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Health Problems and the Transition from Communism in the Former Soviet Union: Towards an Explanation

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ABSTRACT *In this paper we develop an explanation for the health crisis in the former Soviet Union based on social theory. The collapse of the former Soviet Union was marked by a dramatic rise in mortality and morbidity. Epidemiological and sociological explanations to date have focused on explaining the raise in mortality implicating either unhealthy lifestyles, which included heavy smoking, drinking, lack of exercise and poor diets, or individual stress as the primary causes, while acknowledging that the decline of the public health services and the rise in poverty are also likely contributory causes. However, the broader sociological implications of these issues have not been adequately theorised. In this paper we develop and test four explanations of the decline in health in the former in the Soviet Union in the 1990s: that it was due to poverty; that it was due to unhealthy lifestyles; and that it was due to alienation from the social and political system; that it is due to a form of anomie that we term 'transition stress'. We link this to the ruptures in the social, economic and political system, associated with a loss of social cohesion, which have had individual health consequences. We do so utilizing data from a survey carried out in eight post-Soviet countries.*

KEY WORDS: Health crisis, CIS, anomie, social disintegration, subjective health, well-being

The health crisis in the FSU, exemplified by the unprecedented decline in life expectancy of men in mid-life and the increase in poor self-reported health following the collapse of communism, is well documented, especially for the Russian Federation. However, epidemiological and sociological explanations put forward to date, focusing as they have on describing and explaining the causes for the rise in male mortality in terms of individual problems of poverty, health lifestyles (extent of smoking and drinking and poor diet) and psychological stress, have not linked these issues to the underlying social and political factors which have

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shaped the health crisis in the context of the transition from communism more generally. In this paper we develop a sociological approach to account for the health crisis in the former Soviet Union (FSU) using primary data that covers most of the successor states. We systematically test the proposition that the decline in health following the collapse of communism was strongly associated with transition stress in the context of social system disruption and associated anomie utilising data from the *Living Conditions, Life Style and Health* (LLH) survey. We argue that poor health is not only the outcome of individual behaviour or physiological constitution, but of the state of society (Mills, 1954; Burawoy, 2008). In effect, we are arguing that health status is both an outcome of the disintegration of social cohesion in much the same way as Durkheim argued that suicide was a product of social ruptures in nineteenth century Europe.

These data enable us to consider whether there are common factors determining ill health across a range of different societies and conditions. We cover Kyrgyzstan on the Chinese border, Georgia and Armenia in the Caucasus Mountains, Ukraine, Belarus and Moldova on the western borders of the former Soviet Empire, as well as the vast and varied territories of Russia itself. These lands encompass a variety of lifestyles and religions including countries that are Eastern Orthodox or Muslim, as well as those that follow other Christian traditions, such as Armenia and Georgia.

The 'shock therapy' that resulted in the disintegration and reconstruction of the political and economic structures in the FSU was unprecedented in modern times. The dire consequences for social cohesion are much less explored. When social systems are subject to rapid change, the assumptions, norms and values that people hold may no longer fit with the new reality; the taken-for-granted routines of everyday life are disrupted. Whilst in some cases system disintegration was associated with civil strife, in general there was not a Hobbesian war of all against all, or a descent into class war as might have been predicted (Lockwood, 1992). However, new states emerged that sometimes lacked the institutional mechanisms for political and economic stability (Walder, 1994). New class fissions were unleashed and there was an intense struggle to secure access to, and control over, resources. The transformation inflicted considerable stress on the population (Abbott & Beck, 2003; Abbott, 2007) and the economic and social security of the lives of the majority of the population was shattered (Abbott et al., 2006; Rose, 2009). Sociologists and political scientists have struggled to conceptualise this phenomenon, using various concepts such as formlessness (Alexander, 1997, 1998), de-modernisation (Yanitsky, 2000; Rose, 2009), primitivisation (Burawoy, 2000), involutionary degeneration (Burawoy, 1997, 2001), cultural trauma (Sztompka, 2002) or anomie (Abbott & Beck, 2003; Krivosheyev, 2004; Pridemore et al., 2007).

The Health Crisis

The collapse of communism had a major negative impact on the wealth, health and well-being of the population (Abbott, 2007; Rose, 2009). It is now generally accepted that the dramatic decline in life expectancy (Pridemore et al., 2007; Davidova et al. 2009) and rise in self-reported poor health (Chenet, 2000; Dmitrieva, 2001) in the early 1990s is of a different magnitude from that experienced in the 1970s and 1980s (Bowling, 2005; WHO, 2006b). However, most of the research has focused on Russia where men experienced a 75 per cent decline in life expectancy (Macura & MacDonald, 2005) and less attention has been given to the other former Soviet countries.

In Russia, the increase in the mortality rate was mainly due to non-communicable diseases, especially those of the circulatory system, and to accidents, suicide and homicide, with the main increases in mortality amongst men, and, to a much lesser extent, women. The male-female gap in mortality increased, as did the gap between Russia and OECD countries (Haerpfer & Wallace, forthcoming). Yet the infant mortality rate declined – something which suggests that it is not just raising poverty which is the problem. A similar pattern occurred in Belarus, Ukraine, Moldova and Kazakhstan. However, in Armenia and Georgia, according to official figures, life expectancy increased and the male-female gap decreased. In Kyrgyzstan, which has a population structure more comparable to a country of the developing South, there was a decline in life expectancy in mid-life, but it was modest compared to the other countries and limited to the 20–39 age groups for men and the 25–39 age group for women. However, the reliability of the mortality figures for Georgia, Kyrgyzstan and Armenia have been questioned by the World Health Organisation who estimate that the official figures over-estimate life expectancy (WHO, 2006b).

