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Economic recession and suicidal behaviour: Possible mechanisms and ameliorating factors

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Abstract

Background: A growing body of research evidence from countries around the world indicates that economic recession is associated with increases in suicide, particularly in males of working age.

Aims: To explore contributory and ameliorating factors associated with economic recession and suicide and thereby stimulate further research in this area and encourage policy makers to consider how best to reduce the impact of recession on mental health and suicidal behaviour.

Method: We conducted a selective review of the worldwide literature focusing on possible risk factors, mechanisms and preventative strategies for suicidal behaviour linked to economic recession.

Results: A model of how recession might affect suicide rates is presented. A major and often prolonged effect of recession is on unemployment and job insecurity. Other important effects include those exerted by financial loss, bankruptcy and home repossession. It is proposed these factors may lead directly or indirectly to mental health problems such as depression, anxiety and binge drinking and then to suicidal behaviour. Countries with active labour market programmes and sustained welfare spending during recessions have less marked increases in suicide rates than those that cut spending on welfare and job-search initiatives for the unemployed. Other measures likely to help include targeted interventions for unemployed people, membership of social organisations and responsible media reporting. Good primary care and mental health services are needed to cope with increased demand in times of economic recession but some governments have in fact reduced healthcare spending as an austerity measure.

Conclusion: The research evidence linking recession, unemployment and suicide is substantial, but the evidence for the other mechanisms we have investigated is much more tentative. We describe the limitations of the existing body of research as well as make suggestions for future research into the effects of economic recession on suicidal behaviour.

Keywords

Economic recession, economic crisis, suicide, self-harm, risk factors, ameliorating factors

Introduction

An economic recession is a period of economic decline and is often defined as two successive quarterly falls in gross domestic product (GDP). A recession may be preceded by a substantial fall in the stock market. Thereafter, businesses fail as profits fall, unemployment rises and household income drops. An economic recession becomes an economic depression when the fall in GDP becomes greater than 10%. Between 2008 and 2010 much of the industrialised world experienced a severe economic recession. As a result, many countries have experienced substantial and prolonged increases in unemployment and in some there has also been social unrest and political instability (Kondilis et al., 2013).

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In this review, we explore the contributing and ameliorating factors associated with economic recession and suicide. A model of how recession may lead to mental health problems and suicide is presented. Some of the methodological difficulties and shortcomings of the existing research literature are highlighted with a view to stimulating good quality further research. We also make proposals for policy makers on ways of reducing the impact of recession on mental health and thereby preventing suicide. A wide-ranging account of how 'recessions can hurt, but austerity kills' has been described by Stuckler and Basu (2013).

Method

We carried out a selective review of the worldwide literature using electronic databases including MEDLINE, PsycINFO, Embase and CINAHL from their start dates to December 2013. Systematic review methodology was not appropriate since the range of factors considered is very wide and to conduct a systematic review for each would be impractical. Search terms for economic recession included economic crisis, economic depression, recession, business cycle and financial crisis. Terms for contributory and ameliorating factors included debt, bankruptcy, alcohol, mental illness, unemployment, job loss, job insecurity, welfare, social cohesion, socio-economic and family. Those for suicidal behaviour included suicide, parasuicide, self-harm and suicidal ideation. Bibliographies of eligible articles were checked for possible relevant studies. Only articles published in English were included in the review. We focused upon better quality studies, for example, those with a matched control group, presenting appropriate statistics to support descriptive findings and having a large sample size.

Is economic recession associated with suicide?

