Published in final edited form as:

J Health Soc Behav. 2015 December ; 56(4): 534–551. doi:10.1177/0022146515611731.

Economic Security, Social Cohesion, and Depression Disparities in Post-Transition Societies: A Comparison of Older Adults in China and Russia

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Abstract

Although both China and Russia have experienced several decades of market reform, initial evidence suggests that this structural change has compromised mental and physical health among the Russian population but not the Chinese population. Using data from the World Health Organization (WHO) Study on Global AGEing and Adult Health (2007–2010), this study examines the factors associated with the disparity in depression between older adults in China and their Russian counterparts, all of whom experienced market transition in the prime of their lives (N=10,896). Results show that the lower level of depression among Chinese respondents is attributable to higher levels of economic security and social cohesion, as well as stronger effects of economic and social resources on depression, while health-rating style is likely a minor factor. The study advances the sociological understanding of global/comparative mental health by considering the effects of macro-level political, economic, social, and cultural conditions.

Mental and substance use disorders are major contributors to the global burden of disease, accounting for the largest share (23 percent) of years lived with disability worldwide as of 2010 (Whiteford et al. 2013). Depression, in particular, is the leading cause of disability and is prevalent among older adults as a result of declines in physical and cognitive health, transition out of long-held social roles (e.g., retirement and widowhood), and the contraction of social networks (Ross and Mirowsky 2008; Yang 2007). Although the burden of mental illness increasingly affects people in low- and middle-income countries (LMIC) (Knapp et al. 2006; Saxena et al. 2007), few studies have examined how macro-level economic, social, political, and cultural factors contribute to the mental health of populations in developing/transitioning settings. By comparing two post-market transition societies—China and Russia—this study explores the extent to which differential disruptions in the socioeconomic conditions linked to the process and consequences of market reform explain the current disparity in depression between these two countries.

While both China and Russia have undergone drastic social change due to market reform since the late 1970s and 1980s, respectively, only the Russian population experienced severe deterioration in mental and physical health after this structural transformation, with repercussions including shortened life expectancies due to increased rates of mortality

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attributable to suicide, alcohol consumption, and cardiovascular diseases (Cockerham 2007; Shkolnikov et al. 1998). In contrast, China has made steady progress on a variety of dimensions of population health (Liu, Rao, and Fei 1998). Further, although population health in Russia gradually recovered and reached pre-transition levels by the late 2000s, the current health disparity between China and Russia remains large—equivalent to six years of life expectancy at birth (Figure 1). In particular, the disease burden attributable to mental and substance use disorders is significantly higher in Russia than in China (Whiteford et al. 2013). According to the 2010 Global Burden of Diseases, Injuries, and Risk Factors Study, the rate of disability-adjusted life years (i.e., years spent living with disability and years lost to premature mortality) attributable to mental and substance use disorders in Russia is almost double the rate in China (4,316 versus 2,232 per 100,000).

While some studies have revealed significant global disparities in mental illness (Kessler et al. 2007; The WHO World Mental Health Survey Consortium 2004; Whiteford et al. 2013), little is known about the social, economic, political, and cultural factors that drive these cross-national disparities. The current study fills this gap by examining how economic security, social cohesion, and cultural differences contribute to the extant disparity in depressive symptoms between older adults in China and their Russian counterparts, both of whom experienced market transition in the prime of their lives. Building on the literature of the sociology of mental health, social epidemiology, and political economy, the study advances the sociological understanding of mental health disparities in a comparative and historical context of societal restructuring.

BACKGROUND: MARKET TRANSITION IN CHINA AND RUSSIA

While China (in the late 1970s) and Russia (in the late 1980s) both set a goal of developing a stronger socialist market economy, the processes and consequences of their respective market reforms differed substantially (Aslund 2007; Qian 2000; Xu 2011). The Chinese reform, initiated in 1978, brought about robust economic development—a consistent annual growth rate hovering around 10 percent. In contrast, the Russian/Soviet reform, which began as *perestroika* (restructuring) in 1986, did not save Russia (or other Soviet republics) from economic stagnation, which was prevalent throughout the 1980s; even worse, the reform led to economic and political collapse in the early 1990s. These consequences were protracted—the Russian economy did not begin to stabilize until 2000. Research suggests that the course and consequences of market reform differed in China and Russia because the countries had distinctive political institutions and economic structures on the eve of the reform (Aslund 2007; Burawoy 1996; Walder, Isaacson, and Lu 2015; Xu 2011).

The Chinese reform was conducted within a regime of political centralization and economic decentralization (Qian 2000; Xu 2011). Specifically, although the central government retained tight control over the personnel of regional governments, these governments (at all regional levels: provincial, municipal, county, and township) played the major role in designing, negotiating, and implementing reform policies at the local level. Almost all of the successful economic reforms in China, including the land reform of the 1980s and the privatization of state-owned enterprises in the 1990s, were implemented on a trial basis in a few regions before being launched nationwide (Xu 2011). Thus, unlike Russian reforms,

which were primarily planned and coordinated by the central government through specialized ministries (Aslund 2007), Chinese reforms were informed by local knowledge, were coordinated more efficiently, and involved a lower level of risk. Moreover, the trial implementation of bottom-up reforms in China led to fewer political challenges and less resistance when reforms were introduced nationwide (Xu 2011). In contrast, the top-down reforms implemented in Russia were often blocked, compromised, or distorted by the central bureaucracy (Aslund 2007).

