
Economic Change, Inequality and Distress in the Czech Republic

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Abstract: Social scientists predict that inequality will surely grow during the economic and political restructuring of East Europe. This inequality will result in uneven distress in these societies, according to stress-distress researchers. Furthermore, the relations between inequality of position and distress (depression and anxiety) are mediated by mastery and appraisal; these two elaborated models were tested in this study.

The results generally supported both elaborated models. First, in the revised models only two indicators of position (education and gender) were directly related to distress. Regardless of mastery and economic coping, Czech women in 1990 reported increased levels of both depression and anxiety, findings consistent with previous research in the Czech Republic [Lee et al. 1994]. Respondents with higher education reported more depression. Secondly, the relations of the exogenous variables (social position) to both mediator variables (mastery and appraisal) were in the expected directions. For example, household size is significantly and positively related to economic coping, whereas age is significantly but negatively related to economic coping. Younger respondents and those from bigger households reported a greater need to make economic adjustments in 1990. Both mastery and economic coping were significantly related to depression and anxiety in the predicted directions. They also mediated the relations between exogenous variables (position) and distress outcome, with the exception of gender and education. These elaborated models, when empirically revised, were significant improvements over the theoretical models; the full models made no significant improvements to them.

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1. Introduction

Economic Change and Inequality

What concerns social scientists about the reforms in post-communist Europe are the likely distributive consequences [Szelényi and Manchin 1987; Nee 1989, 1991; Przeworski 1991; Staniszkis 1991; Burawoy and Krotov 1992; Musil 1992; Večerník 1992]. They suspect that inequality in life-chances will grow during the transition from state socialism to capitalism, and speculate over its consequences. One possible

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consequence of inequality has, however, been overlooked in these speculations. Inequality in life-chances results in unequal misery (stress and distress) in the United States; the purpose of this paper is to test for this possibility in the Czech Republic of 1990.

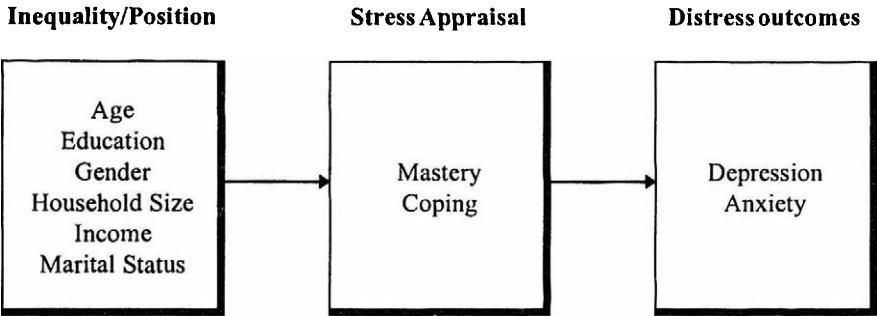
Inequality-Distress Model

Research shows that the lower-class in American society is more exposed and vulnerable to stress and manifests more symptoms of distress than the middle and upper classes [Aneshensel 1992; Catalano and Dooley 1983; Turner and Noh 1983; Cronkite and Moos 1984; Dooley and Catalano 1984; Dohrenwend and Dohrenwend 1969; Ross and Huber 1985; Cockerham, Lueschan, Kunz and Spaeth 1986; Pearlin 1989; McLeod and Kessler 1990]. Stress-distress research also shows that the people in the United States experiencing stress and distress have been disadvantaged by economic change, such as the Great Depression [Angell 1965; Bakke 1940; Elder 1974; Komarovsky 1940], as a consequence of plant closings [Buss and Redburn 1983; Hamilton, Broman, Hoffman and Renner 1990; Jahoda, Lazarsfeld and Zeisel 1971; Perucci and Targ 1988; Voydanhoff and Majka 1988], and during the farm crisis [Armstrong and Schulman 1990; Belyea and Lobao 1990; Hefferman and Hefferman 1986; Rosenblatt 1990]. Stress is defined as „...a state of arousal resulting either from the presence of socio-environmental demands that tax the ordinary adaptive capacity of the individual or from the absence of the means to attain sought-after ends“ [Anshensel 1992: 16]. Distress is defined as physical and/or psychological outcomes deleterious to well-being. Applied to the 1990 Czech Republic, these findings suggest that inequality will result in unequal misery (stress-distress) during the reforms.