Evidence that economic recession is associated with a rise in suicide comes mainly from studies conducted in middle- and high-income countries and is substantial. The Great Depression of 1929–1933 led both to rises in unemployment and suicide in several Western countries, including the United Kingdom and Unites States (Cook, Dintzer, & Melvin, 1980; Mishara & Balan, 2004; Swinscow, 1951). More recently, the Asian economic crisis of 1997–1998 was associated with marked increases in unemployment and suicide in Japan, Hong Kong and South Korea, but not in Taiwan and Singapore where the recession had less of an effect on GDP and unemployment (Chang, Gunnell, Sterne, Lu, & Cheng, 2009). The 2008–2010 economic recession was associated with a significant rise in suicides in many European countries and American states (Chang, Stuckler, Yip, & Gunnell, 2013; Stuckler, Basu, Suhrcke, Coutts, & McKee, 2011). In Greece, a country particularly severely affected by the recession, suicides rose by almost 60% (Kentikelenis et al., 2011). In England, the recession is thought to have been associated with a thousand more suicides than would have been expected (Barr, Taylor-Robinson, Scott-Samuel, McKee, & Stuckler, 2012) although use of alternative statistical methods have resulted in a different conclusion (Saurina, Bragulat, Saez, & López-Casasnovas, 2013), but with both studies finding regional differences. Although most research on the effect of recession on suicide rates has been conducted in high-income countries, the authors of a review of the effect of economic crises on mortality in less-affluent countries also concluded that increased suicide rates are associated with recession (Falagas, Vouloumanou, Mavros, & Karageorgopoulos, 2009). The impact of recession on suicide rates appears to be greater in males than in females (Barr et al., 2012; Barth et al., 2011; Berk, Dodd, & Henry, 2006). Chang et al. (2013) suggested that this gender difference may relate to males more often being the main breadwinner and experiencing greater shame regarding unemployment, as well as being less likely to seek help. There is some evidence that certain occupational groups, for example, managers and those in service industries, experience a particularly high relative risk of suicide during recession (Chan et al., 2014).

How might economic recession affect suicide rates?

Some of the postulated mechanisms linking economic recession to suicide are shown diagrammatically in Figure 1. In the early phase of an economic recession, when stock markets suffer major losses, some of the population will face bankruptcy and acute loss of savings. 'Economic stress' can lead directly to impulsive suicidal behaviours, or more commonly to mental ill-health, particularly depression, with associated hopelessness, leading to an increased risk of suicide. Recession results in business failures with the threat and actual experience of redundancies. Unemployment, particularly when of longer duration, results in loss of status and purpose, self-worth and social relationships, as well as financial problems (Paul & Moser, 2009). The more delayed effects of recession include house repossession, mounting debts and relationship strain. These factors may result in common mental health conditions, such as depression, anxiety and drug and alcohol problems, which carry an increased risk suicidal behaviour. These rising healthcare needs are not met since many governments reduce spending on health as part of their austerity measures (Quaglio, Karapiperis, Van Woensel, Arnold, & McDaid, 2013; Stuckler & Basu, 2013).

In the following sections, we consider the evidence for the proposed main mechanisms by which economic recession leads to increases in suicide.

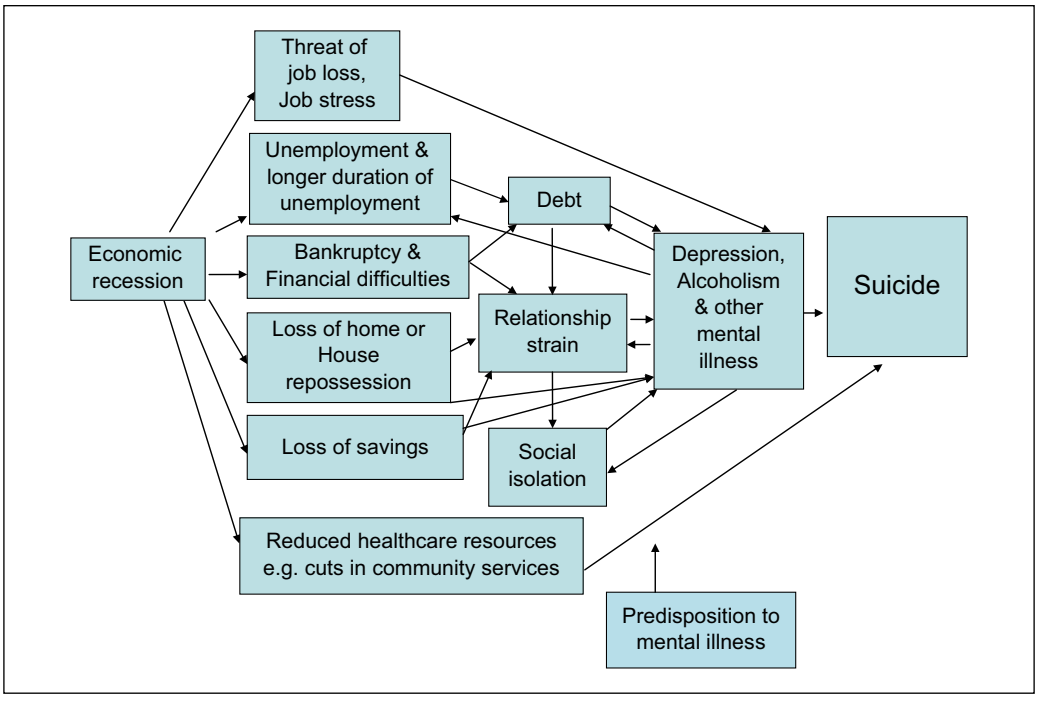

Figure 1. Possible mechanisms linking recession with suicide.