Further, in China, the central government relies heavily on personnel control to motivate regional governors (Xu 2011). Because regional government officials are not democratically elected, their political careers rely mainly on achieving performance targets (e.g., economic development and tax revenues) set by their superior level of government. Political promotion based on interregional comparisons therefore provides a strong incentive for regional officials to implement reforms and closely monitor the state enterprise managers they have appointed. To a certain extent, this governance structure mitigated rent-seeking behavior during the transition (Qian 2000; Xu 2011). In contrast, the early stage of reform in Russia (1986–1991) created ample rent-seeking opportunities for state enterprise managers mainly due to compromised/distorted/delayed policies and the poor supervision of and lack of coordination between ministries (Aslund 2007). Indeed, one of the major reasons for Russia's economic collapse was legitimate theft from state enterprises, which was accomplished via private cooperatives and foreign trade. As Walder et al. (2015) further noted, the prolonged nature of the disintegration of the Communist party-state exacerbated uncertainty about the ownership of state assets and consequently increased rent-seeking behavior in the Soviet Union. Thus, in the successor states of the Soviet Union, the political regime change deteriorated the already struggling economies, while in the surviving Communist autocracies (e.g., China and Vietnam) political consistency facilitated economic stability.

In addition to political institutions, differences in the two countries' pre-transition economic structures also contributed to the different market transition experiences in China and Russia. Studies have suggested that Russia's deep recession was caused by over-industrialization on the eve of reform (Gang 2001; Popov 2001). Russia had the most capital-intensive pre-transition economy of the Soviet republics, all of which were more heavily invested in defense and machinery industries than most Western industrialized nations. In contrast, China did not suffer as much from the distortion of its economic structure, in part because, due to its agriculture-based economy, the country had the "advantage of backwardness" (Aslund 2007; Gang 2001).

Finally, the extent of democratization in the wake of market reform has differed in the two countries; while the progress of democratization in China has been sluggish, Russia began to establish a foundation for democracy, including freedom of speech and media and democratic elections, between 1989 and 1991 (Aslund 2007). However, since Putin seized power in 2000, Russia has experienced an authoritarian reversal (Freedom House 2015). Levels of political and civil rights have continued to decline in recent years, although the situation may still be better than in China.

THEORETICAL FRAMEWORK

The political and historical backgrounds described above are the context in which the current depression disparity between China and Russia should be understood. In particular, political institutions have played a crucial role in shaping the process of market reform, which has profoundly influenced the current economic, social, and cultural environments in both societies. Building on Hall and Lamont's (2009) theoretical approach to the links between institutional practices, cultural frameworks, and population health, in this section I explain how economic and social resources contribute to the cross-national disparity in depression, and how cultural frameworks condition the association between resources and depression by shaping both the meanings of resources (for mental health) and the definition of mental health itself.

As Hall and Lamont (2009) argued, health is determined by the capacity to secure a range of material and social resources to tackle life's challenges; insufficient resources may lead to feelings of stress, anxiety, and depression, as well as poorer physical health. Many studies have shown that access to financial resources and less chronic economic strain lead to a lower level of perceived stress and depressive symptoms, independent of the effects of education and/or occupation (Hamad et al. 2008; Pearlin et al. 1981; Skapinakis et al. 2006). A large body of research has also indicated that social relationships and social capital including marital/cohabiting relationships, friendships, community participation, and general social trust promote mental health by providing individuals with instrumental, emotional, and informational assistance and by fostering a sense of meaning and belonging (Berkman and Glass 2000; House, Landis, and Umberson 1988; Lin, Ye, and Ensel 1999; Turner and Brown 2010).

Political-economic institutions such as state governance, macroeconomic policies, and welfare regimes shape access to these economic and social resources (Beckfield and Krieger 2009; Hall and Lamont 2009). In addition, cultural frameworks, including the societal definition of mental health and the valuation of various resources, condition the meanings of resources and health and thus alter the health-promoting effects of resources across societies (Hall and Lamont 2009; Inglehart and Welzel 2005; Litwin 2010; Oishi 2010). For example, loneliness may have a stronger association with depression among the elderly in countries where family ties are more highly valued (Litwin 2010). Further, the political and historical processes that often accompany a market transition, such as democratization and disruption of social trust, revise cultural frameworks. In the case of China and Russia, different experiences of market reform led to unequal access to economic and social resources among individuals and altered the health-promoting effects of these resources, which, in turn, created a disparity in depression. This set of relationships is illustrated in the conceptual diagram in Figure 2, which I explain in detail in the following paragraphs.

Economic Security, Social Cohesion, and Mental Health in Transitional Contexts

Because the market transition led to a deep recession in Russia but was followed by sustained growth in China, the reform process severely weakened the economic stability of Russia relative to China (Gang 2001; Popov 2001; Walder et al. 2015; Xu 2011). Throughout the 1990s, unemployment, wage arrears, and inflation rates rose significantly in

Russia. Moreover, the Russian government had a relatively weak capacity to financially maintain an extensive welfare system, including universal pensions and health care (Haggard and Kaufman 2008; Popov 2001; Rose 2009). Russian elders found it impossible to live on devalued pension benefits that were often in arrears without also relying on subsistence farming, selling assets, exhausting savings, and borrowing (Aslund 2002; Rose 2009). This economic hardship still exists for the older generation, and many Russian elders continue to work in the informal sector during their “retirement” years (Kolev and Pascal 2002; Williamson, Howling, and Maroto 2006). Further, under Russia’s new pension scheme, which ties benefits more closely to contributions, pension benefits have decreased for people who had long stretches of unemployment (e.g., those who experienced a job loss during the market transition), workers in the informal sectors, and low-income workers (Williamson et al. 2006). In addition to the falling value of pensions, Russians have suffered from a severely under-funded and inefficient health care system: supplies of health care providers, medications, and medical equipment were insufficient to meet demands (Aslund 2002; Liu et al. 1998; Tulchinsky and Varavikova 1996). In sum, for the majority of Russians, living standards fell significantly after the market reform of the late 1980s, which was followed by another economic crisis in the late 1990s. The economy did not begin to recover and stabilize until 2000 (Aslund 2007). According to the World Development Indicators, Russia’s per capita GDP was not restored to its 1990 level until 2006.