Whilst men have experienced the greatest increase in premature mortality, healthy life expectancy (the length of time someone can expect to live in good health) is much the same for men and women with some minor variations (Suhrcke et al., 2007). Women are also significantly more likely than men, controlling for age, to report poor health in surveys in the countries of the FSU (Cockerham et al., 2006). This suggests that the negative impact has been as great on women as on men, but while the men are dying, women are surviving, albeit in poor health. Therefore, it is necessary to analyse men and women separately.

Explanations for the Decline in Health and Life Expectancy

There are three main explanations for the decline in health in the FSU: rising levels of poverty; lifestyle and transition stress. We will now consider each in turn.

It is now generally accepted that material inequalities are the major cause of health inequalities and this has been shown to be no less true in the FSU than elsewhere, with a linear relationship between material circumstances, health status and premature mortality (Bobak et al., 1998; Andreev et al., 2009). However, the increase in material inequalities is inadequate in itself to explain the health crisis, given the pattern of decline in life expectancy. If it had been mainly due to increased material inequalities and poverty we would have expected an increase in infant mortality rates and deaths from communicable diseases rather than increases in mortality from non-communicable diseases affecting mainly men in mid-life.

Two other main explanations for the health crisis have been advanced although they have mainly focused on explaining the causes of increased mortality for men in mid-life. Firstly, the health crisis has been said to be due to unhealthy lifestyles and secondly, due to stress engendered by the transition. We should note that there was a decline in the quality and availability of health care in the 1990s, especially for those who could not afford to purchase private care or pay the bribes required to access public health care services. However, we cannot directly test that in this paper and it has been shown to account for only a small proportion of premature mortality (Davidova et al., 2009).

If we turn to lifestyles, the most common explanation, we find that the majority of people consume a diet low in fresh fruit and vegetables and high in saturated fats, with high rates of smoking and heavy binge-drinking of alcohol, which is very high amongst men. These are,

of course, all risk factors for diseases of the circulatory system with high alcohol consumption accounting for the increase in mortality from accidents, suicide and homicide (Bobak & Marmot, 1999; Suhrcke et al., 2007). Going beyond the social epidemiologists' focus on the proximate causes and accumulation of risk factors, sociologists have suggested that the main determinant is health lifestyles – culturally shared practices formed by socialisation and experience and shaped by material circumstances (Lynch et al., 1997; Cockerham, 1999; Cockerham et al., 2004). The collective *habitus* (Bourdieu, 1984) disposes men to engage in unhealthy lifestyles while discouraging women from doing the same, leaving men more vulnerable to the stress of disruptive life events. Analysis of the LLH data has confirmed that men are significantly more likely than women to engage in unhealthy lifestyles, being more likely to frequently 'binge' drink alcohol and smoke cigarettes, and less likely to eat fresh fruit and vegetables on a daily basis (Haerpfer & Wallace, forthcoming). Yet these patterns of smoking and drinking were already well established through many decades: why should they result in sharp increases in mortality and poor health in the 1990s?

Finally, there are set of explanations that broadly focus upon what we have termed 'transition stress'. Those who attribute the mortality crisis to stress link the socio-environmental conditions to the actions, cognitions and emotions of everyday life (Watson, 1995; Marmot et al., 1997; Berkman et al., 2000; Siegrist, 2000; Siegrist & Marmot, 2004). They argue that the adverse socio-economic conditions of the transformation created a situation of demand/reward deficit, especially for middle-aged men, who lost their core social roles and were unable to develop appropriate psychosocial coping strategies, which women, who retained their core domestic roles, were able to do. Stress was also generated by demands being placed on individuals exceeding the resources available to them and /or individuals found that their routine, taken-for-granted actions no longer brought the expected returns (Berkman et al., 2000). Whilst stress at the individual level is argued to lead to poor health outcomes, there is no theorised link with general systemic change, which as sociologists we would seek to demonstrate.

Therefore, whilst all of these explanations can show substantial evidence to support them, they are not sufficient in themselves to explain the health crisis since they focus on explaining the rise in male mortality rates and ignore the increased poor health of women, and in the case of health lifestyles theory, fail to explain why long established habits resulted in such a drastic decrease in life expectancy post-1990. It is necessary to go beyond description and produce an explanation for the negative impact of the collapse of the FSU on the majority of the population. To do this we need to transcend the observed regularities in statistical associations such as the increases in mortality, poor health and dissatisfaction with life generally to the underlying socio-economic and historical context in which these associations are located (Wainwright & Forbes, 2000; Williams, 2003). We propose that these changes can be understood by utilising social theories that have sought to explain the connections between system integration (referring to economic, political and social welfare systems) and social integration (referring to the ties of social life such as family and community) in creating social order (Lockwood, 1992; Archer, 1996).

Developing a Social Explanation: Social and System Disintegration

As Burawoy has argued, sociology faces theoretical challenges in attempting to theorise this second 'great transformation' (from communism to post-communism) but

nevertheless, insights derived from classical sociology can enable us to begin to make sense of the specific impact of the transformation on the lives of people living in societies undergoing rapid and dislocating social change (Burawoy, 2000). The collapse of the Soviet Union provides us with a case study of a profound rupture in the social system following political and economic restructuring. We need to analyse the effects or disruptions in the social system on individual agency and people's ability to manage their everyday lives (Mills, 1954; Wallerstein, 1997). We are therefore concerned to understand how the rapid restructuring in the of the institutional order has resulted in disruptions in social and system integration, which in turn is associated with stress that has consequences for health.

Classical sociology was invented to interpret the first 'great transformation', from the agrarian society to the industrial society. Here, Durkheim was mainly concerned with the problem of how social integration and stability could be achieved in highly differentiated societies. Disorder was conceived of as the failure to make individual behaviour consistent with the needs of larger social groups. This manifested as the weakening of social control over the norms, values and beliefs that guided social behaviour resulting in 'anomie' of which suicide rates were an indication.