Debt, bankruptcy and suicide

In the stock market crash that preceded the Great Depression, media reports described impulsive suicides by bankers in response to acute financial loss. Sudden bankruptcy is rarely studied as a risk factor for suicide but it was a positive finding in a psychological autopsy study in India (odds ratio 7.1) (Gururaj, Isaac, Subbakrishna, & Ranjani, 2004). Financial loss, rather than chronic poverty, was thought to mediate suicidal ideation in a US community survey (Turvey, Stromquist, Kelly, Zwerling, & Merchant, 2002). Economic difficulties are common in people dying by suicide and affected 44% of cases in a psychological autopsy study in China (Phillips et al., 2002). Among people dying by suicide in Hong Kong those who had significant debt problems tended to have fewer mental health problems than those without financial problems (Yip, Yang, Watson, Ip, & Law, 2007). But in a UK general population study, low income and debt were both associated with mental disorder, the effect of low income being mainly mediated by debt (Jenkins et al., 2008). Furthermore, in another UK study, self-harm patients in debt were more likely to have a mental illness and to have higher suicidal intent than those who were not in debt (Hatcher, 1994). But overall, the quality and strength of evidence linking debt to suicide is not particularly strong.

Unemployment and suicide

The unemployed are two to three times more likely to die by suicide than those in employment (Platt & Hawton, 2000). Unemployment is also a risk factor for attempted suicide (Ostamo, Lahelma, & Lönnqvist, 2001; Platt, Hawton, Kreitman, Fagg, & Foster, 1988). Long-term unemployment is associated with a greater risk of both suicide and attempted suicide than in those unemployed for shorter periods (Mäki & Martikainen, 2012; Platt & Hawton, 2000). Some studies have controlled for the confounding effects of mental illness and socioeconomic variables and have still shown an increased risk of suicide in the unemployed (Goldman-Mellor, Saxton, & Catalano, 2010). The association between unemployment and suicide is weaker at times of high unemployment (Crawford, Kuforiji, & Ghosh, 2010; Mäki & Martikainen, 2012; Yip & Caine, 2011). The same holds true for unemployment and attempted suicide (Platt & Kreitman, 1985). Thus, when unemployment levels are low, a high proportion of people who are out of work have mental illness that makes it difficult for them to find work, but this high suicide rate risk pool is 'diluted' in times of high unemployment.

Researchers have examined the effect of unemployment on suicide rates during economic recession. In Taiwan, rises in unemployment between 1959 and 2007 were associated with increases in male suicide rates but less strongly for females (Chang, Sterne, Huang, Chuang, & Gunnell, 2010). The authors estimated that for every 1% rise in unemployment, male suicide rates increased by 3.1 per 100,000. In a study of 26 European Union (EU) countries between 1970 and 2007, rapid and large rises in unemployment were associated with short-term rises in suicide (Stuckler, Basu, Suhrcke, Coutts, & McKee,

2009). A similar study of US states examining the effect of the 2007 recession showed that for every 1% rise in unemployment there was a 0.99% increase in the suicide rate (Reeves et al., 2012). In an analysis of suicide trends in the United Kingdom, which included the 2008 economic recession, each annual 10% increase in the number of unemployed men was associated with a 1.4% increase in male suicides (Barr et al., 2012). No association was found for women. Thus, from around the world from these and other studies there is strong evidence that rising unemployment in times of economic recession is associated with a marked increase particularly in male suicides (Chang et al., 2013).

However, not all studies have shown a consistent association between unemployment and suicide. Uncoupling of the suicide–unemployment relationship for younger males (aged 20–34 years) in Australia was seen in the years following 1999 (Morrell, Page, & Taylor, 2007). This reduction may have been related to the government's suicide prevention strategy that specifically targeted suicide among youth. In Finland, an uncoupling of unemployment and attempted suicide was seen in younger males during an economic recession when attempted suicide rates fell in young men despite rising unemployment, possibly the result of government investment in labour market programmes (Ostamo & Lönnqvist, 2001).