Studies have found that the stress of economic turmoil has impaired the mental and physical health of the Russian population. In particular, the psychological distress brought about by economic hardship is associated with frequent drinking (especially among men), which is linked to an elevated risk of alcohol-related and cardiovascular diseases and premature death (Cockerham, Hinote, and Abbott 2006; Leon, Shkolnikov, and McKee 2009; Stuckler, King, and McKee 2009). Additionally, researchers have shown that in post-transition Russia, economic downturns are a major predictor of increased homicide rates and poor self-rated health (Carlson 2004; Pridemore and Kim 2007).

Moreover, societies in market transition tend to experience drastic social and/or political transformations. Durkheim ([1897]1979) suggested that rapid social change on a large scale undermines social integration and regulation that may protect individuals from feeling detached, frustrated, or despaired. Social cohesion (based on multiple types of social relationships) is often severely disrupted during the structural change (Durkheim [1897]1979; Minagawa 2013; Rose 2000). For example, widowhood is particularly common among older Russian women because premature mortality was much higher among men than women during transition; in 2009, the gender gap in life expectancy (12 years) was still quite sizeable (Cockerham 2012; Leon et al. 2009). Scholars have found that new challenges to the development of a civic society emerge immediately after the collapse of a repressive socialist regime. Because institutional capacities including enforcement of the rule of law, delivery of public goods, and control of consumer prices all declined significantly after the collapse of the Soviet Union, a loss of trust in public institutions and a growing sense of alienation from political power among civilians in the successor states quickly followed (Cornia and Popov 2001; Raiser et al. 2002; Shlapentokh 2006). In particular, the level of trust in bureaucracy, law enforcement agencies, and “democratic” institutions is extremely low in contemporary Russia (Freitag and Traunmüller 2009; Kennedy, Kawachi, and

Brainerd 1998; Latusek and Cook 2012). Although trust levels may remain high between many family members and groups of close friends, trust in institutions, communities, and strangers is generally low.

In China, trust in public institutions remains much higher (relative to Russia), in part because the economic boom substantially increased the standard of living and in part because the Communist government has carefully controlled the social and political order (Steinhardt 2012; Tan and Tambyah 2011). However, market reform may have engendered a more fragmented Chinese society. The privatization or bankruptcy of state-owned enterprises has changed individuals' relationships with the state and their work communities (Ruan et al. 1997). Individuals now shoulder more responsibility for their basic needs including housing, medical care, and education, which used to be state sponsored. In addition, the de-collectivization of institutions led to a concomitant moral change: the pursuit of personal desires is no longer always subordinate to the interest of groups such as family, neighbors, rural communes or urban work units, and the state (Kleinman et al. 2011). In addition, rapid economic growth coupled with unequal development between rural and urban areas has encouraged large-scale internal migration, which alters the living arrangements of migrant families and may weaken social support based on family ties (Lu, Hu, and Treiman 2012).

Previous studies of Russia and China have demonstrated that indicators of social cohesion (social relationships and capital) are positively associated with health and well-being. In particular, trust, confidence in public institutions, membership in organizations, and the presence of formal or informal networks (e.g., a marital/cohabiting partner and close friends) that individuals can rely on when they need help generally predict better physical and mental well-being in Russia (Carlson 2004; D'Hombres et al. 2010; Ferlander and Mäkinen 2009; Kennedy et al. 1998; Rose 2000). Similar results have also been found in research on China (Yamaoka 2008; Yip et al. 2007).

Based on the literature discussed above, I expect to find the following:

Hypothesis 1: Lower levels of economic security in Russia relative to China partly explain Russia's higher prevalence and severity of depression.

Hypothesis 2: Lower levels of social cohesion among Russians relative to the Chinese also contribute to Russia's higher prevalence and severity of depression.

Cultural Frameworks: The Meanings of Resources and Mental Health in Transitional Settings

The ways in which people value economic and social resources and define mental health/illness varies across societies (Inglehart and Welzel 2005; Kessler et al. 2007; Oishi 2010). In particular, transition experiences may shape the meanings of both resources and thus moderate the extent to which economic security and cohesive social relationships promote mental health. As Inglehart and Welzel (2005) suggested, the relative importance of economic security to subjective well-being may decrease when a society increasingly emphasizes individual autonomy, free choice, and freedom of expression. In Russia, the transition to a democratic regime (although it has stalled in recent years) appears to have initiated a significant values shift: relative to economic means, political freedom and social

tolerance have become more important in the attainment of happiness (Inglehart et al. 2008). In contrast, economic security remains highly relevant to mental well-being in China, perhaps because the nation has not yet reached a mature stage of political liberalization. Further, social cohesion may be a stronger predictor of mental health in China than in Russia. Subramanian, Kim, and Kawachi (2002) found that trust is more strongly associated with health among individuals who reside in a higher-trust community. This result suggests that low-trust individuals fare worse in high-trust communities, perhaps because they feel even more socially isolated in such environments (Goryakin et al. 2014; Pollack and von dem Knesebeck 2004). As discussed above, in the aftermath of market reform, social relationships such as marriage, trust in public institutions and general society, and neighborhood safety have been more severely disrupted in Russia than in China. Because Chinese society has maintained a higher level of social cohesion, social relationships may be a stronger predictor of mental health for this population.

Further, how people assess and report their own health and well-being may differ significantly across cultures, with some populations being more “health-optimistic” than others; any such variation in the self-reporting of health may explain a portion of cross-national health disparities (Grol-Prokopczyk, Freese, and Hauser 2011; Oishi 2010; Zimmer et al. 2000). In particular, cross-national variation in the prevalence or severity of mental disorders may be attributed to the underreporting of mental illness in one country relative to another due to a lack of awareness about or a reluctance to report mental illness (Kessler et al. 2007; The WHO World Mental Health Survey Consortium 2004).