To develop these ideas further we draw on Lockwood's (1992) reworking of Durkheim and Marx in terms of the relationship between social and system integration. Lockwood argues that, hypothetically, a social system could be well integrated but the social relationships between actors problematic, or, alternatively, there could be strong relationships between actors but a system breakdown; whilst it is assumed that the two necessarily reinforce one another to create a stable and healthy society (Archer, 1996), they could also be disconnected. However, it is difficult to empirically verify Lockwood's theory since it would be necessary to decide at what stage a society was no longer integrated at a social or systemic level. What would such lack of integration mean?

Indeed, to understand how this applies to the FSU, we need to consider not *integration* but rather *disintegration*. Furthermore, disintegration at the systemic level could still coexist with integration at the level of social actors. Arguably, the disconnection of individuals from the political system alongside their social integration into informal family and community groups had long been a feature of the Soviet system (Wedel, 1986, 1992) and one to which people retreated following the collapse of the USSR (Rose, 2009). The disappearance of the communist system in the form of the economic and political institutions which had held it in place was accompanied by the radical change in, or the disappearance of, the institutions of employment, social welfare and associational life, with an implicit revision of the social contract between citizen and state. This had implications for social integration in the sense of how work, leisure, family roles, gender and patterns of sociability were lived out. The rhythms and rituals of daily life in the form of holidays, festivals, birth, death and marriage were disrupted or fractured. Hence, the integration of the individual into the social system was threatened. The changes in social conditions, including taken-for-granted norms and values, were profound, leading to the risk of 'anomie' (Durkheim, 1952; Standing, 1996; Kolankiewicz, 2000; Pridemore et al., 2007).[1]

In order to do this we need to make a connection between the larger societal changes – generative mechanisms – and their social consequences and to move from the higher levels of theoretical abstraction to the practical issues of decline in health. The transformation created uncertainty; internalised values and cognitive norms no longer provided a basis for social behaviour, the new institutions were not understood and the future was uncertain

(Wallerstein, 1997). In order to act meaningfully and to exert some degree of control over the social relations in which they are enmeshed, it is necessary for actors to have control over resources including knowledge of cultural schemas and the rules of the game. While a few were able to restructure their resources, the majority of the population were left disempowered, without the means necessary to enable them to take control over their lives and we can make a link between this and poor health, an increase in suicide and crime rates and in deaths from non-communicable diseases especially those attributable to alcohol. Health, or lack of it, is a key outcome of social and systems rupture (or lack of social and system integration) and the massive deterioration in health, provides evidence for the cataclysmic character of the transformation (Abbott & Beck, 2003; Pridemore et al., 2007).

System Disruption, Social Disruption?

The economic collapse and the spiralling fiscal crisis can be traced through the dramatic fall in GDP and while there were signs of recovery by the late 1990s, none of the countries had recovered to 1990 levels by 2001. Living standards fell dramatically (especially during the early years of transition) and inflation wiped out the real value of savings. The length and depth of the recession varied between countries with the depth of the recession being somewhat lower in Belarus where, at its lowest point, real GDP fell to 62.7 per cent of its 1990 level and deepest in Georgia where it fell to 25.4 per cent at its lowest point. By 2001 Belarus had recovered to 88.6 per cent of its 1990 level, Kazakhstan to 78.2 per cent, Kyrgyzstan 69.4 per cent, Armenia 68.9 per cent, Russia 61.6 per cent, Ukraine 46.5 per cent, Georgia 37.9 per cent and Moldova 35.8 per cent (UNICEF, 2003). Official unemployment was low but wages were frequently paid late or not at all and there was significant underunemployment with an increased reliance on subsistence agriculture and informal economic activity (Author). At the same time, spending both as a proportion of GDP and in real terms on social protection including spending on pensions, education and health and welfare services fell dramatically, resulting in a deterioration of public services and access to services becoming more dependent on direct payment to providers (legal and bribes) (Rona-Tas, 1997; Preker et al., 2002; Wallace et al., forthcoming). Inflation and in some cases even hyper-inflation wiped out the value of savings and the collapse of the rouble in 1998 further undermined economic security. A majority of the population were dissatisfied with the economic and political situation and struggled to survive with households' having to depend on income from more than one economy (Abbott et al., 2006).

At a societal level, there was a dramatic increase in inequalities within countries with the Gini coefficients doubling or even tripling over the 1990s in the countries under consideration (Redmond, 2002) creating a small wealthy elite alongside a great majority struggling to survive. Increased inequalities are a clear indicator of system disruption as new groups with different interests are created, new class cleavages emerge and social solidarity as a basis for collective identity is shattered (Rose, 1995). The vast majority of the population lost confidence in political and social institutions and levels of generalised trust were low (Rose, 1995, 2000; Sapsford & Abbott, 2006).

System integration had previously been maintained through the iron grip of the state, but was encouraged through public celebrations, representation through youth and women's organisations, provision of recreational facilities and subsidized holidays as well as through the strong institution of the family, which survived communist attempts to

collectivise private life. Therefore, in addition to the dense networks of social relationships that could be characterised as 'bonding social capital' (Putnam, 2000) or networks of mutual reciprocity and favours (Ledeneva, 1998, 2006) the various organisations of the communist society offered opportunities for 'bridging social capital' by tying individuals into organisations at various levels (Anderson, 1996). However, this bridging social capital dissolved along with the associations that supported it and the economy of favours was likewise transformed (Ledeneva, 1998, 2006). This created the space for the rise of a fragmented civil society but the main response in Russia and the Commonwealth of Independent States was an anti-modern retreat into reliance on family and friends (Rose, 2009). The sources of personal support become an important source of social solidarity (Wallace, 1995; Pichler & Wallace, 2007), so we might argue that social integration continued or even compensated for lack of system integration.