Mirowsky and Ross [1989] summarised research in the United States into a hypothetical model, which can be tested in other societies. The unequal distribution of wealth, power and privilege in a society (inequality of position) results in the unequal experience of distress (inequality in misery). It is this „...inequality in misery that makes the other inequality (position) meaningful“ [Mirowsky and Ross 1989: 3]. Inequality of position is predicted to grow in East Europe, and this inequality is hypothesised in this paper to result in unequal stress and distress in the Czech Republic. It is our intent to specifically test the Mirowsky and Ross [1989] model of inequality and distress in the 1990 Czech Republic.

The exogenous variables on the left side of Figure 1 represent those indicators of social position that Mirowsky and Ross [1989] found to be correlated with distress in the United States. Education and income are indicators of inequality of position associated with stress and distress, as are age, gender and marital status [Mirowsky and Ross 1989]. The uneducated and the poor are more exposed and vulnerable to stress and show more signs of distress. Both young adults and the elderly show more signs of distress than the middle-aged [Ross and Huber 1985]. Women manifest more distress than men, although, with controls, this gender gap closes [McLanahan and Glass 1985; Haug and Folmar 1986; Verbrugge 1989; Bird and Fremont 1991]. The married (a happy marriage) report less distress than the unmarried [Mirowsky and Ross 1989; Sherbourne and Hays 1990]. Household size is also related to distress, particularly for people with many dependent children [Aneshensel, Frerichs and Clark 1981; Menaghan and Merves 1984; Ross and Huber 1985].

Figure 1. Hypothetical model of stress-distress in the Czech Republic (1990)



On the right side of Figure 1 are the distress outcomes of depression and anxiety that Mirowsky and Ross [1989] found to be related to inequality of social position in the United States. Depression has received much attention in the study of well-being in the United States, correlating with other symptoms of psychological distress and physical health [Aneshensel et al. 1991; Coyne and Downey 1991; Kennedy, Kiecolt-Glaser and Glaser 1990; Weisse 1992]. Symptoms of depression include withdrawal, lack of motivation and energy, and feelings of hopelessness. Anxiety includes symptoms of nervousness, trembling, and feelings of apprehension and dread [Derogatis 1983].

The Mirowsky and Ross [1989] model is an example of a broader model on social structure and psychological functioning. Kohn and Słomczyński [1990] found their model of social structure and psychological functioning, developed in the United States, applied to Poland. Both social class and stratification (i. e., education, occupational status and income) affected intellectual flexibility, and self-directness of American and Polish men on and off the job. There was an exception, however. Whereas social class and stratification were negatively related to distress in the United States, consistent with Mirowsky and Ross [1989], they were positively related to distress (e. g., anxiety, lack of self-confidence, and distrust) in 1978 Poland. This suggests that conclusions about stress-distress in the United States might not apply to the 1990 Czech Republic.

By the same token, conditions that might account for Polish-American differences over a decade ago have changed. Obviously, like Poland, the Czech Republic has undertaken a transformation towards capitalism and democracy, making a comparison today between the Czech Republic and United States fundamentally different to an earlier Polish-American comparison. Specifically, job protections for manual workers under socialism have changed and gone are the consumer shortages and political constraints that even the better-off classes had to face [Hraba 1985]. Nevertheless, Kohn and Słomczyński's [1990] failure to replicate American findings about inequality and distress in Poland make hypotheses from Mirowsky and Ross [1989] tentative and exploratory in this study.

The Inequality-Mediators-Distress Model

Inequality-mastery-distress. A mediation model posits that any relationship between inequality of position and distress is mediated/moderated by other variables [Coyne and Downey 1991]. The disadvantaged may be more exposed to stress because their lives are harder, but they may also be more vulnerable to stress holding constant life's hardships [Aneshensel 1992]. This second possibility is highlighted in Mirowsky

and Ross' [1989] mediation model. According to Mirowsky and Ross [1989] and Ross and Mirowsky [1992], a sense of mastery is a most psychological resource to cope with stress and its absence is the vulnerability that links social position to distress. Those in low social positions not only experience more stress, but are also more vulnerable to stress because of a low sense of mastery. This relationship is shown in Model A (Figure 1), denoted by the arrows that connect position to mastery and then mastery to distress.