Studies conducted in the 1980s revealed that the Chinese tended to describe their psychiatric problems in terms of physical symptoms such as fatigue, headache, and back pain in part due to the stigma of mental illness (Dennis 2004; Kleinman 1986). Therefore, the lower rates of mental illness observed among the Chinese (relative to Russians) are likely partially attributable to their underreporting of “mental health” issues. Because few studies on cross-national health differences have empirically considered these differences in health-rating styles, researchers may have overestimated the mental health disparity between China and Russia. However, the bias introduced by health-rating style can be ameliorated by recent methodological developments such as anchoring vignettes (Grol-Prokopczyk et al. 2011; King et al. 2004).

Based on the prior research findings discussed in this section, I expect to find:

Hypothesis 3: The association between economic security and depression and the association between social cohesion and depression are both weaker in Russia than in China, and this differential contributes to the cross-national depression gap.

Hypothesis 4: The higher level of depression among Russians relative to the Chinese can be attributed to the Chinese population’s more optimistic health-rating styles.

DATA AND METHODS

Data

The study uses data from the first wave (2007–2010) of the WHO Study on Global AGEing and Adult Health (SAGE). SAGE includes data from nationally representative samples of older adults (age 50 and older) in six low- and middle-income countries, including China and Russia. The current study focuses on older adults (age 50 and older in Russia and age 60 and older in China) because individuals in these age groups experienced the immediate impact of market transition during their prime earning years. The 10-year age difference between the Russian and Chinese samples reflects the 10-year difference in the initiation of market reform in the two countries. The SAGE samples were selected using multi-stage random sampling with stratification by province/oblast and area (urban/rural). The original sample included 3,938 Russian respondents aged 50 and older and 7,474 Chinese respondents aged 60 and older (Kowal et al. 2012). After observations with missing values were excluded, the final sample included 3,827 Russian respondents and 7,069 Chinese respondents. A quarter of these respondents (N=2,764) were randomly selected to complete the module of anchoring vignettes about affect. This subsample was used to test Hypothesis 4 only. All SAGE interviews were conducted in person, with a response rate of 93% in China and 83% in Russia (these rates apply to the age groups studied in this paper).

Measures

Depression is assessed by the number of depressive symptoms, a measure that closely reflects the diagnostic criteria for major depressive disorder in the Diagnostic and Statistical Manual of Mental Disorders, 4th Edition (DSM-IV). Specifically, the variable is a count of how many of the following 16 depressive symptoms the respondent experienced during the last 12 months: depressed mood (feeling sad, empty, or depressed)/loss of interest (in most things the respondent usually enjoys)/low energy (feeling a lack of energy or tired all the time) for several days, depressed mood/loss of interest/low energy for more than two weeks, depressed mood/loss of interest/low energy most of the day nearly every day, loss of appetite, thinking more slowly, moving around more slowly, feeling worried and anxious, feeling restless or jittery, problems falling asleep, waking up too early, difficulty concentrating, negative feelings about oneself or loss of confidence, feeling hopeless, decreased interest in sex, thoughts of death, and suicide attempts.

Two additional variables measuring psychological distress are used to evaluate the role of health-rating style in cross-national disparities in mental health. These variables are based on responses to a two-part question: “Overall in the last 30 days, how much of a problem did you have with (1) feeling sad, low, or depressed and (2) worry or anxiety?” For each part, the respondent could respond “none, mild, moderate, severe, or extreme.” The question assesses two of the symptoms included in the depression measures described above, but has more nuanced response categories (five categories instead of two) and refers to a shorter time frame (the last 30 days rather than 12 months).

Economic security is measured by a standardized scale that includes three components pertinent to household and personal finances: whether respondents believe their household

income is enough to cover daily living expenses, how respondents perceive their household's financial situation, and the degree to which respondents report having enough money to meet their own needs ($\alpha=.71$).

Social cohesion is measured by five variables assessing relationships and social capital from the inner to the outer social circle, including marital/cohabitation status, trust in neighbors and coworkers, community participation, perceived safety in the respondent's residential neighborhood, and general social trust. Married/cohabiting indicates whether or not the respondent is currently married or cohabiting. Trust in neighbors and coworkers is measured via a scale combining two items: trust in people in the respondent's neighborhood and trust in people with whom the respondent works ($\alpha=.82$); the scale is standardized for convenience of interpretation. Community participation is also a standardized scale that indicates the frequency of involvement in community activities in the last 12 months. The scale consists of nine activities: attending public meetings in which there was discussion of local or school affairs; meeting personally with a community leader; attending any group, club, society, union, or organization meeting; working with people in the neighborhood to fix or improve something; having friends over to one's home; being in the home of someone who lives in a different neighborhood; socializing with coworkers outside of work; attending religious services (excluding weddings and funerals); and getting out to attend social meetings, activities, programs, or events or to visit relatives or friends ($\alpha=.72$). Perceived safety, another standardized scale, is based on two items: how safe from crime and violence the respondent feels when he or she is alone at home and how safe the respondent feels when walking down his/her street alone after dark ($\alpha=.78$). Finally, general social trust assesses whether or not the respondent believes that most people can be trusted. Unlike economic security, the concept of social cohesion cannot be represented by a single summary measure because the construct is multidimensional in nature (Berkman and Glass 2000; Lin et al. 1999) and the five dimensions included here are not highly correlated.

Control variables include gender, age, and lifetime drinking behavior. According to previous studies, women tend to have higher rates of mental distress, particularly depression and anxiety, than men because they face greater constraints (e.g., work-family tensions) on personal advancement (Mirowsky and Ross 1995). In addition, age is associated with mental health because of the influence of life-cycle transitions. Specifically, levels of depression increase from middle age through old age, reflecting the difficulty of transitions such as widowhood, retirement, deterioration of physical functioning, and other changes in late adulthood (Mirowsky and Ross 2010). Lastly, drinking to cope with mental distress may be a much more common/normative strategy in Russia (particularly among Russian men) than in other countries (Cockerham 2012). The drinking variable has three categories: lifetime abstainer, former drinker who did not drink in the past 30 days, and current drinker.