The collapse of communism was therefore more than the change of a political and economic system. It was the undermining of a whole way of life, one that had validated and supported people both physically and emotionally. Social security and economic stagnation was replaced by economic insecurity and the disappearance of former roles and values; the rules of the game changed and the majority no longer had the cultural knowledge to be knowledgeable actors in control of their lives. There was a general feeling of disempowerment (Abbott et al., 2006) and some responded to this by heavy drinking and other self-destructive behaviour whilst others suffered from stress as they struggled to cope.

Whilst we can point to various aspects of system and social disruption, it is more difficult to measure directly the consequences of this for the populations of the FSU. We argue that one very palpable consequence of this was a decline in the health of the population. But what is the connection between the disruption of the social system and health? Here we bring in the concept of transition stress to explain this link.

This system and social disintegration was associated with what we have termed 'transition stress' or a sense of anomie associated with being unable to cope with these kinds of changes and suffering a sense of dislocation and disempowerment. Transition stress can be seen as a set of individual psychological responses to the general transformation of the system, which impacted negatively upon most people. We argue that transition stress would be one of the explanations for poor health. However, whilst others have explained this in individual terms, we would link it to a wider sociological model of social and system integration.

Psychological malaise is one of the factors recognised as a feature of the post Soviet transition. Sevchenko, for example, graphically illustrates the stress of living in a society where daily existence is a struggle and the future is beset with uncertainties (Sevchenko, 2009). In this paper we have termed this 'transition stress' and it features factors such as loss of confidence, feelings of stress, feeling under constant strain. The effect of the transition on ordinary life has been for people to feel disempowered in their influence on their surroundings – on their government and on their daily life. The daily struggles and anxieties associated with transition stress provides the link between system and social disintegration and subjective health. Therefore transition stress was tested in our model of influences on health.

Methods of Research

In the autumn of 2001, quantitative cross-sectional surveys were conducted in the eight countries using multi-stage random sampling with stratification by region and area.

Within each primary sampling unit, households were selected using standardised random route procedures, except in Armenia where random sampling from household lists was used. Sample size was 2000 respondents except in Ukraine where it was 2500 and Russia where it was 4000.

In order to test our main hypothesis that the decline of the health of the population of the FSU is an indicator of system and social disintegration and therefore transition stress, we carried out a series of linear (OLS) bloc regressions, separately for men and women, with subjective health as the independent variable, controlling for age, education and economic circumstances, as these are known to have a significant influence on health status. We also controlled for health lifestyle as this has been seen as the major factor explaining the health crisis in the FSU before we add transition impact factors. For lifestyle factors we use frequent drinker (consumes alcohol four or more times a week), binge-drinker (consumes 100 grams or more of vodka at one time), smoker (smokes at least one cigarette a day) and consumption of fresh fruit and vegetables (Cockerham et al., 2004). As would be expected, women have healthier lifestyles than men. Lifestyles are healthiest in Kyrgyzstan, where there is a high proportion of the population are Sunni Muslims, and least healthy in Belarus, Kazakhstan, Russia and Ukraine, where levels of 'binge' drinking are also relatively high although Kazakhstan has relatively low levels of frequent drinking amongst men (Table 1).

In terms of transition impact factors we included variables that might give an indication of system integration, such as generalised trust, trust in government, and a range of public institutions as well as pride in citizenship. We also included a range of variables that could be read as indicators of social integration, including levels of personal support, social resources and participation in organisations.

Finally, we added individual integration as a transition impact factor, as measured by scales indicating malaise and personal control of a person's situation. As measures of transition stress we used two scales, a malaise scale which looked at psychological factors indicating lack of well-being drawn originally from the General Health Questionnaire and adapted for use in the context of transition countries. This included eight factors: being unable to concentrate, suffering from insomnia, feeling under constant strain, losing confidence in oneself, often shaking and trembling, having frightening thoughts, suffering spells of exhaustion or fatigue and having feelings of stress. Malaise, a general state of psychological distress (anxiety and depression) is a state of misery rather than a symptom of disease (Mirowsky & Ross, 2003). A second measure of transition stress was disempowerment – the extent to which people felt that they had a lack of control over their lives and it included five factors: being unable to enjoy day to day activities, feeling dissatisfied with work life, feeling that life is too complicated, that it is impossible to influence things and feeling lonely. We tested the scales using factor analysis with Varimax rotation and all have acceptably high Alpha. We use scales because one question is not sufficient to measure a multi-dimensional construct and using composite scales reduces random variation in responses to individual questions. On the whole, the impact of the transition has been greater on women than men, especially in terms of malaise and control with Georgia having noticeably lower levels of both and Armenia higher.

This enables us to measure the impact of the transition on health status having controlled for other factors that have been shown to influence it. We carried out the analysis separately for women and men because the main sociological theory developed to date for explaining the mortality crisis has focused on men and because it is women who survive. Finally, using