Inequality-appraisal-distress. Another possible mediating process between social position and distress is appraising one's circumstances as stressful [Conger, Lorenz., Elder, Simons and Ge 1992; Lazarus and Folkman 1984; Pearlin, Lieberman, Menaghan and Mullan 1981]. Without appraisal there is no stress; in the words of Lazarus and Folkman [1984: 19] „*Psychological stress is a particular relationship between the person and the environment that is appraised by the person as taxing or exceeding his or her resources and endangering his or her well-being.*“ To affect distress, one's social position must be seen as stressful. People in low social positions not only have harder lives, but are also more likely to appraise their lives as stressful, with this appraisal resulting in more distress. This is shown in Model B (Figure 1) by the arrows that link position to coping, an appraisal of current economic hardship, and then appraisal to distress. The hypothesis in this paper is that social position is associated with distress in the 1990 Czech Republic, but that this relationship is mediated by mastery, on the one hand, and coping, on the other.

2. Methods

Sample

294 households in the Czech Republic were randomly selected from a 4,000 household sampling frame by the Czech Statistical Bureau in 1990. Questionnaires were distributed in person to these households in October of the same year. Instructions were to mail completed questionnaires to the Agricultural University of Prague, at which time respondents would receive a stipend. 234 questionnaires were returned (an 80 % return rate). As a result of missing data, the actual cases analysed in this paper are slightly less than 234. 122 respondents worked in agriculture, 24 in non-agriculture manual labour, and 88 were in non-agriculture white-collar work. Obviously, people in agriculture were over manual labour, and 88 were in non-agriculture white-collar work. Obviously, people in agriculture were over sampled in this study because of our focus on economic changes in this sector of the economy.

Variable Measures

Age. Respondents indicated their age in years. The mean age of respondents was 39.1 years, with over 78 percent of the respondents between 26 and 50 years of age.

Education. Respondents indicated their highest level of education, and scores ranged from elementary to university education. 5.6 percent had only an elementary education, 10.3 percent completed training school, 47.6 percent finished practical high school, 5.1 percent completed gymnasium (highest level of high school education), and 21.8 percent were University graduates.

Gender. Respondents indicated their gender as male or female. 66.4 percent of the respondents are women (N = 154) and 33.6 percent are men (N = 78).

Household size. Respondents were asked how many grown-ups and children lived in their household. This variable is a sum of these two scores. 8.6 percent of the respondents lived alone, 5.7 percent lived with five or more people, and the remainder lived with two to four people.

Income. Respondents indicated their household income, including all benefits and extra income. A majority of the respondents ($N = 126$) reported a per person household income of 901 to 2,700 Czech Crowns (US\$ 32 to US\$ 96) per month. The total household income is used in this analysis.

Marital status. Respondents were asked about their spouse and were considered married if they answered the question. Ninety-one percent of the respondents were married and nine percent unmarried.

Mastery. Originally developed by Pearlin et al. [1981], mastery measures a sense of internal control over one's life. According to Mirowsky and Ross [1989], this represents the link between inequality of position and distress. Mastery is a six-item scale, measuring sense of control with statements such as „there is really no way I can solve some of the problems I have,“ „I feel that I'm being pushed around,“ „I have little control over the things that happen to me,“ „I can do just about anything that I set my mind to,“ „I often feel helpless, what happens to me in the future mostly depends on me,“ and „there is little I can do to change many of the important things in my life“. Response categories ranged from strongly agree to strongly disagree, the scale is reliable ($\text{Alpha} = 0.69$).

Economic Coping. Respondents were asked if their families have made any adjustments due to financial problems in the last 12 months. There are 35 items in this scale, measuring adjustments such as taking on additional employment, postponing purchases, cutting back on food expenses, changing transportation and leisure activities, borrowing money, and falling behind in meeting financial obligations. The scale was reliable ($\text{Alpha} = 0.74$).