The impact of unemployment appears to differ by social group, with men and people with blue-collar jobs being particularly distressed by unemployment (Paul & Moser, 2009). School leavers and recent graduates have been hard hit by recession, both in terms of job shortage and student debt (Observer, 2009). During the recent economic recession, the UK unemployment rate among those aged 16–24 years was three times the overall rate (Office for National Statistics, 2012). Unemployment may have a greater effect on suicide rates in younger persons (Gunnell et al., 1999). In a Swedish study, the effect of unemployment on those finishing university appeared to have a 'scarring effect', adversely affecting salary and unemployment rates in the long term (Skans, 2004). It is possible that such an effect may contribute to 'cohort effects' in suicidal behaviour, such as seen in the United Kingdom where high rates of suicide in young males in the 1980s when rates of unemployment were high in this group appeared to move through into older age bands over time (Office for National Statistics, 2013).

Psychiatric disorder and suicide

Up to 90% of individuals dying by suicide in the West have a mental disorder, most commonly depression or substance misuse (Cavanagh, Carson, Sharpe, & Lawrie, 2003). The more general adverse effects of recession on mental health have been reviewed by Uutela (2010) and Zivin, Paczkowski and Galea (2011). Job insecurity, debt, house repossession and eviction are all associated with common mental disorders such as depression (Gili, Roca, Basu, McKee, & Stuckler, 2013; McLaughlin et al., 2012; Meltzer et al., 2010; Nettleton, 1999; Stansfeld & Candy, 2006). Rates of depressive illness in Hong Kong increased during the recent economic recession, especially in those with large investment losses (Lee et al., 2010). Similar increases in depression have been reported from Greece (Economou, Madianos, Peppou, Patelakis, & Stefanis, 2013) and Canada in relation to the recent economic crisis (Wang et al., 2010). In England, the self-reported mental health of men deteriorated following the recent recession (Katikireddi, Niedzwiedz, & Popham, 2012). General practitioners (GPs) in the United Kingdom have reported increases in demands for consultations, higher rates of depression and more referrals to counselling services since the onset of the recent economic recession (Torjesen, 2010).

Alcohol consumption, alcoholism and suicide

Harmful drinking and alcoholism are established risk factors for suicide (Harris & Barraclough, 1997; Murphy, 2000), especially in countries with high per capita consumption of alcohol, such as Russia and Eastern European nations (Mäkinen, 2000; Pridmore, 2006). In one Finnish study, a correlation between male suicide rates and mean alcohol consumption was reported (Hintikka, Saarinen, & Vilnamäki, 1999), while in another this relationship was observed only in younger males (15–-49 years of age) (Mäkelä, 1996).

In two US studies, economic downturns were associated with rises in per capita alcohol consumption and binge drinking (Brenner, 1975; Dee, 2001), but in the 2008–2010 recession fewer people in the United States and United Kingdom drank alcohol although there was an increase in binge drinking especially among the unemployed (Bor, Basu, Coutts, McKee, & Stuckler, 2013; Harhay et al., 2013). During the Finnish recession of the 1990s, unemployed status was associated with greater use of alcohol, whereas before the recession it was not (Luoto, Poikolainen, & Uutela, 1998). Recession is thought to be associated with increases in spirit drinking (Brenner, 1975), and per capita spirit consumption is known to be more closely associated with suicide than overall alcohol consumption (Grunewald, Ponicki, & Mitchell, 1995). During the break-up of the former Soviet Union, a correlation between alcohol consumption and suicide rates was apparent in certain Eastern bloc countries which had very high suicide rates, such as Belarus, Estonia, Kazakhstan, Russia and Ukraine (Mäkinen, 2000). In a Russian study, alcohol-related deaths and suicides increased following the economic crisis of 1998 (Men, Brennan, Boffetta, & Zaridze, 2003). Thus, in some countries, economic recession appears to lead to increases in alcohol consumption and alcohol misuse which in turn is linked to suicide.