Methods

I used negative binomial regression models to study whether levels of social cohesion and economic security explain inter-country differences in depression rates. Further, by interacting the country variable with the social cohesion and economic security variables, I tested whether the effects of social cohesion and economic security on depression vary

across national contexts. Finally, I employed a hierarchical ordinal probit regression (HOPIT) model and anchoring vignettes to assess the role of health-rating style in the emergence of the mental health disparity. The vignettes are short texts depicting the health conditions of hypothetical individuals (the vignettes used in this study are presented in the appendix). Assuming that survey respondents use the same rating standard to evaluate both the health of hypothetical characters and their own health, the use of anchoring vignettes can account for the effects of rating style and therefore produce a result that reflects the “true” intergroup health disparity. Specifically, HOPIT models rescale the thresholds of standard ordinal probit regression models to eliminate the influence of health-rating style (Grol-Prokopczyk et al. 2011; Rabe-Hesketh and Skrondal 2002). Results of the HOPIT model and the ordered probit models are compared.

RESULTS

Inter-Country Differences in Depression, Economic Security, and Social Cohesion

The analyses revealed significant inter-country differences in the levels of depression, economic security, and social cohesion. Table 1 shows that Russians are much more depressed than the Chinese. Russian respondents report having a higher number of depressive symptoms in the past 12 months than Chinese respondents. The results of analyses using the other two indicators of psychological distress are consistent: Russians report feeling sad, low, or depressed in the last 30 days to a greater extent than the Chinese; Russians also experience more problems with worry and anxiety in the last 30 days.

In addition, Russians perceive lower levels of economic security than the Chinese: only 24.4 percent of Russians report that their household income is enough to cover daily living; in contrast, 70.7 percent of Chinese report having enough household income. Likewise, Russian respondents are more likely than Chinese respondents to report having a bad or very bad household financial situation. The findings for personal (rather than household) finances follow the same pattern: Russians are more likely to report having an insufficient amount of money to meet their own needs. The results for the economic security scale, which includes all three of these indicators, suggest that Russians are significantly less satisfied with their household and personal economic situations than the Chinese.

The social cohesion indicators demonstrate that Russian society is generally less cohesive than Chinese society. First, a smaller proportion of Russians than of the Chinese report being married or cohabiting (56.2 percent versus 76.0 percent, respectively). Further, trust in neighbors and coworkers, perceived neighborhood safety, and general social trust are all significantly lower in Russia than in China. The only exception to this pattern is that Russians report participating in community activities more frequently than the Chinese.

Some of the cross-national variation in depression, economic security, and social cohesion may be the result of different sample compositions and drinking norms. As Table 1 shows, higher proportions of Russian respondents are female and report ever drinking in their lifetime, both characteristics that are positively associated with depressive symptoms and economic hardships. However, the older average age of the Chinese sample (69.6 versus 65.1 for the Russian sample) may reduce the gap in depression and access to economic/

social resources. In the following section I discuss results based on regression analysis, which take these factors into account.

Explaining the Cross-National Disparity in Depression

As Hypotheses 1 and 2 suggest, the inter-country difference in depression is attributable to differences in the levels of both economic security and social cohesion. The results in Table 2 show that these two factors explain a significant proportion of the difference in number of depressive symptoms between the two countries. The incidence rates of depressive symptoms are almost three times higher in Russia than in China (Model 1). The incidence rate ratio falls to 2.4 when economic security is taken into account (Model 2), which is a significant reduction according to the Wald test ($\chi^2(1)=12.8$, $p<.001$). Thus, the effects of economic security explain about 19 percent of the country-level difference in depression. The results for social cohesion follow a similar pattern. When the social cohesion indicators are added to the initial model, the depression disparity between Russia and China narrows: the incidence rate ratio is reduced from 3.0 to 2.2 (Model 3), a significant decrease according to the Wald test ($\chi^2(1)=18.8$, $p<.001$). This result indicates that social cohesion explains about 27 percent of the inter-country difference in depression. Finally, the model results show that the joint effects of economic security and social cohesion are responsible for about 36 percent of the depression gap between Russia and China (Model 4). The Wald test suggests that the reduction in the depression gap is statistically significant ($\chi^2(1)=37.3$, $p<.001$).

As Hypothesis 3 predicts, the role of economic security and social cohesion in the cross-national depression gap is due to not only lower *levels* of economic and social resources in Russia relative to China, but also weaker *effects* of economic and social resources on health in Russia than in China. The results presented in Table 3 demonstrate that a one standard deviation increase in the economic security scale is related to a 44 percent decrease in the incidence rate of depressive symptoms in China, but only a 27 percent decrease in Russia. In addition, general social trust is much more strongly associated with lower incidence rates of depressive symptoms in China than in Russia. Perceiving that most people can be trusted is linked to a 37 percent reduction in the incidence rate of depressive symptoms in China but, has no significant relationship with depression in Russia. As Figure 3 suggests, Russians would have had a lower average level of depression if they had benefited from economic stability and social cohesion to the same extent as the Chinese. These findings—that both the levels and the effects of economic and social resources explain a portion of the inter-country depression gap—are robust to a supplementary analysis using the Blinder-Oaxaca linear decomposition method (results available upon request).