Depression. The measure of depression was developed by Derogatis [1983] and is part of the SCL-90-R (symptom checklist of 90 items for depression, anxiety, hostility and related psychological distress). The depression dimension of the SCL-90-R is comprised of 13 items, asking about depressive symptoms such as loss of sexual interest, crying easily, low energy levels, thoughts of suicide, feeling low in spirits and worried, hopelessness, and worthlessness. Responses to each item ranged from 0 to 4, the scale is reliable ($\text{Alpha} = 0.86$).

Anxiety. The anxiety measure is also part of the SCL-90-R. The anxiety dimension is comprised of 10 items, asking about anxiety symptoms such as feeling shaky inside, trembling, feeling suddenly scared for no reason, being fearful, a racing heart, feeling tense or keyed-up, having spells of terror or panic, feeling restless, feeling something bad will happen, and having thoughts of a frightening nature. Responses to each item ranged from 0 to 4, the scale is reliable ($\text{Alpha} = 0.81$).

Analysis Plan

Latent-variable structural equation analyses were used to test the theoretical model (Figure 1). Maximum likelihood estimates of the model coefficients were obtained using LISREL VII [Jöreskog and Sorbom 1989]. Due to the complexity of the theoretical model, we conducted the analysis in increments, separating the model into mastery and economic coping as mediators. Before testing the model, we estimated a null

measurement model to provide a basis of comparison for chi-square [Sobel and Bohrnstedt 1985]. This null model included no paths between any latent variables but specified how each measure contributed to the appropriate latent variable. A full model, which included all possible paths between latent variables, was used to estimate how much each measure contributed to the latent variables when all possible relationships between latent variables were taken into account.

3. Results

The ultimate dependent variables in the analyses are the distress outcomes of depression and anxiety. We will compare two path models toward these outcomes, one that emphasises mastery as a mediator and another that has appraisal of economic circumstances (economic coping) as the mediator. Variables regarding position are the same in both models.

Mastery (Model A)

In the theoretical model, three indicators of position are significantly related to mastery (Figure 2). The married reported higher levels of mastery (0.1666), although men (0.194) and the younger respondents (-0.248) reported lower mastery scores. Furthermore, mastery was significantly related to depression (-0.480) and anxiety (-0.434) in the expected direction, so that those with higher levels of mastery reported less distress (Figure 2). The theoretical model was an improvement over the null model, but the empirical model was an improvement over the theoretical model (Table 1). In the revised model, marital status and age remained significant paths to mastery in expected ways, but again education and gender had a direct affect on distress (Figure 3). Education was directly related to depression (0.142) and gender to both depression (0.222) and anxiety (0.200). Mastery was then inversely related to depression (-.420) and anxiety (-0.380). The results generally conform to the theoretical argument that mastery mediates the relation between social position and distress. The exceptions are that not all indicators of position are related to mastery, on the one hand, and that education and gender directly affect (without mediation) distress, on the other. The full model did not significantly improve the empirically revised model (Table 1).

Table 1. Comparing tested model

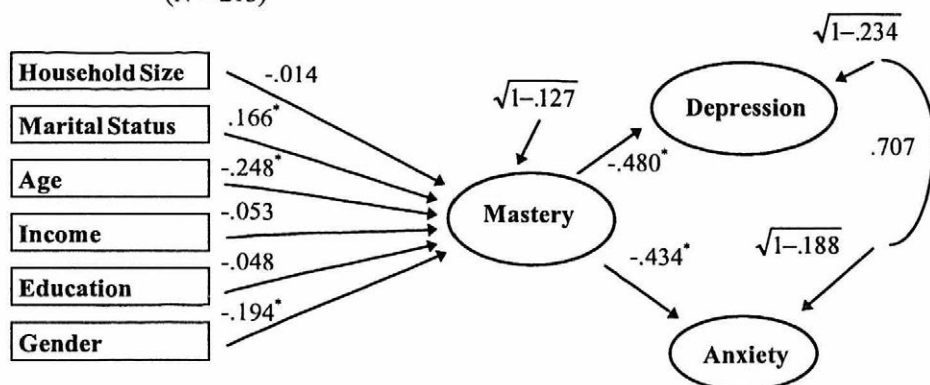
Economic coping and distress

	DF	Chi-Square	Changing Chi-Square
Null model	93	412.47	
Theoretical model (Figure 2)	84	188.63	223.84
Revised model (Figure 3)	80	163.57	25.06
Full model	72	151.36	12.21