Family relationships and suicidal behaviour

Sociological studies of the impact of economic recession on family relationships have been reviewed by James (2009). According to the Family Stress Model, economic stressors, such as debt and unemployment, lead to psychological distress, in the form of depressed mood or irritability in parents, which in turn increases marital conflict and has a negative impact on parenting and children's adjustment. The people expected to suffer most during a recession are single-parent families, those on low incomes with pre-existing debts and those with few educational qualifications who are disadvantaged when seeking employment in a competitive job market. There is some support for the Family Stress Model. For example, in a study of US families who lived through the Great Depression, fathers who had previously shown mental instability became more irritable and explosive following heavy loss of income, with consequent caused marital tension, as well as being more punitive and arbitrary when disciplining their children (Elder, Caspi, & Nguyen, 1986). In a Finnish study of the effects of economic recession on children's mental health, reduced family income was found to be a risk factor for mental health problems in children, the effect being mediated by negative changes in parental mental health, marital interaction and parenting quality (Solantaus, Leinonen, & Putnamaki, 2004). Kõlves (2010) has suggested that the adverse effects of economic recession on family systems could lead to an increase in suicidal behaviour in children and adolescents, but studies supporting this proposed mechanism are lacking and evidence for the Family Stress Model is also weak.

Social inequalities, loss of social cohesion and suicide

One important effect of economic recession is to widen social inequalities, such that the poor are most affected (Edwards, 2008). People lower in the socioeconomic hierarchy tend to have suicide rates that are two to three times those of higher socioeconomic status (Mäkinen & Wassermann, 2009). Recession also results in loss of social cohesion, leading to a lessening of support systems for vulnerable individuals, with increased rates of marital breakdown, social isolation and lawlessness. Tunstall (2009) has described the complex and multiple effects of recession on deprived communities in the United Kingdom. These include adverse effects on community cohesion, increased crime, loss of public and voluntary services and increased demand for rented housing.

Ameliorating the effects of economic recession on suicide

What factors might reduce the effects of economic crises on suicide? Below we consider possible interventions and evidence for their effectiveness.

Active labour market programmes

A variety of active labour market programmes aimed at getting the unemployed back to work are described in the literature. The most common types are job-search programmes and clubs which aim to intensify job-finding efforts and skills. Evidence for the effectiveness of individual programmes is limited as most studies are observational and lack control groups. However, some evaluations have used a randomised case-control design and included a large number of participants. In Finland, the Työhön Job Search Intervention (a week of intensive group activities helping participants identify their skills and teaching job-search skills as well as strategies to deal with setbacks while seeking employment) produced significant increases in re-employment and improved mental health compared to the control group during the 2-year follow-up period (Vuori & Silvonen, 2005). Similar results were reported from a US randomised case-control study of the impact of a job-search workshop (Vinokur, Schul, Vuori, & Price, 2000). The intervention consisted of a 1-week programme of job-search skill enhancement workshops aiming to increase mastery and motivation to look for work. Cognitive behaviour therapy (CBT) has also been shown to increase employment rates in long-term unemployed people (Proudfoot, Guest, Carson, & Gray, 1997). In this randomised control trial, the intervention group received 21 hours of CBT over a 7-week period. At 4 months follow-up, the intervention group was more successful at obtaining employment and had better mental health.

Adequate welfare spending

Stuckler, Basu and McKee (2010a) have emphasised the importance of social welfare spending in maintaining the health of the population. Robust social policies to ensure adequate welfare benefits for those with low or sudden loss of income are thought to be central to offsetting the impact of the recession on suicide (Gunnell, Platt, & Hawton, 2009). But what evidence is there to support this assertion?

In the United States, between 1960 and 1995, suicide rates increased in states that reduced their expenditure on public welfare, while those states that spent more on welfare had lower suicide rates (Zimmerman, 2002). Similar findings emerged from a comparative study of New Zealand and Finland conducted during the recession of the late 1980s (Howden-Chapman, Hales, Chapman, & Keskimaki, 2005). In New Zealand, where the government reduced welfare spending, income inequalities rose as did suicides, particularly in young men. By contrast, in Finland welfare spending on benefits increased during the recession and suicide rates did not rise. Thus, the more comprehensive welfare state in Finland appeared to buffer vulnerable young men more than in New Zealand. During the Asian economic crisis of 1997–1998, health status

declined in those countries which adopted reactive spending cuts (Indonesia and Thailand), but not in Malaysia where there were no cuts (Hopkins, 2006). In their study of the effect of economic recession on suicide rates in EU countries Stuckler et al. (2009) found a de-coupling of unemployment and suicide rates during recession in Sweden and Finland, and concluded that good social support by the governments of these countries may have contributed to this finding.