The Role of Health-Rating Style

Hypothesis 4 predicts that the lower level of depression among the Chinese relative to Russians may result from the Chinese having more optimistic health-rating styles due to, for example, a lack of awareness about and a reluctance to admit mental illness. Anchoring vignettes are used to assess whether health-rating bias contributes to the depression gap between countries. Table 4 shows that health-rating style is responsible for only a small proportion of inter-country differences in mental distress. In particular, Russians are more

likely than the Chinese to report feeling sad, low, or depressed in the past 30 days regardless of health-rating style. Further, the depression gap remains significant in the HOPIT model, in which the effect of rating style is eliminated; the magnitude of the depression gap is attenuated by only 12 percent in the HOPIT model relative to the ordinal probit model (in which rating styles are unadjusted). Likewise, while Russians report experiencing more worry and anxiety in the past 30 days than the Chinese, the way in which people rate their mental distress accounts for very little of this cross-national gap: the magnitude of the worry/anxiety gap decreases by just 5 percent after health-rating style is adjusted. Thus, differences in health-rating styles are unlikely to be a major factor in the Russian-Chinese mental health gap.

DISCUSSION

Cross-national research on mental health has rarely examined how macro-level social, economic, political, and cultural contexts contribute to mental health disparities between nations. The present study fills this gap by comparing older adults who experienced market transition in the prime of their lives in China and Russia. Building on Hall and Lamont's (2009) theoretical framework describing the link between institutional practices, cultural frameworks, and population health, this study discusses how differences in political institutions, political processes, and consequences of market reform lead to unequal access to economic and social resources in the post-reform era; in the case of China and Russia this unequal access has contributed to the current depression gap. Moreover, cultural frameworks, particularly the meanings of economic and social resources for health, vary between nations and moderate the relationship between resources and depression. This study argues that a more extensive socio-political transformation during market reform, specifically, democratization and a greater disruption of social trust and confidence in government, reduced the health-promoting effects of economic and social resources in Russia. Thus, not only different levels of economic security and social cohesion, but also different effects of these resources on health, explain a significant portion of the depression disparity between China and Russia. In contrast, another cultural factor, health-rating style, is likely a minor factor in the depression gap. That is, the meaning of depression does not appear to vary significantly between the two nations.

The findings have several implications. First, market transition produced divergent trajectories of economic development in China and Russia, creating different levels of economic security and, in turn, mental health disparities. In contrast to China, which has experienced sustained growth since its market reform, post-transition Russia has undergone several severe recessions—throughout the early 1990s, in 1998, again in 2009, and most recently in 2014—according to World Development Indicators. Meanwhile, the unfavorable economic environment in Russia has weakened the financial capacity of the state, leading to increasingly strained and devalued health care and social security systems (Aslund 2002; Haggard and Kauman 2008; Rose 2009). The lower level of economic security perceived by contemporary Russians reflects a relatively unstable economy. Consistent with previous findings that economic strains impair mental and physical health during market transition (Carlson 2004; Cockerham 2007; Shkolnikov et al. 1998), this study shows that a lack of economic security continues to account for the higher level of depression among Russians

(relative to the Chinese) in the post-transition era. In addition, because Russia's, but not China's, market reform was accompanied by democratization, which signals a values shift from an emphasis on economic well-being to an emphasis on political freedom and individual autonomy, economic security plays a less important role in mental health production in Russia than in China (Inglehart et al. 2008; Inglehart and Welzel 2005). This weaker beneficial effect of economic resources also contributes to the relatively higher prevalence and severity of depression among Russians.

In addition to these economic differences, social cohesion (relationships and social capital) was more severely disrupted in Russia than in China during the transition, which contributed to the depression disparity. Specifically, in Russia, in addition to deep recessions, the structural change has also generated concerns about social disorganization, including widowhood; loss of trust in communities, public institutions, and general society; reduced law enforcement; and increased crime rates (Cockerham 2012; Cornia and Popov 2001; Freitag and Traunmüller 2009; Latusek and Cook 2012; Raiser et al. 2002; Shlapentokh 2006). Although Chinese society has also experienced an increase in individualization in its transition process, few studies have raised similar concerns about a loss of social trust and confidence in public institutions in China (Steinhardt 2012; Tan and Tambyah 2011). Building on previous research indicating that cohesive social relationships and higher level of social capital are linked to better mental and physical health in both Russia and China (Carlson 2004; D'Hombres et al. 2010; Kennedy, Kawachi, and Brainerd 1998; Minagawa 2012; Rose 2000; Yamaoka 2008; Yip et al. 2007), this study showed that variation in social cohesion is a crucial factor in the depression gap between these two countries after their transitions. The findings are consistent with Durkheim's ([1897]1979) notion of anomic suicide—rapid social change on a large scale undermines social integration and regulation that may protect individuals from feeling detached, frustrated, or despaired. Thus, because the socio-political change was more dramatic in Russia than in China, these negative psychological reactions were more common and more severe in the former country than in the latter country. Moreover, perhaps because social relationships and social capital are often less effective in promoting health in a community or society with lower levels of social cohesion (Goryakin et al. 2014; Pollack and von dem Knesebeck 2004; Subramanian et al. 2002), general social trust is less beneficial to Russians than to the Chinese. This weaker effect of social cohesion contributes to the relatively higher rates of depressive symptoms among Russians.

Finally, the results indicate that health-rating style does not play a significant role in the depression gap between China and Russia. Several studies have suggested that mental health disparities across countries must be interpreted with caution because people's reports of their mental well-being are shaped by their awareness of and stigma about mental illness (Kessler et al. 2007; The WHO World Mental Health Survey Consortium 2004). However, few studies have empirically assessed this argument. Using anchoring vignettes, this study shows that systematic reporting bias plays only a minor role in the difference in levels of depressive symptoms between the Chinese and Russians. Although the data allow testing of the effect of rating style on only two aspects of depression (sad/low/depressed mood and worry/anxiety), the results suggest that rating style does not explain much of the cross-national difference in either of these symptoms.