Mastery and distress

	DF	Chi-Square	Changing Chi-Square
Null model	93	440.06	
Theoretical model (Figure 4)	84	201.05	239.01
Revised model (Figure 5)	80	181.72	19.33
Full model	72	176.84	4.88

Figure 2. Empirical test of the theoretical model: Mastery as mediator (N = 213)



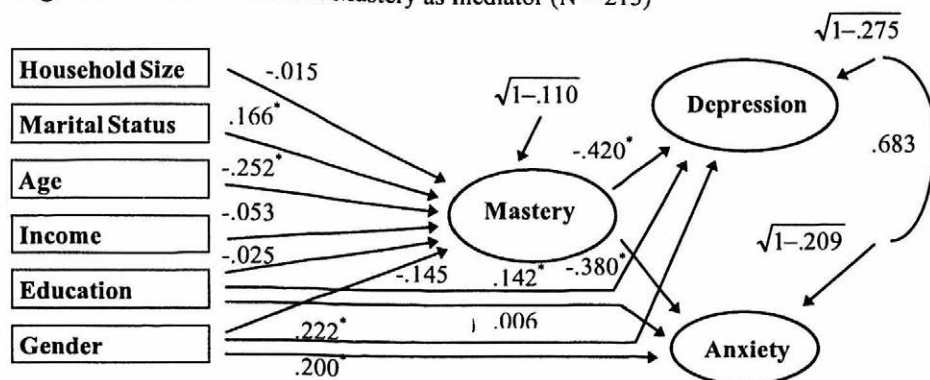
Chi-square (84) = 201.05

GFI = .901

AGFI = .859

* = $p < .05$

Figure 3. Revised model: Mastery as mediator (N = 213)



Chi-square (80) = 181.72

GFI = .910

AGFI = .864

* = $p < .05$

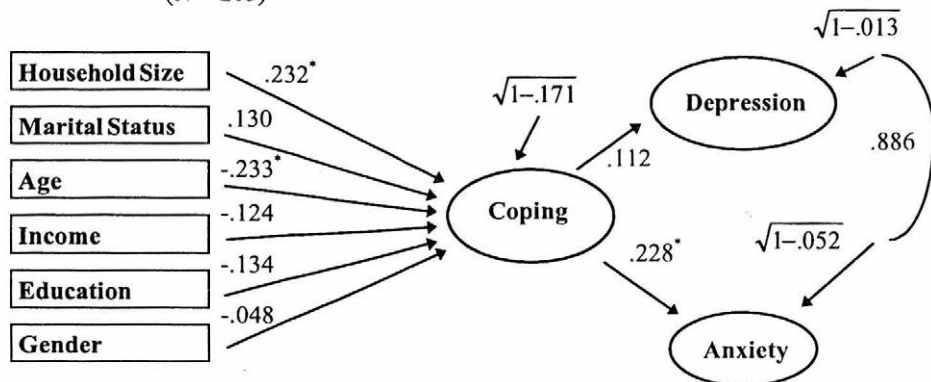
Economic Coping (Model B)

In the empirical model in Figure 4, indicators of social position were associated with economic coping; the latter impacted depression and anxiety. In this model, age (-0.233) and household size (0.232) were related to coping, and economic coping, in turn, predicted anxiety (0.228) but not depression (0.112). This model was compared to more restrictive and less restrictive alternatives (Table 1); the revised results are presented in Figure 5.

In Figure 5, we note that, as hypothesised, education and gender of respondents did directly predict depression and anxiety without the mediation of economic coping.

Overall, higher educated respondents remained more distressed than lower educated respondents (0.144), while women were more depressed (0.289) and anxious (0.280) than men. Income was not a source of distress, but variables relating to income and earning power – household size and age – were important in coping; education and gender, in addition to economic coping, predicted depression and anxiety. The full model did not significantly improve the empirically revised model (Table 1).