As well as adequate welfare benefits, some sectors of the population, such as the elderly and disabled, have poor uptake of benefits. Measures to increase uptake by providing advice in general practice settings have been shown to improve the mental well-being of those who use them (Abbott & Hobby, 2000; Abbott, Hobby, & Cotter, 2006).

Encouragement of social support

Membership of social organisations, such as trade unions, church, sports groups or political organisations, appears to exert a protective effect on all-cause mortality. In a study of the effects of economic crisis of the early 1990s in the former communist countries of Eastern Europe and the former Soviet Union, mass privatisation of state-owned enterprises was associated with an excess of 3 million deaths (Stuckler, King, & McKee, 2009). However, in those countries, such as the Czech Republic, where more than 45% of the population were members of at least one social organisation, privatisation was no longer associated with increased male mortality rates.

Limiting the harmful effects of alcohol

Given that alcohol consumption increases during recessions and problem drinking is a risk factor for suicide, minimising the harmful effects of alcohol should be a government priority during economic downturns. Measures to control the price and availability of alcohol have proved to be among the most effective approaches to limiting the harm done by alcohol (World Health Organization (WHO), 2006). In England, a proposal to introduce a minimum price of 40 pence for a unit of alcohol, estimated to result in 38,900 fewer alcohol-related hospital admissions and 1,149 fewer deaths (Appleby, 2012), has now been dropped. However, the Scottish government has passed an act setting a minimum price of 50 pence per unit of alcohol.

Good primary care and mental health services

People experiencing economic strain and resultant mental ill-health require well-resourced primary care services to identify and treat common mental disorders. During the recent economic downturn, primary care settings in Spain witnessed an increase in patients presenting with anxiety, depression and alcohol misuse (Gili et al., 2013; Salvador-Carulla & Roca, 2013). Mental health services need adequate funding and to be geared towards the early detection and treatment of mental health problems and the assessment and management of patients presenting with suicidal behaviour. Media and promotional campaigns have an important role in encouraging help-seeking behaviour in difficult-to-reach members of the population, such as young men. This needs to be matched by services that appeal to and are readily accessible by such groups.

Responsible media reporting

The relationship between the reporting of suicide in the media and the mental health of the population is complex, though sensational reporting of suicidality in the media has been found to be an independent risk factor for suicide (Etzersdorfer, Sonneck, & Nagel-Kuess, 1992; Hassan, 1995). Responsible media coverage of recession-related suicides during an economic downturn is important to reduce the risk of copy-cat suicides by vulnerable individuals. The media should be encouraged to follow national guidelines developed by suicide prevention agencies (e.g. Samaritans, 2008).

Conclusion

Following a summary of evidence that economic recession is associated with an increase in suicide, we have proposed a model of interacting factors that might contribute to this. The main effects of recession are on unemployment, financial loss and debt. The research literature linking recession, unemployment and suicide is strong but evidence for the other mechanisms in the model is much more tentative. Aggregate-level studies have limitations as they sometimes involve unsophisticated and blunt measures and there are often problems with heterogeneity in the study population. Sometimes recession is not clearly defined and its duration not stated, and methods of statistical analysis are not always appropriate (Zivin et al., 2011). Carrying out individual-level studies to test the model faces difficulties, since the reasons people engage in suicidal behaviour are often multiple and complex. Yet, this perhaps offers potentially the most informative approach to identifying causal pathways (Hjelmeland & Knizek, 2010). Scant research on the impact of recession on suicide has been conducted in low-income countries.

We have described the main factors thought to ameliorate the adverse population effects of economic recession, most of which require action at governmental level to prevent recession-related increases in suicide. These are concordant with the World Health Organization (WHO, 2009) recommendations aimed at mitigating the recent financial crisis. Policy makers have been urged to take an evidence-based approach to promoting economic and public health recovery from recession (Stuckler, Basu, & McKee,

2010b). Future research could examine the longitudinal risk of suicide and attempted suicide, both during and after economic recession and the factors associated with changing risk.

Conflict of interest

K.H. and D.G. are National Institute for Health Research Senior Investigators.

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