Table 1. Descriptive statistics by country

	Armenia		Belarus		Georgia		Kazakhstan		Kyrgyzstan		Moldova		Russia		Ukraine	
Variable	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women
Self reported health																
% with health rather bad/bade	37.6	43.2	28.0	46.9	19.0	38.8	18.0	31.0	10.8	22.5	39.7	48.0	28.3	42.1	39.1	55.8
Material																
% Economic situation of household vgoog/g	03.3	04.0	13.2	08.1	02.4	02.6	18.0	14.9	21.3	20.1	08.4	0.67	09.5	07.8	05.0	04.4
% Economic situation of household average	39.1	41.4	61.9	63.5	42.5	37.4	62.4	58.5	48	55.1	59.2	48.8	45.2	55.1	58.2	37.8
% Economic situation of household poor/vp	57.6	55	24.9	28.4	45.1	60	19.6	26.4	17.4	24.8	43.7	44.5	31.3	37.2	49.8	57.9
%Sometimes do without basic food	74.2	76.4	33.4	38.7	68.0	68.8	379	47.0	69.6	70.9	73.5	75.5	43.3	50.7	62.8	69.6
Health lifestyles																
% Smoke	61.8	02.3	56.1	12.1	53.2	0.63	65.3	09.3	50.8	04.5	43.3	03.9	60.3	15.4	52.4	11.1
% Binge drink (100 grams +)	23.9	0.1.1	42.0	06.8	16.7	02.5	33.6	06.4	25.1	09.9	22.8	02.9	35.3	05.8	36.2	04.6
% Frequent drink (4+ a week)	22.1	02.0	31.5	05.1	13.7	00.9	13.4	02.7	06.7	00.8	39.6	11.1	26.2	04.4	26.9	04.6
% Eat vegetables daily	30.0	27.6	36.8	37.1	36.2	41.4	34.5	39.0	40.9	48.5	35.6	36.8	42.9	45.7	41.8	41.9
% Eat fruit daily	38.2	32.8	21.5	21.6	34.0	40.6	15.8	18.2	35.7	40.8	34.2	32.8	14.7	15.0	24.5	26.4
System and social integration																
Personal control mean number of symptoms (0–5)	2.9	3.2	1.5	2.0	1.3	1.7	1.7	2.0	1.9	2.2	1.9	2.1	1.6	2.0	2.1	2.5
Malaise – mean number of symptoms (0–8)	3.37	4.24	2.05	3.14	0.91	1.83	1.74	2.59	2.41	3.21	2.44	3.12	2.17	3.21	2.31	3.45
Trust government (mean) 4–16 low = high trust	11.5	11.7	10.3	10.2	13.6	13.6	10.1	10.0	9.7	9.6	11.5	11.97	10.1	10.1	12.7	12.8
Trust institutions (mean) 5–20 low = high trust	10.5	10.7	9.9	9.6	13.8	13.9	10.9	10.7	9.9	9.8	12.0	11.7	10.7	10.4	11.6	11.4
Personal support (mean) 0–5 low = low support	4.4	4.4	4.6	4.5	4.8	4.5	4.4	4.4	4.7	4.6	4.5	4.3	4.6	4.5	4.6	4.5

(*Continued*)

Table 1. Continued.

	Armenia		Belarus		Georgia		Kazakhstan		Kyrgyzstan		Moldova		Russia		Ukraine	
Variable	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women
Social resource (mean) 0–3 low= low access to resources	1.6	1.2	2.1	2.0	1.4	1.3	1.9	1.8	2.1	2.0	1.6	1.4	1.9	1.8	1.7	1.6
Trust in people (mean) 1–4 low = high trust	2.59	2.59	2.49	2.40	2.65	2.59	2.39	2.30	1.92	2.05	2.86	2.95	2.32	2.31	2.50	2.49
% pride in citizenship	86.6	85.4	82.9	82.8	88.2	87.7	70.9	65.6	87.8	85.6	72.6	72.4	75.2	75.5	61.2	57.6
% active in organisation	0.60	04.1	08.4	09.9	02.5	01.5	05.1	06.1	08.1	07.0	08.5	09.8	07.3	07.9	06.9	06.5

Source: LLH Survey 2002, N = 18,428 (men = 7974, W = 10,454).

Russia as the reference, we tested our model to see if it held for all the countries. We tested the model for multicollinearity and found it to be satisfactory as the tolerance of no variable was below 0.4. The levels of single order correlations between the dependent and independent variable were also tested and found to be acceptable.

Subjective health has been shown to be a good indicator of health status and to predict death in prospective studies (Miilunpalo et al., 1997; Bobak et al., 1998; Bowling, 2005). The variable is coded in the direction of poor health because that is we are trying to explain (For details of all the variables used in the analysis see Appendix 1.) Looking at Table 1 we can see self-rated health is poorer for women than men.

We start by controlling for age as on the whole health declines with age. We then control for socio-economic factors, including education, which can also be used a proxy indicator of social class. Additional measures of social inequality included a scale measuring the economic circumstances of the family, and ability to afford to purchase essential food as a measure of poverty (Table 1). Whilst the first measure is an indicator of economic circumstances relative to other people, the latter enables a comparison of absolute poverty across the countries. Taking the two measures together we can see that in all the countries there is a very small minority of relatively well-off while the vast majority of the population are, at best, just about managing to get by. The economic situation would seem to be somewhat better in Belarus than the other countries with the levels of poverty also being somewhat lower in Kazakhstan and Russia (Table 1).

Multiple Regression Analysis

The multiple regression was carried out in five different models, each one representing one of the major explanations for the health crisis: after controlling for age, Model 2 looks at socio-economic conditions, Model 3 considers lifestyles, Model 4 adds in the effects of some indicators of social and political cohesion whilst Model 5 includes transition stress. In this way we can see how powerful each of the theories is in explaining poor health.

If we look at the results in Table 2 and 3, Model 1 shows that as expected, age has a significant influence for both men and women accounting for 13.4 per cent of the variance for men and 21.6 per cent for women.

In Model 2 we added socio-economic circumstances. The variance explained increased significantly to 19 per cent for men and 27 per cent for women. The standardised beta coefficient for education and financial situation is strong although the inability to afford to buy basic food only contributed weakly. This suggests that there is a linear relationship between poor health and economic circumstances rather poor health being caused by poverty *per se*. It also confirms that social class (as measured by education) has a positive influence on health status (Mirowsky & Ross, 2003).