Figure 4. Empirical test of the theoretical model: Economic coping as mediator (N = 215)



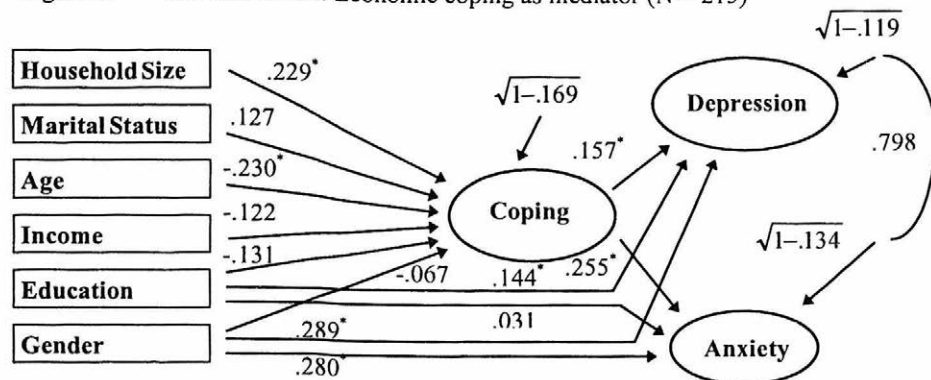
Chi-square (84) = 188.63

GFI = .906

AGFI = .866

* = $p < .05$

Figure 5. Revised model: Economic coping as mediator (N = 215)



Chi-square (80) = 163.57

GFI = .917

AGFI = .876

* = $p < .05$

4. Discussion

That newly introduced market forces will result in a widening gap between „haves“ and „havenots“ in post-communist Europe is widely anticipated in the social sciences.

Inequality in life chances can, in turn, result in inequality of misery, according to Mirowsky and Ross [1989]. From this perspective, we hypothesised that disadvantaged Czech respondents (social position) in 1990 were also more distressed. Several indicators of social position were included in the analysis and distress was measured by depression and anxiety, following the Mirowsky and Ross [1989] model.

Only two indicators of social position, gender and education, were directly related to distress in the revised models (Figures 3 and 5). Czech women in 1990 reported both more depression and anxiety than men, regardless of their mastery and economic coping, a finding consistent with previous research in the Czech Republic. Lee, Hraba, Lorenz, Pechačová [1994] found Czech women under economic strain internalised their stress into depression, while men externalised it as hostility; this pattern is commonly found in the United States as well. Respondents with higher education also reported more depression, regardless of their mastery and economic coping. This second finding is contrary to Mirowsky and Ross [1989] and findings in the United States but comparable to the findings of Kohn and Słomczyński [1990] in Poland. However, indicators of social position in study did not have much direct effect on depression and anxiety, except for gender and education.

According to Mirowsky and Ross [1989], the relation between social position and distress is mediated by mastery (Model A). This and the possible mediation of appraisal (economic coping) were tested in this paper (Model B). These models stem from the idea that the disadvantaged are not only exposed to more stress, but also have less mastery to cope with it and are more likely to see their lives as stressful. In this paper, this possible mediation was measured by mastery (or the lack of it) and economic coping.

With some exceptions, results supported the mediation models. According to Model A, mastery mediates between social position and distress [Mirowsky and Ross 1989]. Only marital status and age were significantly related to mastery, although all the indicators of social position were associated with mastery in the expected directions. Mastery was, in turn, negatively related to depression and anxiety as predicted. These results are generally consistent with the Mirowsky and Ross [1989] mediation model.

According to Model B, economic coping (appraisal) mediates between social position and distress. Only household size and age were significantly related to economic coping, although the other indicators of social position were associated with coping in the expected directions. Younger respondents and those from larger households reported a greater need to make economic adjustments in 1990, significant associations, as did women and those lower in education and income, although these latter associations were not significant. Economic coping predicted, in turn, anxiety and depression.

These results generally conform to research in the United States. First, only two indicators of social position, gender and education, were related directly (without mediation) to distress. Only gender can be taken as a measure of unequal social position, for it was the better educated who were more depressed. However, the indicators of unequal social position were related to both mastery and economic coping in the expected directions, although not all these relationships were significant. That is, the disadvantaged had less mastery and were more likely to engage in economic coping, results consistent with those in the United States. Lastly, both mastery and economic coping predicted depression and anxiety. Mastery was negatively related to depression

and anxiety, consistent with Mirowsky and Ross [1989], while economic coping was positively related to both, consistent with Lazarus and Folkman [1984].

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