Proponents of the culturalist perspective would argue that the inter-country depression gap exists because Russians are culturally and inherently more depressed and pessimistic than the Chinese. However, previous research has shown that the level of subjective well-being (life satisfaction) among Russians fluctuates with the economy, and the Russian level in the early 1980s was about the same as the Chinese level in 2007 (Inglehart et al. 2008; Zavisca and Hout 2005). Therefore, it seems unlikely that national character or fixed cultural disposition is responsible for the observed depression gap. In addition, some researchers may suspect that more severe income inequality in Russia has driven its relatively lower levels of economic security and social cohesion, and poorer mental health. However, according to the Gini index published by the World Bank, both China and Russia have a high level of income inequality, and since the late 1990s China's Gini coefficient has been persistently higher than Russia's coefficient. These patterns suggest that income inequality is not a good explanation of the cross-national depression gap.

Several limitations of the current study should be acknowledged. First, without longitudinal observations beginning in the pre-transition period (i.e., without an empirical measurement of the processes involved in market reform), the study cannot conclusively demonstrate that certain processes of market transition led to different levels of economic and social well-being (and the subsequent mental health gap) between China and Russia. However, the implications of market transition for the links between economic stability, social cohesion, and health disparities are well grounded in both the theory and empirical evidence of political economy, anomie, and population health (Beckfield and Krieger 2009; Carlson 2004; Cockerham et al. 2006; D'Hombres et al. 2010; Ferlander and Mäkinen 2009; Hall and Lamont 2009; Liu et al. 1998; Minagawa 2012; Rose 2000). Further, because the analyses use cross-sectional data, the results cannot be used to make causal interpretations regarding the relationship between economic security/social cohesion and depression. In particular, the study cannot rule out the possibility of reverse causation: mental distress may weaken an individual's ability to work and to maintain social ties (House et al. 1988; Wiesner et al. 2003).

Another research limitation is that the depression measure used in the models testing the roles of economic security and social cohesion differs from the measures of mental distress used in models testing the role of health-rating style. In particular, the depression measure is adapted from the DSM-IV diagnostic criteria for major depressive disorder, and includes multiple aspects/symptoms of depression. In contrast, the measures of mental distress include only two depressive symptoms, use different response categories, and cover a different time frame. While the data do not allow me to combine these two analyses to evaluate the relative importance of economic security and social cohesion versus health-rating style, the separate analysis of health-rating style is a useful starting point in addressing a fundamental concern of comparative health research, and the results indicate that the mental health disparity between China and Russia is likely not an artifact.

Despite these limitations, the present study makes several contributions to the literature on mental health. By integrating the perspectives of the sociology of mental and physical health, social epidemiology, and political economy, the study advances the understanding of a common and debilitating mental illness, depression, in two post-transition societies. In

particular, findings from this study contribute to a field that still lacks evidence-based research in less developed contexts where the burden of mental illness increasingly affects people's lives (Knapp et al. 2006; Saxena et al. 2007; Whiteford et al. 2013). More importantly, the comparison between China and Russia helps elucidate the influence of macro-level social, economic, political, and cultural contexts on the mental health of populations. The two countries' contrasting experiences of market reform have important yet often-ignored implications for current health levels. Based on the current findings, future research should expand the scholarly understanding of global mental health beyond descriptive comparisons of mental illness.

Acknowledgments

The author is grateful to Emily Hannum, Hans-Peter Kohler, Jason Schnittker, Linda Waite, and the reviewers for their insightful comments and suggestions on previous drafts. The author received funding support from the National Institute on Aging (T32AG000243; P30AG012857) during the period of writing this manuscript.

APPENDIX

The WHO SAGE Anchoring Vignettes for Health State Descriptions Introduction text

This next section will require additional concentration. I will read to you some stories about people with varying levels of difficulties in different areas of health. I want you to think about these people's experiences as if they were your own. Once I have finished reading each story, I will ask you to rate what happened in the story.

I would like to know how you view each story and rate how much of a problem or difficulty the person described has in that area of health in the same way that you described your own health to me earlier. While giving the rating, think of the person in the story as someone who is of your age and background.

Affect Series

[Wen] feels nervous and anxious. He worries and thinks negatively about the future, but feels better in the company of people or when doing something that really interests him. When he is alone he tends to feel useless and empty.

[Manjima] enjoys her work and social activities and is generally satisfied with her life. She gets depressed every 3 weeks for a day or two and loses interest in what she usually enjoys but is able to carry on with her day to day activities.

[Lindiwe] feels depressed most of the time. She weeps frequently and feels hopeless about the future. She feels that she has become a burden on others and that she would be better dead.

[Arvind] loves life and is happy all the time. He never worries or gets upset about anything and deals with things as they come.

[Ang] has already had five admissions into the hospital because she has attempted suicide twice in the past year and has harmed herself on three other occasions. She is

very distressed every day for the most part of the day, and sees no hope of things ever getting better. She is thinking of trying to end her life again.

These five vignettes about affect, with different levels of mental well-being, are presented to a random subsample of the SAGE respondents. After each vignette, respondents were asked the following two questions:

1. Overall in the last 30 days, how much a problem did [name/he/she] have with feeling sad, low, or depressed—none, mild, moderate, severe, or extreme?
2. Overall in the last 30 days, how much a problem did [name/he/she] have with worry or anxiety—none, mild, moderate, severe, or extreme?

Biography

Ning Hsieh is a postdoctoral fellow in the Department of Sociology at the University of Chicago. Her research focuses on cross-national disparities in mental health, health disparities by sexual orientation, and social isolation and loneliness at older ages. She is the recipient of the 2015 Mental Health Section Dissertation Award at the American Sociological Association.

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Figure 1.
Life Expectancy at Birth by Country, 1975 to 2011
Source: World Bank (2015).