In Model 3 we look at the effects of lifestyles including the amount people drank and smoked and the kind of diet they had. The variance explained is increased by less than 1 per cent for men and just over 1 per cent for women. For men, the influence of education reduces marginally and heavy drinking, 'binge' drinking, eating fresh fruit daily contribute significantly to the variance explained, although the standardised betas are low. Interestingly, 'binge' drinkers are more likely to be healthy, but this may be due to the underreporting of drinking and especially of illegal spirits, more likely to be consumed by poorer men. For women all lifestyle factors apart from heavy drinking contributed

Table 2. Factors explaining subjective health OLS regression – men (dependent variable health)

	Model 2			Model 2			Model 3			Model 4			Model 5		
Variables	B	Beta	SE	B	Beta	SE	B	Beta	SE	B	Beta	SE	B	Beta	SE
Constant	3.809		.026	2.568		.060	2.605		.064	2.005		.098	1.593		.096
Age	–.020	–.366***	.001	.015	.286***	.001	–.016	–.290***	.001	–.016	–.291***	.001	–.015	–.272***	.001
Socio-economic															
Education				.170	.120***	.015	.162	.114***	.013	.151	.107***	.015	.136	.096***	.013
Material				.216	.187***	.013	.209	.187***	.013	.197	.170***	.013	.157	.136**	.013
Basic food				.051	.042***	.013	.050	.041***	.013	.050	.041***	.013	.003	.003	.013
Lifestyle															
Heavy drinking							–.098	–.046***	.024***	–.087	–.040***	.024	–.062	–.029***	.023
Binge drinking							–.083	.042***	.022***	.083	.042***	.022	.087	–.044**	.021
Fruit							.087	.042***	.024	.074	.036*	.024	.083	.040***	.023
Vegetables							.013	.007	.022	–.001	–.001	-005	–.003	–.025	.021
Smoking							–.031	.017	.019	–.028	–.015	.019	–.014	–.008	–.018
System and social disintegration															
Citizenship pride										.062	.057***	.011	.057	.053***	.011
Trust government										–.005	–.016	.004	–.002	–.005	.004
Trust institutions										.017	.050***	.004	.012	.035*	.004
Social resource										.042	.049***	.009	..026	.030*	.009
Personal support										.010	.012	.009	.012	.015	.009
Active organization										–.028	–.020*	.014	–.012	–.009	.014
General trust in people										.053	.058***	.010	.050	.054***	.009
Transition stress															
Malaise scale													.105	.228***	.005
Personal control													.027	.043***	.007
Adjusted R2	0.134			0.191			0.195			.207			.264		

Notes: *p < 0.05, **p < 0.01, ***p < 0.001; N = 7974.

Table 3. Factors explaining subjective health OLS regression – women (dependent variable health)

	Model 1			Model 2			Model 3			Model 4			Model 5		
Variables	B	Beta	SE	B	Beta	SE	B	Beta	SE	B	Beta	SE	B	Beta	SE
Constant	3.783		.023	2.531		.054	.2.549		.055	2.180		.085	1.887		.082
Age	–.026	–.464***	.000	–.020	–.365***	.001	–.020	–.370***	.001	–.020	–.371***	.001	–.019	–.347***	.001
Socio-economic															
Education				.154	.105***	.013	.150	.102***	.013	.146	.100***	.013	.119	.081***	.013
Financial situation				.221	.185***	.011	.214	.179***	.011	.186	.155***	.012	.146	.122***	.011
Basic food				.052	.042***	.011	.051	.041***	.012	.048	.039***	.011	–.009	–.008	.011
Lifestyle															
Heavy drinking							.065	–.014	.043	–.037	–.008	.042	–.032	–.007	.041
Binge drinking							.099	–.023*	.038	.100	.023**	.038	.106	–.024*	.037
Fruit							.047	.022*	.021	.033	.016	.021	.039	.018*	.020
Vegetables							.043	.022*	..019	.028	.019	.015	.017	.009	.018
Smoking							–.100	–.030**	.029	–.085	–.026**	.029	–.057	–.017*	.028
System and social disintegration															
Citizenship										.081	.071***	.010	.077	.068***	.009
Trust government										–.014	–.040***	.004	–.010	–.028*	.003
Trust institutions										.010	.027**	.004	.008	.021*	.004
Social resource										.020	.025**	.007	.015	.019	.007
Personal support										.031	.035***	.008	.028	.032	.008
Active organization										–.042	–.028**	.013	–.024	–.016*	.012
General trust in people										.051	.053***	.008	.048	.050**	.008
Transition stress															
Malaise scale													.097	.225***	.004
Personal control													.025	.039***	.006
Adjusted R2	.216			.266			.268			.281			.336		

Notes: *p < 0.05, **p < 0.01, ***p < 0.001; N = 10,454.

significantly, although the level of significance was low. For women, 'binge' drinking, eating fresh fruit daily and smoking contribute significantly to the variance explained but as with men 'binge' drinkers are more likely to be healthy. Altogether then, lifestyle contributed to poor subjective health, but only marginally.

In Model 4 we added system and social integration. The variance explained increased to 21 per cent for men and 28 per cent women. Age, education, material circumstances and lifestyle factors (heavy drinking, binge drinking and eating fresh fruit for men and binge drinking, eating fresh fruit and smoking for women) continued to contribute significantly to the variance explained although the standardised betas were lowered. In terms of the transition impact factors for men although generalised trust, pride in citizenship, trust in institutions and access to personal resources were all significant, with lack of trust, lack of identity with ones country and lack of help in times of need all predicting poor health. For women all the factors selected to represent social and system disintegration were significant. Hence, system and social integration (or lack of it) were important but not as important as other factors.

