	49.0 (174)	55.9 (95)	42.7 (79)	χ^2(1,N=355)=6.15; p=.013
SES, mean (SD)	2.6 (0.9)	2.3 (0.9)	2.8 (0.9)	t(348)=4.76; p=.000

Table 2
Results from linear regression analyses with GHQ-28 as the dependent variable.

	Total sample (N=329)			Turkish sub-sample (N=150)			German sub-sample (N=179)		
	ß (95% CI) p value			ß (95% CI) p value			ß (95% CI) p value		
Age	.01	-.1-.1	0.886	.2	.01-.5	0.044	-.1	-.2-.04	0.211
In a relationship[1]		1.00			1.00			1.00	
Single	3.5	.2-6.9	0.036	4.9	-.6-10.5	0.082	2.8	-1.3-6.9	0.173
Educational attainment[2]	-1.8	-4.1-0.4	0.111	-3.1	-6.6-.5	0.093	1.3	-1.8-4.3	0.416
Unemployed[3]	8.7	3.6-13.8	0.001	9.6	1.1-17.9	0.026	8.8	2.8-14.8	0.004
Poverty risk[4]	1.8	-1.2-4.8	0.245	2.2	-3.2-7.6	0.424	0.1	-3.3-3.6	0.936

[1] Reference category is being in a relationship or married.
[2] Measured as from low, medium to high educational level according to OSCE criteria.
[3] Reference category is all other employment categories.
[4] Poverty level is defined as weighted net household income per month of ≤742 €. Income level was calculated according to OSCE categories for Germany.

immigrant women. In additional univariate linear regression analyses unemployment was found to be associated with higher distress levels (ß=9.3, 95%CI=4.5-14.1; p=.000), with poverty risk acting as an effect modifier (poverty risk group: ß=14.9, 95%CI=7.6-22.3; p=.000 vs. above poverty risk group: ß=3.4, 95%CI= -3.5-10.4; p=.328). Due to the small number of cases per cell, multivariate analysis stratified by migration background and poverty risk could not be performed. In the German group only unemployment showed a significant association with increased emotional distress (ß=8.8, 95%CI=2.8-14.8; p=.004).

3.3. Composite SES indicator and emotional distress

Finally, the contribution of the overall SES level (composite SES indicator) was examined in multivariate linear regression analyses. The stratified analyses of the German and Turkish group revealed that the overall SES did contribute to a greater level of emotional distress in the Turkish group, but not in the German group (-3.2, 95%CI -5.9 – -.5; p=.020 vs. -.8, 95%CI -2.7 – 1.2; p=.431) while controlling for age and relationship status. Relationship status modified the association of SES and emotional distress in the Turkish group. To account for the effect modification of relationship status, a stratified analysis was performed. In the group without a partner the association of SES and emotional distress remained significant (-5.9, 95%CI -10.6 – -1.3; p=.014) while controlling for age and living alone and having children, whereas for the ones in a relationship no association of SES and emotional distress (-.7, 95%CI -4.1 – 2.6; p=.675) was found anymore. However, age only remained significantly associated to emotional distress in the group in a relationship (.4,95%CI .1-.6; p=.013) (Table 3).

4. Discussion

In this study higher levels of emotional distress were found in unemployed women independent of migration background. This finding demonstrates again the erosive effects of unemployment on mental well-being [15]. In this sample, the proportion living below the at-poverty-risk-threshold (49.0%) was relatively high in comparison to official figures, according to which 35.4% of immigrants and 13.5% of non-immigrants were living below the at-poverty-risk-threshold in Berlin in 2009 [23]. The difference in socioeconomic indicators between native German

and Turkish immigrant women could be explained by the social position of their families. The majority of Turkish immigrants in Germany are so-called former 'Gastarbeiter' (guest workers), who came to Germany in the late 1950s and 1960s [5]. Overall, these families have a lower socioeconomic and educational status, thus, perhaps providing fewer resources for their daughters' educational attainment, and thereby putting them at greater risk for low socioeconomic status than their German counterparts. Levels of distress were exceptionally high in Turkish women at risk for poverty, yet no significant association was found when examined in linear regression analyses. Other than unemployment none of the socioeconomic status indicators anticipated to be associated with emotional distress show a relationship with increased levels of distress independently. The association of unemployment and emotional distress is not unexpected since job loss and unemployment have long been known for being associated with ill health [38,53]. The modifying effect of poverty risk on unemployment solely in the group of Turkish women could suggest that for Turkish immigrant women the impact of unemployment on emotional distress was only exerted when associated with economic strains, whereas in the group of German women unemployment and income were unrelated. This may also be explained by the larger size of Turkish households, which mostly consist of only one or two adults supporting a number of dependents such as children or elderly relatives, which may put these households at greater risk for poverty and might be particularly distressing for unemployed women. Further analysis revealed that only in the German group was unemployment correlated with lower levels of education.

Interestingly, the overall SES was only associated with emotional distress in female Turkish immigrants without a partner. It could be hypothesized that particular difficulties may emerge when immigrant women from more collectivistic and family-oriented cultures (as e.g. Turkish immigrants) try to be economically (and socially) independent [26]. In some cultures women are the ones predominantly conveying and retaining cultural values [52]. Thus, being without a partner and being economically independent may contrast with traditional family values and parents'expectations in more traditional families [19,26]. For example, Hilmann (1999) investigated the female position of Turkish entrepreneurs and dependent workers in Berlin at the end of the 1990s and found that independent of their professional position women were more likely to retain their social roles and family obligations, such

Table 3
Results from linear regression analyses with GHQ-28 as the dependent variable and SES aggregated variable.

	Aggregated SES Turkish group			Aggregated SES German group		
	ß (95% CI) p value			ß (95% CI) p value		
Age	.2	.04-.4	0.045	-.7	-.1-.03	0.200
In a relationship[1]		1.00			1.00	
Single	5.5	.1-10.9	0.047	3.3	-.7-7.3	0.107
SES aggregate measure[2]	-3.2	-5.9- -.5	0.020	-.8	-2.7-1.2	0.431

[1] Reference category is being in a relationship or married.
[2] Higher score is indicative for higher level of SES, ranges from 0-4. The SES aggregate measure is constructed by ISCED level of education, poverty risk and unemployment.

as caring for children and taking care of the housework [36]. When a women fails to comply with her expected social role, more may be demanded from her regarding economically supporting herself. Beyond this, additional stress may arise in this situation if she fails to reach her aspired goals – like socioeconomic independence or higher levels of socioeconomic status. Due to the quantitative nature of this study it was not possible to further analyze the specific circumstances of this group of female Turkish immigrants, which calls for further in-depth qualitative study.

Overall, an association of lower SES and emotional distress was found in female Turkish immigrants but not in native German women in this study, although levels of distress were influenced by relationship status. The impact of socioeconomic hardship appears to be complicated by social roles and the expectations related to them. Further qualitative study of this finding is needed to establish an understanding of the complex nature of the interaction of social roles and socioeconomic position in female Turkish immigrants in Germany.

There are a number of limitations to this study. As mentioned above the small number of observations by cell did not allow for an analysis stratified by migration background and poverty risk, thus limiting conclusions about the interacting relationship of the poverty risk and unemployment in female Turkish immigrants. Another limitation was that a subset of the participants was recruited through snowball sampling, which could have lead to recruiting more women with bigger social networks. Lastly, the definition of Turkish immigrant status was based on a widely used concept of migration background in Germany to enable comparisons to official data, neglecting the diversity of female Turkish immigrants living in Germany.

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Conflict of interest statement

None.

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