Figure 2.
Conceptual Diagram

Figure 3.
Predicted Number of Depressive Symptoms Using Own and Another Country's Coefficient Estimates

Table 1

Descriptive Statistics for Depression, Economic Security, Social Cohesion, and Control Variables by Country, WHO SAGE 2007 to 2010 (N=10,896)

Variable	China	Russia
<i>Depressive Symptoms</i>		
Number of depressive symptoms (0–16) ***	.4	1.2
Problem with feeling sad, low, or depressed (%) ***		
None	79.0	58.1
Mild	16.2	24.1
Moderate	3.8	13.2
Severe	.9	4.1
Extreme	.1	.6
Problem with worry or anxiety (%) ***		
None	78.9	48.3
Mild	16.2	32.3
Moderate	4.0	14.4
Severe	.9	4.3
Extreme	.1	.7
<i>Economic Security</i>		
Household income enough to cover daily living expenses (%) ***	70.7	24.4
Household financial situation (%) ***		
Very good	1.3	.7
Good	14.5	11.2
Moderate	62.2	56.6
Bad	19.2	27.0
Very bad	2.9	4.5
Having enough money to meet one's own needs (%) ***		
Completely	12.2	9.9
Mostly	38.3	27.7
Moderately	29.4	31.1
A little	17.6	16.6
Not at all	2.5	14.8
Standardized scale combining the above three items ***	.3	-.3
<i>Social Cohesion</i>		
Being married/cohabiting (%) ***	76.0	56.2
Trust in neighbors and coworkers (standardized scale) ***	.5	-.6
Community participation in the past 12 months (standardized scale) ***	-.4	-.1
Perceived safety in one's residential neighborhood (standardized scale) ***	.2	-.9
Reporting most people can be trusted (%) ***	89.9	29.6
<i>Control Variables</i>		

Variable	China	Russia
Age (mean) ***	69.6	65.1
Female (%) ***	52.6	64.5
Drinking behavior (%) ***		
Lifetime abstainer	70.8	25.9
Former drinker	11.8	42.5
Current drinker	17.5	31.6
N	7,069	3,827

* p<.05,

** p<.01,

*** p<.001 (two-tailed). Differences by country are tested using Pearson's chi-square statistics for categorical variables and Kruskal-Wallis statistics for continuous or count variables.

Table 2

Negative Binomial Regression Models of Count of Depressive Symptoms on Economic Security and Social Cohesion (Incidence Rate Ratio), WHO SAGE 2007 to 2010 (N=10,896)

	Model 1	Model 2	Model 3	Model 4
Russia	2.96 *** (.17)	2.40 *** (.14)	2.15 *** (.16)	1.89 *** (.14)
Female	1.54 *** (.09)	1.48 *** (.08)	1.36 *** (.08)	1.37 *** (.08)
Age	1.01 * (.00)	1.01 *** (.00)	1.00 (.00)	1.00 (.00)
Drinking behavior (ref: lifetime abstainer)				
Former drinker	1.18 * (.08)	1.24 ** (.08)	1.20 ** (.08)	1.24 ** (.08)
Current drinker	1.09 (.08)	1.16 * (.08)	1.16 * (.08)	1.21 ** (.09)
Economic security		.62 *** (.02)		.65 *** (.02)
Being married/cohabiting			.77 *** (.05)	.85 ** (.05)
Trust in neighbors and coworkers			.93 * (.03)	.96 (.03)
Community participation in the past 12 months			.82 *** (.02)	.87 *** (.03)
Perceived safety in one's neighborhood			.83 *** (.02)	.88 *** (.03)
Reporting most people can be trusted			.97 (.07)	.92 (.06)
Constant	.17 *** (.04)	.12 *** (.03)	.46 ** (.12)	.26 *** (.06)
ln(alpha)	4.89 *** (.14)	4.37 *** (.13)	4.69 *** (.14)	4.29 *** (.13)
N	10,896	10,896	10,896	10,896

* p<.05,

** p<.01,

*** p<.001 (two-tailed). Standard errors are in parentheses. Statistics from Wald tests indicate that the inter-country gap in depression significantly narrow in Models 2, 3, and 4 as compared to Model 1.

Table 3

Effects of Economic Security and Social Cohesion on Number of Depressive Symptoms by Country
(Incidence Rate Ratio), WHO SAGE 2007 to 2010 (N=10,896)

	China	Russia	Country Difference
Economic security	.56 ***	.73 ***	***
Being married/cohabiting	.82 *	.85 *	
Trust in neighbors and coworkers	1.00	.96	
Community participation in the past 12 months	.90 *	.87 ***	
Perceived safety in one's residential neighborhood	.87 **	.89 ***	
Reporting most people can be trusted	.63 **	1.12	***

* p<.05,

** p<.01,

*** p<.001 (two-tailed). Coefficient estimates are all adjusted for the effects of gender, age, and drinking behavior. Country difference is tested using the interaction term of an economic security or social cohesion variable with the country dummy variable.

Table 4

Ordered Probit and Hopit Regression Models of Psychological Distress on Country and Control Variables,
WHO SAGE 2007 to 2010 (N=2,764)

Problem with feeling sad, low, or depressed	Ordinal Probit		Hopit (Health-rating style is adjusted across countries)	
	Coeff.	SE	Coeff.	SE
Russia	.69 ***	.03	.61 ***	.07
Female	.23 ***	.03	.15 *	.06
Age	.02 ***	.00	.02 ***	.00
Drinking behavior (ref: lifetime abstainer)				
Former drinker	.04	.03	-.16 *	.07
Current drinker	-.07	.04	-.26 ***	.08
Problem with worry or anxiety	Coeff.	SE	Coeff.	SE
Russia	.86 ***	.03	.82 ***	.07
Female	.28 ***	.03	.23 ***	.06
Age	.02 ***	.00	.01 **	.00
Drinking behavior (ref: lifetime abstainer)				
Former drinker	.07 *	.03	-.06 **	.08
Current drinker	-.03	.03	-.19 *	.08

* p<.05,

** p<.01,

*** p<.001 (two-tailed).