Finally in Model 5 we included transition stress and the variance explained increased by 5.7 per cent for men and 5.3 per cent for women. By far the most important factor was the malaise scale, although personal control was also significant.

We can conclude that transition impact factors are important in explaining health status in our model when we include all eight countries; indeed, after controlling for age, they explain more of the variance than education, material circumstances and health lifestyles, all powerful theories for understanding the health crisis in the FSU. Indeed transition stress explains most of all with a significantly high beta value than other variables and it raised the 28 per cent to 34 per cent for women and 21 per cent to 26 per cent for men. Arguably, education provides an important element of human capital, some protection against the negative impact of the transition (see Rona-Tas, 1994) and material circumstances also partly measures the direct impact of the transition on economic situation. However, what we show is the importance of the direct negative impact of the transition on health, hinted at in other studies (Bobak et al., 1998; Siegrist, 2000; Krivosheyev, 2004; Siegrist & Marmot, 2004) and hypothesised by us but not previously tested systematically against other explanations and across the countries of the FSU as we have done here.

Given the country variation that we noted in Tables 1 and 2 we tested for country differences in the final regression equation, with countries as dummy variables and Russia as the reference category, to see if this had any effect on the overall model.

The results are shown in Table 4. The variance explained increased by 4.4 per cent for men to 30.4 but only by 1.5 per cent to 33.5 per cent for women. For men the country coefficients were significant for Armenia, Georgia and Kyrgyzstan, and were relatively strong for Georgia and Kyrgyzstan, indicating that the health of men in these countries was significantly better than would be predicted by the model. Of the lifestyle factors only 'binge' drinking remained significant and although the standardised betas for malaise, personal control and trust were reduced, they remained significant with that for malaise remaining strong. For women, the country coefficients were significant for Belarus, Georgia, Kyrgyzstan and Ukraine, with the health of women being significantly poorer than would be predicted by the model in Belarus and Ukraine and better in Armenia and Kyrgyzstan. However, the standardised betas were weak and, as for men, of the lifestyle factors only 'binge' drinking remained significant, with transition impact factors remaining significant and that for malaise as an indicator of transition stress especially remaining strong.

Table 4. Country differences in subjective health (OLS regression)

	Men			Women		
	B	Beta	SE	B	Beta	SE
Constant	.821		.183	.650		.170
Age	.014	.246***	.010	.017	.285***	.001
Education	–.048	–.078***	.010	–.032	–.049**	.010
Household economy	.141	.124***	.022	.138	.119***	.021
Basic food	–.034	–.028	.022	.016	.013	.020
Heavy drinking	.034	.016	.038	–.005	–.001	.068
Binge drinking	–.097	–.050**	.034	–.181	–.045**	.060
Fruit consumption	.026	.030	.017	.024	.026	.017
Vegetable consumption	–.001	–.001	.019	–.008	–.008	.018
Smoking	.042	.024	.030	.071	.023	.046
Citizenship	.001	.001	.017	.077	.076***	.016
Trust government	.014	.050*	.006	.005	.018	.006
Trust institutions	–.007	–.024	.006	.006	.020	.006
Malaise	.083	.200***	.008	.093	.246***	.007
Personal control	.037	.065***	.012	.026	.047**	.011
Social resource	–.009	–.012	.013	–.037	–.047**	.013
Personal support	–.026	–.031	.014	–.024	–.031*	.012
Active organizations	.091	.027	.053	–.020	–.006	.049
General trust in people	.042	.048**	.014	.030	.033*	.014
Country						
Armenia	–.161	–.061**	.056	–.066	–.026	.051
Belarus	.051	.016	.058	.217	.064***	.056
Georgia	–.584	–.214***	.060	–.268	–.080***	.062
Kazakhstan	–.081	–.029	.052	.019	.006	.049
Kyrgyzstan	–.357	–.142***	.052	–.112	–.042*	.051
Moldova	.003	.001	.058	.202	.033	.055
Ukraine	.016	.005	.057	.179	.062***	.051
Russia (reference category)						
Variance explained adjusted R2	.304			.335		

Notes: *p < 0.05, ** p < 0.01, *** p < 0.001; N = 18428 (men = 7974, W = 10454).

Using Russia as the reference category, we can see that only Kyrgyzstan and Georgia deviated substantially from Russia and then only for men, with men being healthier in both countries than would be predicted by the model. Furthermore, the transition impact factors are clearly important in predicting variations in health. It would seem that, generally, the effects of transition on the populations of the FSU are similar despite differences in religion, climate, culture, drinking habits, and lifestyles more generally.

Conclusions

In this paper we have systematically tested the effects of different explanations for the health crisis in the FSU by using a survey of eight former Soviet countries. We tested whether lifestyle, material circumstances or transition impact factors affected subjective health and looked at which of these was the most important, after controlling for age and education

and separately for men and women. Whilst some variables related to political and social system integration (trust in institutions, trust in general, pride in citizenship, membership of organisations) others related more to social integration (social support, social resources). We found that the most important factors were what we have called 'transition stress' and the most important of these was malaise, a clear indication that health is adversely affected by rapid social change and dislocation as a result of the system rupture and the new order being one where individuals have to fend for their own welfare in economically and social insecure circumstances. The struggle for existence has imposed great psychological burdens on the population. This change can be characterised as ruptures in political and social cohesion at the system level although there is still evidence of strong social support and a variety of personal resources to draw upon – social integration is therefore still strong – which is probably what enables societies to carry on. However, social and systemic ruptures have had an impact in the form of transition stress (using both a measure of distress and a measure of personal empowerment) and it is this in particular that has had a negative impact on health.

This is not to suggest that negative health lifestyles and material inequalities are not important factors in explaining health inequalities and undoubtedly poor health lifestyles; indeed, frequent consumption and binge-consumption of alcohol are the proximate causes of much of the mortality amongst men in mid-life. However they are inadequate on their own to explain the rapid increase in mortality following the collapse of the FSU.

Thus we have argued that the oft-discussed decline in health that accompanied transition should not be seen only as the outcome of individual lifestyles or loss of income but rather as an outcome of political, economic and social ruptures which have undermined social and economic security and social cohesion, leading to individual distress and disempowerment and that it is these that are associated with poor health (and by implication increased morbidity and lowered life expectancy). The connection between systemic ruptures and individual poor health can be analysed as 'transition stress' as measured by malaise and disempowerment. To explain this we have drawn upon sociological models of social and system integration, which point to a variety of factors that help or hinder survival in a rapidly changing world.

One objection to our conclusion is that mortality rates were increasing in the USSR prior to the 1990s. However, we argue that it is the *magnitude* of these changes after the system change in the 1990s that needs to be explained. Indeed, recent research supports this approach by concluding that even in the 1970s and 1980s, the increase in mortality was due to the stress, the lack of social integration and the loss of a feeling of control over their lives, experienced by men enduring the forced migration from rural to urban areas to take up hard manual jobs (Andreev et al., 2009).

It might be argued that this survey was conducted in 2001 when the societies we are considering had already moved beyond the 'transition' phase and were in a process of re-consolidation. This is certainly the case, but we would argue that the consequences of social disintegration were still important at that stage and that whilst people had had a chance to re-consolidate their personal resources in the form of social integration, the effects were still evident in terms of the health crisis as well as people's sense of disorientation.[2] A limitation of this survey is that we cannot measure mortality directly, but need to look at it indirectly through subjective assessment of health. However, reported health is a good indicator of real health conditions and therefore give us some idea about likely problems of morbidity. We have argued that the reason for the connection between subjective health and system change is to be found in the relationship between system integration

and social integration. In this case, it is rather the disintegration of the social, economic and political system that is important with strong social integration at the level of family, community and social networks. This tension is likely to lead to stress for the populations of the FSU and can perhaps help us to better understand the notion of "anomie".

Notes

[1] Whilst it might be argued that the experiences of the countries of the Former Soviet Union in the last century has been one of continual disruption through processes of revolution, war, famine, political persecution and genocide, the relative stability of the post-war years following the Krushchev reforms had brought about a period of relative stability in which people were able to construct their lives with a secure outlook on the future. Whilst not providing great wealth for most people, there was economic security and sense of social cohesion and integration, which made the management of everyday life achievable.

[2] The sense of crisis came over in focus group interviews in the research project is not analysed here.

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Appendix 1. Variables and Scales

Self-reported health: 1 = good, 4 = bad.

Malaise scale constructed from a list of symptoms: 0 = no symptoms… 8 = all eight symptoms (unable to concentrate, insomnia, feeling under constant strain, losing confidence in self, often shaking and trembling, frightening thoughts, spells of exhaustion/fatigue, feeling of stress) (Cronbach's Alpha: Armenia 0.81, Belarus 0.75, Georgia 0.84, Kazakhstan 0.72, Kyrgyzstan 0.77, Moldova 0.77, Russia 0.77, Ukraine 0.77).

Personal control scale constructed from a list of symptoms: 0 = no symptoms… 5 = all five symptoms (unable to enjoy normal day-to-day activities, dissatisfied with work life, life is too complicated, impossible to influence things, feeling lonely) (Cronbach's Alpha: Armenia 0.75, Belarus 0.72, Georgia 0.72, Kazakhstan 0.67, Kyrgyzstan 0.70, Moldova 0.73, Russia 0.68, Ukraine 0.68).

Age: years [18–80].

Economic situation of household: 1 = very good… 5 = very bad.

Able to afford basic food: 1 = constantly do without… 3 = never have to do without.

Trust in government (scale) (trust president, political parties, national government, national parliament, regional government): Cronbach's Alpha: Armenia 0.91, Belarus 0.92, Georgia 0.74, Kazakhstan 0.87, Kyrgyzstan 0.87, Moldova 0.86, Russia 0.82, Ukraine 0.88.

Trust in public institutions (scale) (trust courts, police, army, trade unions): Cronbach's Alpha: Armenia 0.76, Belarus 0.79, Georgia 0.75, Kazakhstan 0.75, Kyrgyzstan 0.74, Moldova 0.75, Russia 0.72, Ukraine 0.77.

Personal support (scale): 0 = none… 5 = full support (someone can count on to listen when you need to talk; help you out in a crisis; you can be totally yourself with; really appreciates you as a person; count on to comfort you when you are upset (Chronbach's Alpha: Armenia 0.83, Belarus 0.93, Georgia 0.99. Kazakhstan 0.84, Kyrgyzstan 0.81, Moldova 0.92, Russia, 0.90, Ukraine 0.91).

Social resource (scale): someone to rely on: if feeling depressed, need help finding a job, need to borrow money to pay an urgent bill Chronbach's Alpha: Armenia 0.62, Belarus 0.79, Georgia 0.83. Kazakhstan 0.70, Kyrgyzstan 0.79, Moldova 0.70, Russia, 0.75, Ukraine 0.78.

I can trust the majority of people: 1 = agree… 4 = disagree.

Smoking: 1 = yes, 2 = no.

Binge drinking (drinking more than 100 grams of strong spirits at one sitting): 0 = no, 1 = yes.

Frequent drinking (drinking four or more times a week): 0 = no, 1 = yes.

Eating fresh vegetables (excluding potatoes): 1 = daily… 4 = extremely seldom.

Eating fresh fruit: 1 = daily… 4 = extremely seldom.

Education: 1 = primary only… 6 = higher education.

Pride in citizenship: 1 = very proud… 4 = not proud.

Active in organization: 1 = yes, 2 = no.